

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Scheduled Inspection

A864048033

FACILITY: AK STEEL - DEARBORN WORKS		SRN / ID: A8640
LOCATION: 4001 MILLER ROAD, DEARBORN		DISTRICT: Detroit
CITY: DEARBORN		COUNTY: WAYNE
CONTACT: James E. Earl, Environmental Manager		ACTIVITY DATE: 03/06/2019
STAFF: Katherine Koster	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MEGASITE
SUBJECT: FY2019 Targeted Inspection - Fugitive dust, Desulf BH, Reladle BH		
RESOLVED COMPLAINTS:		

**Reason for Inspection: Targeted Inspection**

**Level of Inspection: PCE**

**Inspected by: Katie Koster, AQD**

**Personnel present: Dave Pate, Environmental Engineer**

**Facility phone number: 313-845-3217**

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#### FACILITY BACKGROUND

AK Steel – Dearborn Works (formerly Severstal Dearborn, LLC) is an integrated iron and steel mill which primarily produces flat rolled coils. The facility is operating at 4001 Miller Road, Dearborn. The previous address, 3001 Miller Road, has been assigned to the Ford Motor Company Rouge Plant which is adjacent to the mill. The company was previously operating under the name Severstal Dearborn, LLC until it became AK Steel Dearborn Works in October 2014. Before being purchased by Severstal in 2004, the company was operating as Rouge Steel.

#### OUTSTANDING CONSENT ORDERS

Facility is current operating under Consent Decree Civil Action No. 15-cv-11804 which includes, but is not limited to, the ESP. Also, the facility is under a SIP Consent Order to control fugitive dust (30-1993). There is also a state consent order 6-2006 that includes the BOF Shop.

#### OUTSTANDING LOVs

There are no outstanding LOV's related to the equipment that was inspected.

#### PROCESS DESCRIPTION

The description below includes only the processes discussed and/or observed during the inspection. This does not include the entire facility.

Facility is operating under a SIP Consent Order (30-1993) to control fugitive dust site wide. The following fugitive dust activities are in place:

- Sweep and flush paved roads once per day; March through October
- Unpaved roads, treat every 12 days with asphalt emulsion petro tec
- Inactive storage piles – treat once per year
- Active storage piles – treat once per month; this included coke breeze and iron fines
- Parking lots – once per month
- Additionally, VE checks are done periodically.

The BOF shop is where iron is converted to steel. There are multiple control devices. The basic process in the Basic Oxygen Process (BOP) shop is as follows:

1. Molten iron/Hot Metal is received in torpedo cars from the C blast furnace. Hot metal is transferred (poured) from the torpedo car into a charging ladle at the hot metal transfer station. Charging ladles can be distinguished from tapping ladles by the pouring lip on them as well as the fact that they do not drain from the bottom. A moveable hood slides into place before pouring begins to collect and route emissions to the secondary baghouse (reverse air type).

2. Once full, the charging ladle is moved by crane to the desulfurization station. A lance is lowered into position and powdered desulfurization agents (magnesium and lime) are blown through the lance using an inert carrier gas (such as nitrogen) and injected by fluid momentum into the hot metal bath. Materials are injected in amounts calculated to meet the desired sulfur content specification. This process liberates kish (carbon graphite). Kish is skimmed from the top of the ladle after desulfurizing is complete. Desulfurizing and slag skimming are controlled by a moveable hood and the desulfurization baghouse (shaker type).
3. Next, scrap is charged to one of two Basic Oxygen Vessels (A and B) and then the hot metal is poured into the furnace. The mixture in the vessel is about 70% scrap and 30% iron. One heat lasts about 40 minutes and produces approximately 250 tons of steel. Charging is primarily controlled by the secondary baghouse. There is also a charging hood.
4. Lime flux is added and oxygen blowing commences immediately thereafter. Oxygen blowing liberates carbon and creates the exothermic reaction needed to melt the scrap. Blowing takes approximately 18-22 minutes. Emissions are collected by the primary hood and controlled by the ESP.
5. After blowing, the furnace is tilted and tapped into a tapping ladle. Alloys are added during tapping and then aluminum and other materials, such as ferromanganese, are added to "kill" the reaction. Tapping is controlled by the secondary baghouse and there is a tapping hood.
6. Once the operator observes slag, the vessel is tilted the opposite direction and turned upside down into a slag pot. This is controlled by the secondary baghouse.
7. The steel ladle is sent to the Ladle Metallurgy Facility for further processing.

In general, 1.25 times the daily iron tonnage equals the daily steel output.

#### INSPECTION NARRATIVE

I conducted an inspection on March 5, 2019. I met with Mr. Dave Pate, AK Steel Environmental Staff. Mr. Pate accompanied me to the BOF area to conduct visible emissions readings of the ESP stack (see Appendix A). I did not observe any exceedances of the 20% 6 minute average opacity limit. The AK Steel contracted VE reader, Mr. Bob Bingham, was also present. We parked in view of the ESP and began readings once a heat in a BOF vessel started. Mr. Pate informed us via text message the start of the heat times. I was not in proper position to read the BOF roof monitor. However, I did observe it throughout the ESP observations, and I did not observe any fugitive emissions from the roof. I could also observe the secondary emissions baghouse, and I did not see any emissions from the stack as well. Heavy fugitive dust from the runway slag handling area was observed although I was not in proper position to take readings. This area is managed by Edw. C. Levy Company.

As it was the beginning of March, the fugitive dust control season had just started. Temperatures were still below freezing which exempts a company from treating the roads.

Upcoming work: C furnace reline, A vessel reline, A vessel wye section replacement (maybe)

We returned to the office, and I reviewed the Method 9 VE sheets and the fugitive dust records. Mr. Pate and I discussed the additional records that I would request. I sent the attached email to Mr. Pate requesting additional records for review.

#### RULES/PERMIT CONDITIONS EVALUATED

Conditions evaluated are from ROP MI-ROP-A8640-2016a. Note, each emission unit only includes special conditions that were evaluated as part of this inspection.

The following conditions apply to : EURELADLINGBOF

DESCRIPTION: Reladling South & North – BOF

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT: Baghouse

#### I. EMISSION LIMITS – IN COMPLIANCE

3. PM	6.3 tpy <sup>2</sup> 4.01 tpy was highest in December 2017 (from Dec 2017 to Jan 2019). See attached spreadsheet (Appendix B).	12-month rolling time period as determined at the end of each calendar month	EURELADLINGBOF Roof monitors
4. PM10	3.6 tpy <sup>2</sup> 2.29 tpy was highest in December 2017 (from Dec 2017 to Jan 2019). See attached spreadsheet (Appendix B).	12-month rolling time period as determined at the end of each calendar month	EURELADLINGBOF Roof monitors
5. PM2.5	1.84 tpy <sup>2</sup> 1.16 tpy was highest in December 2017 (from Dec 2017 to Jan 2019). See attached spreadsheet (Appendix B).	12-month rolling time period as determined at the end of each calendar month	EURELADLINGBOF Roof monitors

**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 – IN COMPLIANCE**

Pollutant	Limit	Time Period / Operating Scenario	Equipment
1. Visible Emissions	20% Opacity <sup>2</sup> No excess VE's were observed during the inspection.	3-minute average	EUBOFDESULF Baghouse stack
2. Visible Emissions	20% Opacity <sup>2</sup> No excess VE's were observed during the inspection	3-minute average	EUBOFDESULF BOF Shop Building
3. Visible Emissions	20% Opacity No excess VE's were observed during the inspection.	3-minute average	EUBOFDESULF BOF Shop Building
4. PM	0.01 gr/dscf <sup>2</sup> 0.001 gr/dscf was the result from the 2018 stack testing.	Test Protocol*	EUBOFDESULF Baghouse stack
5. PM	7.7 pph <sup>2</sup> 0.8 pph was the result from the 2018 stack testing	Test Protocol*	EUBOFDESULF Baghouse stack

Pollutant	Limit	Time Period / Operating Scenario	Equipment
6. PM	126.72 tpy <sup>2</sup>  80.5 tpy was highest 12 month rolling from Dec 2017-January 2019 (Appendix B).	12-month rolling time period as determined at the end of each calendar month	EUBOFDESULF Roof monitor
7. PM10	3.6 pph <sup>2</sup>  1 pph was the most recent result from the 2016 stack test	Test Protocol*	EUBOFDESULF Baghouse stack
8. PM10	24.38 tpy <sup>2</sup>  15.51 tpy was highest 12 month rolling from Dec 2017-January 2019 (Appendix B).	12-month rolling time period as determined at the end of each calendar month	EUBOFDESULF Roof monitor
9. PM2.5	3.6 pph <sup>2</sup>  1 pph was the most recent result from the 2016 stack test	Test Protocol*	EUBOFDESULF Baghouse stack
10. PM2.5	14.25 tpy <sup>2</sup>  9.05 tpy was highest 12 month rolling from Dec 2017-January 2019 (Appendix B).	12-month rolling time period as determined at the end of each calendar month	EUBOFDESULF Roof monitor
11. Pb	0.0016 pph <sup>2</sup>  0.0009 pph was the most recent result from the 2016 stack test	Test Protocol*	EUBOFDESULF Baghouse stack
12. Mn	0.013 pph <sup>1</sup>  0.002 pph was the most recent result from the 2016 stack test	Test Protocol*	EUBOFDESULF Baghouse stack

## II. MATERIAL LIMITS NA

## III. PROCESS/OPERATIONAL RESTRICTIONS

1. **IN COMPLIANCE.** Compliance based on records reviewed and stack testing. 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.
2. **IN COMPLIANCE.** Plan has been developed and is in the facility file. 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.

3. **IN COMPLIANCE.** Compliance based on records reviewed and stack testing. The permittee shall not operate EUBOFDESULF unless the baghouse dust collector is installed, maintained, and operated in a satisfactory manner.

#### **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. **IN COMPLIANCE.** This is the MACT required testing which occurred in 2018 and 2013. The permittee shall conduct performance tests for particulate matter emissions and opacity at least once every 5 years.

**IN COMPLIANCE for #2, #3, and #4 –** Based on information in the stack testing reports and staff observations during the testing, the conditions below were met.

2. Sampling during the performance tests will occur only when the operations being controlled are in operation.
3. Performance tests for visible emissions shall be conducted such that the opacity observations overlap with the performance tests for particulate.
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:
  - a. Record observations to the nearest 5 percent at 15-second intervals for at least three steel production cycles rather than using the procedure specified in Section 2.4 of Method 9.
  - b. Determine the 3-minute block average opacity from the average of 12 consecutive observations recorded at 15-second intervals.
5. **IN COMPLIANCE.** PM, PM10, PM2.5, Pb and Mn test was completed on October 2016. Results were 0.0007 gr/dscf, 0.5 lb/hr, 1 lb/hr, Mn 0.002, Pb 0.0009. Baghouse dust was also analyzed as required. MACT test was completed on April 10-11, 2018. PM was 0.001 gr/dscf and 0.8 lb/hr. Within three years of May 12, 2014, 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 May 12, 2014, 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.

#### **VI. MONITORING/RECORDKEEPING**

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

1. **IN COMPLIANCE.** Records were received in a timely manner. 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.
2. **IN COMPLIANCE.** AQD performed a review of the Method 9 VE observation records while on site. The required frequency and duration of the readings appears to be met. No corrective actions have been required. 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.
3. **IN COMPLIANCE.** See Appendix C. 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. Pressure drop is monitored and evaluated for potential problems every day. Pressure drops outside of the normal range are investigated. See attached log.
  - b. Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms. Contractor empties hoppers on a weekly basis. A receipt is generated and maintained by AK Steel.
  - c. Check the compressed air supply for pulse-jet baghouses each day. See attached log. Compressed air supply pressure is monitored continuously and recorded once per day. Low compressed air pressure is noted and investigated. Based on the attached log, there were some incidents of low pressure but all were resolved on the day of occurrence.
  - d. Monitor cleaning cycles to ensure proper operation using an appropriate methodology. Cleaning cycles are trended. A daily report with the total cleaning cycles is generated and reviewed by environmental staff. See attached example.
  - e. Check bag cleaning mechanisms for proper functioning through monthly visual inspection or equivalent means. Monthly inspections of this baghouse for 2018 are attached.
  - f. Make monthly visual checks of bag tension on reverse air and shaker-type baghouses to ensure that bags are not kinked (knead 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. Quarterly inspections for 2018 are attached.
  - h. Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means. Quarterly inspections for 2018 are attached.
4. **IN COMPLIANCE.** Bag leak detector is installed and being maintained. Facility hired an outside contractor to check the system periodically and test the alarm. 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:
- a. Certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic foot (0.0044 grains per actual cubic foot).
  - b. Provides output of relative changes in particulate matter loadings.
  - 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.
  - 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.
5. **IN COMPLIANCE.** Company has certified that no changes have been made. 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.6.
6. **NOT APPLICABLE.** A bag leak detection system is installed. 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.
7. **IN COMPLIANCE.** The process is being monitored as required. The permittee shall monitor the process as required by 40 CFR Part 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).
8. **IN COMPLIANCE.** Inappropriate data is not in use. 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.
9. **IN COMPLIANCE.** Records are maintained and are attached. One alarm was experienced in 2017 and two in 2018. Facility appears to have taken appropriate and timely corrective action, when needed. 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.

- 10. **IN COMPLIANCE.** Company maintains sensitivity has not been changed. 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.6.
- 11. **DID NOT EVALUATE.** Did not evaluate whether company has all of this information. 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).
- 12. **DID NOT EVALUATE.** An SSM demonstration has not been needed. The permittee shall maintain the records required for startup, shutdown and malfunction under 40 CFR 63.6(e)(3)(iii) through (v).
- 13. **IN COMPLIANCE.** Based on supporting information provided in the MAERS report, it appears facility is maintaining this information. The permittee shall maintain records associated with performance tests and performance evaluations as required by 40 CFR 63.10(b)(2)(viii).
- 14. **IN COMPLIANCE.** Monthly records are attached. 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.<sup>2</sup>
- 15. **IN COMPLIANCE.** Records are attached and are calculated using methodology in Appendix 7-1. Using the method shown in Appendix 7-1, 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.<sup>2</sup>

**VII. REPORTING**

**IN COMPLIANCE** with 1-5 below. Required reporting has been submitted in timely manner. Reports are in the facility file. No SSM reports have been filed for EUBOFDESULF

- 1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A.
- 2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30.
- 3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year.
- 4. The 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.
- 5. 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 40 CFR 63.10(d)(5)(ii).

**VIII. STACK/VENT RESTRICTIONS**

**IN COMPLIANCE.** Appears to be in compliance based on visual observation. 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)
1. SVDESULFBH	66 <sup>2</sup>	37 <sup>2</sup>

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**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 reladling

**I. EMISSION LIMITS – IN COMPLIANCE**

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method
1. Visible Emissions	10% Opacity, as a trigger for corrective action No excess VE's were observed during the inspection.	Hourly average	EUBOF ESP stack	SC VI.2, VI.10
2. Visible Emissions	20% Opacity No excess VE's were observed during the inspection.	3-minute average	EUBOF Shop building	SC V.2, V.3, V.4, V.5
3. Visible Emissions	20% Opacity <sup>2</sup> No excess VE's were observed during the inspection.	3-minute average	EUBOF Roof monitor	SC. VI.4, VI.5
4. PM	0.0152 gr/dscf <sup>2</sup> 0.0039 gr/dscf from October 2018 test	Test Protocol*	EUBOF ESP stack	SC V.7
5. PM	0.02 gr/dscf 0.0039 gr/dscf from October 2018 test	Test Protocol*	EUBOF ESP stack	SC V.1, V.2, V.3
6. PM	62.6 pph <sup>2</sup> 17.6 pph from October 2018 test	Test Protocol*	EUBOF ESP stack	SC V.7
7. PM	61.9 tpy <sup>2</sup>  39.98 tpy was highest in December 2017 (from Dec 2017 to Jan 2019). See Appendix B	12-month rolling time period as determined at the end of each calendar month	EUBOF Roof monitor	SC VI.33
8. PM10	47.5pph <sup>2</sup> 21.42 pph from September 2016 stack test	Test Protocol*	EUBOF ESP stack	SC V.7

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method
9. PM10	28.3 tpy <sup>2</sup>  18.27 tpy was highest in December 2017 (from Dec 2017 to Jan 2019). See Appendix B	12-month rolling time period as determined at the end of each calendar month	EUBOF Roof monitor	SC VI.33
10. PM2.5	46.85 pph <sup>2</sup> 21.4 pph from September 2016 stack test	Test Protocol*	EUBOF ESP stack	SC V.7
11. PM2.5	20.2 tpy <sup>2</sup>  13.05 tpy was highest in December 2017 (from Dec 2017 to Jan 2019). See Appendix B	12-month rolling time period as determined at the end of each calendar month	EUBOF Roof monitor	SC VI.33
12. NOx	52.9 pph <sup>2</sup> 28 pph from September 2016 stack test	Test Protocol*	EUBOF ESP stack	SC V.7
13. NOx	162.1 tpy <sup>2</sup>  115.04 tpy was highest in December 2017 (from Dec 2017 to Jan 2019). See Appendix B	12-month rolling time period as determined at the end of each calendar month	EUBOF ESP stack	SC VI.32
14. CO	7,048 pph <sup>2</sup> 3008 pph from September 2016 stack test	Test Protocol*	EUBOF ESP stack	SC V.7

## II. MATERIAL LIMITS - IN COMPLIANCE

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method
1. Steel Production	12,200 tons per day <sup>2</sup>  Highest daily production was 11,049 tons from Jan 2018 through Jan 2019. See Appendix B	Calendar Day	EUBOF	SC VI.30, VI.31

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method
2. Steel Production	4,052,230 tons per year <sup>2</sup>  2,110,219 tpy was highest in December 2017 (from Dec 2017 to Jan 2019). See Appendix B	12-month rolling time period basis as determined at the end of each calendar month	EUBOF	SC VI.30, VI.31

**III. PROCESS/OPERATIONAL RESTRICTIONS NA**

**VI. MONITORING/RECORDKEEPING**

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

1. **IN COMPLIANCE.** Records were received in a timely manner. 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.
2. **IN COMPLIANCE.** COMS is maintained and operational. 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 3.3-1 and shall use the COMS data for determining compliance with SC I.1.
3. **IN COMPLIANCE.** Based on a review of records, these certified readings are occurring at the specified frequency. None of the readings resulted in an exceedance of the opacity limit. See Appendix D for records. 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.<sup>2</sup> (R 336.1301)
4. **IN COMPLIANCE.** Based on a review of records, these certified readings are occurring at the specified frequency. Actions taken in response to observed exceedances have been documented and reported. 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.27.c. The permittee shall review the written record on a monthly basis and verify all relevant information has been included.
5. **DID NOT EVALUATE.** Did not review beaching log at this time. 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. The 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.

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- 30. **IN COMPLIANCE.** See attached spreadsheet (Appendix B). 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.
- 31. **IN COMPLIANCE.** See attached spreadsheet (Appendix B). 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.
- 32. **IN COMPLIANCE.** See attached spreadsheet (Appendix B). Using the method shown in Appendix 7.1 -1, 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.
- 33. **IN COMPLIANCE.** See attached spreadsheet (Appendix B). Using the method shown in Appendix 7.1 -1, 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.

See Appendices 3-1 and 7-1

**VII. REPORTING IN COMPLIANCE with 1-7 below.** Required reporting has been submitted in timely manner. Reports are in the facility file

- 1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A.
- 2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30.
- 3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year.
- 4. The 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.
- 5. 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 40 CFR 63.10(d)(5)(ii).
- 6. 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 District Supervisor within fourteen (14) days of the occurrence.
- 7. 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 3.3-1.<sup>2</sup>

See Appendices 3-1 and 8-1

**VIII. STACK/VENT RESTRICTIONS**

**IN COMPLIANCE.** Data was provided by the company during permitting. 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)
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Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)
1. SVBOFESP	204 <sup>2</sup>	213 <sup>2</sup>
2. SCBOFBH	222 <sup>2</sup>	200 <sup>2</sup>

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**SOURCEWIDE FUGITIVE DUST**

**VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

1. **IN COMPLIANCE.** Required information is being maintained. The permittee shall keep daily records of the information required by Appendix 4.1-1(A-C) in a format consistent with SIP No. 30-1993. The permittee shall keep the record on file for a period of at least two years and make the records available to the AQD upon written or verbal request.
2. **IN COMPLIANCE.** I reviewed the non-certified and certified VE records for 2018. The required frequency appeared to be met during the time period of March through October. Sample of records attached (Appendix E). The permittee shall perform a non-certified visible emission observation of the fugitive dust sources mentioned in Appendix 9-1 of this permit at least once per week during March through October. The permittee shall perform a certified visible emission observation of a representative set of the fugitive dust sources mentioned in Appendix 9-1 of this permit at least once per month during March through October. The representative set must include a paved road, an unpaved road, a storage pile and an unpaved open area. A different set of fugitive dust sources must be observed each month. 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.

Appendix 9-1. Fugitive Dust Control Plan (AK Steel Dearborn Works - Rouge Area Operations and Particulate Emission Control Program)

**A. STORAGE AND ACCESS AREAS**

**IN COMPLIANCE.** Petrotac applied once per month for 2018 based on records reviewed. Sample of records attached (Appendix E).

1. Materials such as coke, iron ore, coal, limestone, sand, coke screenings and sump breeze are stored in piles in the field. All piles are active except coke, coal, and limestone. The active piles will be treated with either an asphalt emulsion, petroleum resin, or an acrylic cement, once per month, March through October. Inactive piles will be treated with asphalt emulsion, petroleum resin, or an acrylic cement, once per year. An inactive pile is defined as a pile which is disturbed less than once per month.

2. Normal access areas surrounding storage piles will be treated with asphalt emulsion, petroleum resin, or an acrylic cement, once per month from March through October.

**DID NOT EVALUATE.** No loading activities were occurring during the inspection.

3. When reclaiming of materials is done with a front end loader, the clearance between the bottom of the loader bucket and the vehicle sideboard will be maintained at two feet maximum during loading.

**DID NOT EVALUATE.** No loading activities were occurring during the inspection.

4. When loading coke into trucks or railroad cars at DD building with conveyors, the awaiting vehicle shall be equipped with water sprays to control dust during the loading operation.

**B. OPEN AREAS AND UNPAVED ROADS.**

**IN COMPLIANCE.** Petrotac applied once per month for 2018 based on records reviewed. Sample of records attached (Appendix E).

1. Open areas will be treated with asphalt emulsion, petroleum resin, or an acrylic cement, once per month between March and October.

IN COMPLIANCE. A review of the records indicates that the unpaved roads are treated at the required frequency. Sample of records attached (Appendix E).

2. Unpaved roads will be treated with asphalt emulsion, petroleum resin, or an acrylic cement, once every 12 days between March and October.

#### C. PAVED AREAS.

IN COMPLIANCE. Based on records reviewed on site.

##### 1. Wet sweeping

- (i) Roadways receiving wet sweeper treatments on a daily schedule, 5 days a week between March and October, are listed in figure 2 attached to the consent order.
- (ii) The traveled portion of parking areas will receive wet sweep treatments once per month. A greater frequency rate will be implemented on these areas if warranted due to extended dry weather. The non-traveled portion of parking lots will be swept and cleaned a minimum of three times per year.
- (iii) Materials and debris picked up during wet sweep activities will be transported and deposited in a designated holding site by the sweeper equipment operator. Sweeping debris material piles will be monitored on a daily basis and control measures implemented to further reduce fugitive dust emission potential.

IN COMPLIANCE. Based on records reviewed. Needed on day of inspection but temperature was below freezing

##### 2. Street flushing

All paved roadways in the Rouge facility will receive flusher treatments on a daily schedule, five days a week between March and October of the year when outside temperatures are above freezing. Roadway assignments and respective application frequencies are shown in figure 2 attached to the consent order. Daily flusher treatments are assigned to roadways.

##### 3. Schedule change

Roadway treatment application schedules presented in this plan may be modified on a short term basis in response to adverse meteorological conditions or unusual circumstances. Daily treatment procedures will be foregone when:

- Daily precipitation exceeds 0.1 in.
- Freezing is a concern.
- Road salt is applied and for 48 hours thereafter.

##### 4. Additional measures

- (i) To control dust during scheduled raw material handling, a flusher vehicle will sprinkle the truck hauling route.
- (ii) Speed signs have been posted on major paved roadways throughout the facility to maintain lower vehicular speeds. Maximum posted limit is 20 mph.

#### D. DUST SUPPRESSANT

The suppressant used will be an acrylic cement, petroleum resin, or an asphalt emulsion. It is diluted with water in a ratio of not more than 9:1 and applied at a rate of 0.3 gallons of solution per square yard of surface area covered throughout the plant (all sources).

DID NOT EVALUATE

- E. The permittee may change its operations and processes that are sources of particulate and fugitive dust and may also change the provisions under Appendix 01.9, Paragraph A – D of this permit provided all of the following conditions are met:
- a. The provisions of the control program continue to apply to the subject operation or process;
  - b. The change does not result in an increase in the level of fugitive dust or particulate emissions;
  - c. The operation or process change is approved by MDEQ;
  - d. The permittee submits a written description of the proposed operation or process change and how it meets the requirements of conditions a. and b above.

NOT APPLICABLE. Request for a change has not been provided

- F. The permittee may revise the fugitive dust control program and/or the particulate emission control program provided all of the following conditions are met:
- a. The permittee demonstrates, in writing, that the proposed revision does not result in an increase in the level of fugitive dust or particulate emissions and submits the demonstration to MDEQ for approval.
  - b. The revision is approved by MDEQ.

#### COMPLIANCE DETERMINATION

At this time, facility appears to be in compliance with the conditions evaluated in this report.

NAME Kate Kise

DATE 12/19/19

SUPERVISOR W.M.