

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF OHIO
EASTERN DIVISION

UNITED STATES OF AMERICA,)
)
 Plaintiff,)
)
 v.)
)
 GLOBE METALLURGICAL, INC.)
)
 Defendant.)

Civil Action No. 2:23-cv-02368

CONSENT DECREE

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Plaintiff United States of America, on behalf of the United States Environmental Protection Agency (EPA), has filed a complaint in this action concurrently with this Consent Decree, seeking injunctive relief and civil penalties from Defendant Globe Metallurgical, Inc., pursuant to Sections 113(b) and 167 of the Clean Air Act (CAA or “Act”), 42 U.S.C. §§ 7413(b)(2) and 7477, for alleged violations of (1) the CAA’s Prevention of Significant Deterioration of Air Quality (PSD) provisions and Ohio Administrative Code (OAC) Rule 3745-31; (2) the CAA’s New Source Performance Standards (NSPS) general provisions, 40 C.F.R. §§ 60.1-60.19, and the NSPS regulations for ferroalloy production facilities (Subpart Z), 40 C.F.R. §§ 60.260-60.266; and (3) the Ohio State Implementation Plan’s (SIP) opacity limits, OAC Rule 3745-17-08, as incorporated into Defendant’s Title V permit, and Ohio’s Title V Permit Program.

The Complaint against Defendant alleges that Defendant is owner and operator of a ferroalloy production facility located at 1595 Sparling Road, Waterford, Washington County, Ohio (the “Facility”). The Facility operates five electric arc furnaces (EAFs), numbered 1, 2, 3, 5, and 7, and other emission units.

The Complaint alleges that, in April 2013, Defendant modified EAF No. 5 in order to increase the furnace’s capacity, among other reasons; that this modification resulted in a significant net emissions increase of sulfur dioxide (SO₂); and that Defendant performed the April 2013 modification of EAF No. 5 without first obtaining the proper permits authorizing the modification and subsequently operated the unit without employing the best available control technology (BACT) to control emissions of SO₂ from EAF No. 5, as required by the Act.

The Complaint further alleges that Defendant’s modification of EAF No. 5 also resulted in an increased emission rate of particulate matter (PM) and carbon monoxide (CO), subjecting

EAF No. 5 to NSPS Subpart Z, but that Defendant has not complied with the provisions of Subpart Z, as required by the Act.

The Complaint also alleges that Defendant operated the Facility while repeatedly exceeding opacity limitations and violating pollution control operational and performance criteria established in the Ohio SIP.

Prior to the filing of the Complaint, EPA issued a Notice and Finding of Violation to Defendant on June 30, 2015, and a second Notice and Finding of Violation to Defendant on December 6, 2016 (the “NOVs”), which alleged violations at Defendant’s Facility that are contained in the Complaint. EPA issued the NOVs pursuant to, and in accordance with, CAA Section 113(a), 42 U.S.C. § 7413(a).

Defendant does not admit any liability to the United States arising out of the transactions or occurrences alleged in the Complaint and/or the NOVs.

The Parties recognize, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith and will avoid litigation between the Parties and that this Consent Decree is fair, reasonable, and in the public interest.

NOW, THEREFORE, before the taking of any testimony, without the adjudication or admission of any issue of fact or law except as provided in Section I, and with the consent of the Parties, IT IS HEREBY ADJUDGED, ORDERED, AND DECREED as follows:

I. JURISDICTION AND VENUE

1. This Court has jurisdiction over the subject matter of this action, pursuant to 28 U.S.C. §§ 1331, 1345, and 1355, and Section 113(b) of the Act, 42 U.S.C. § 7413(b), and over the Parties. Venue lies in this District pursuant to CAA Section 113(b), 42 U.S.C. § 7413(b), and 28 U.S.C. §§ 1391(b) and 1395(a), because the violations alleged in the Complaint are alleged to

have occurred in, and Defendant conducts business in, this judicial district. For purposes of this Decree, or any action to enforce this Decree, Defendant consents to the Court's jurisdiction over this Decree and any such action and over Defendant and consents to venue in this judicial district.

2. For purposes of this Consent Decree, Defendant agrees that the Complaint states claims upon which relief may be granted pursuant to CAA Sections 111(e) and 165(a), 42 U.S.C. §§ 7411(e) and 7475(a), and Title V, 42 U.S.C. §§ 7661-7661f.

3. Notwithstanding the foregoing, should this Consent Decree not be entered by this Court, then the consents and agreements set forth in this Section I (Jurisdiction and Venue) shall be null and void and of no effect.

II. APPLICABILITY

4. The obligations of this Consent Decree apply to and are binding upon the United States and upon Defendant and any successors, assigns, or other entities or persons otherwise bound by law.

5. Transfer of Ownership or Operation of the Facility. At least 30 Days prior to any proposed transfer of ownership or operation of the Facility, Defendant shall provide a copy of this Consent Decree to the proposed transferee and shall simultaneously provide written notice of the prospective transfer, together with a copy of the proposed written agreement, to EPA and the U.S. Department of Justice (DOJ), in accordance with Section XIV (Notices). Any attempt to transfer ownership or operation of the Facility without complying with this Paragraph constitutes a violation of this Decree.

a. Transfer of ownership or operation of the Facility without relieving Defendant of any of its obligations under this Consent Decree may be done, consistent with this Paragraph 5, without further approval or modification of the Decree.

b. No transfer of ownership or operation of the Facility shall relieve Defendant of its obligation to ensure that the terms of Paragraph 20 of this Consent Decree regarding installation of a baghouse as described therein are implemented.

c. Transfer of ownership or operation of the Facility relieving Defendant of any of its obligations under this Consent Decree (other than certain obligations under Paragraph 20, as described in Paragraph 5.b. above) may be done where: (i) the proposed transferee agrees in writing to comply with the obligations of the Consent Decree; (ii) Defendant demonstrates that the proposed transferee possesses the requisite technical abilities and/or financial means to implement the Consent Decree; and (iii) the United States concurs that the proposed transferee possesses the requisite technical abilities and/or financial means to implement the Consent Decree and consents to the transfer of obligations. If the United States declines to consent to the transfer, the issue shall first be subject to dispute resolution pursuant to Section X (Dispute Resolution). Any transfer of obligations from Defendant to a proposed transferee requires Court approval of the proposed modification to this Consent Decree pursuant to Section XVII (Modification).

6. Defendant shall provide a copy of this Consent Decree to all officers, employees, and agents whose duties might reasonably include compliance with any provision of this Decree, as well as to any contractor retained to perform work required under this Consent Decree. Defendant shall condition any such contract upon performance of the work in conformity with the terms of this Consent Decree.

7. In any action to enforce this Consent Decree, Defendant shall not raise as a defense the failure by any of its officers, directors, employees, agents, or contractors to take any actions necessary to comply with the provisions of this Consent Decree.

III. DEFINITIONS

8. Terms used in this Consent Decree that are defined in the Act or in regulations promulgated pursuant to the Act have the meanings assigned to them in the Act or such regulations, unless otherwise provided in this Decree. Whenever the terms set forth below are used in this Consent Decree, the following definitions apply:

“30-Operating Day Rolling Average” means the 30-Operating Day rolling average for each EAF used to demonstrate compliance with the sulfur content limits in Section V.A of this Consent Decree;

“ACGIH-Guidelines” means American Conference of Governmental Industrial Hygienists: *Industrial Ventilation: A Manual of Recommended Practice for Design* 28th edition;

“Batched” or “Batching” means the materials introduced into the EAF consisting of, but not limited to, ores, reductants, and limestone, or the process of introducing materials into the EAF;

“Capture System” means the equipment (including hoods, ducts, fans, dampers, etc.) at the Facility used to capture or transport particulate matter generated by an Emission Unit to an air pollution control device;

“Capture and Control System” means the combination of the Capture System and the air pollution control device;

“Complaint” means the complaint filed by the United States in this action;

“Consent Decree” or “Decree” means this Decree and all appendices attached hereto (listed in Section XXV);

“Continuously Operate” or “Continuous Operation” means (1) for an Emission Unit that is operating – operate at all times, consistent with manufacturer’s specifications, good engineering and maintenance practices, and good air pollution control practices (consistent with 40 C.F.R. § 60.11(d)) for minimizing emissions from the Emission Unit; (2) for a Capture and Control System – operate at all times during which an Emission Unit venting to it is operating, consistent with manufacturer’s specifications, good engineering and maintenance practices, and good air pollution control practices (consistent with 40 C.F.R. § 60.11(d)) for minimizing emissions from the Capture and Control System; and (3) for a parametric monitoring system - operate at all times during which an Emission Unit venting to it is operating, consistent with manufacturer’s specifications, and good engineering and maintenance practices;

“Day” means a calendar day unless expressly stated to be a business day. In computing any period of time for a deadline under this Consent Decree, where the last day would fall on a Saturday, Sunday, or federal holiday, the period runs until the close of business of the next business day;

“Defendant” means Globe Metallurgical, Inc.;

“DOJ” means the United States Department of Justice and any of its successor departments or agencies;

“EAF” means electric arc furnace. The EAFs located in Shop 1 of the Facility are denoted as EAF No. 1, EAF No. 2, and EAF No. 3. The EAFs located in Shop 2 of the Facility are denoted as EAF No. 5 and EAF No. 7. Provided, however, that the definition of EAF does

not include any such furnace after being permanently shut down and does not include any furnace installed at the Facility after the Effective Date of this Consent Decree;

“Emission Unit” means an EAF, the plunging station, and the flow caster;

“EPA” means the United States Environmental Protection Agency and any of its successor departments or agencies;

“Effective Date” means the definition provided in Section XV;

“Facility” means Defendant’s Beverly facility located in Waterford, Washington County, Ohio;

“Furnace Cycle” means the time period from completion of a furnace product tap to the completion of the next consecutive product tap; provided, that if an EAF is continuously tapping a furnace cycle shall mean a time period no less than 2 hours;

“Operating Day” means, as to each EAF, any calendar day during which raw material is Batched into that EAF;

“Paragraph” means a portion of this Decree identified by an Arabic numeral;

“Parties” means the United States and Defendant;

“Plunging Station and Flow Caster Baghouse” means the new baghouse to be installed as described in Paragraph 20 of this Decree.

“Production Management Control System” or “PMC System” means the network of hardware and software used to control and monitor plant equipment and processes;

“Representative Worst Case Conditions” means conditions that represent the range of combined process and control measure conditions and are likely to most challenge the emissions control measures of the Facility with regard to meeting the applicable emission standards, but

without creating an unsafe condition, consistent with EPA’s Clean Air Act Stack Testing Guidance (April 27, 2009);

“Section” means a portion of this Decree identified by a Roman numeral;

“Shop 1 Baghouse” means the baghouse which controls particulate matter emissions from EAF Nos. 1, 2, and 3;

“Shop 2 Baghouse” means the baghouse which controls particulate matter emissions from EAF Nos. 5 and 7;

“State” means the State of Ohio; and

“United States” means the United States of America, acting on behalf of EPA.

IV. CIVIL PENALTY

9. Within 30 Days after the Effective Date, Defendant shall pay the sum of \$2.6 million as a civil penalty, together with interest accruing from the date on which the Consent Decree is lodged with the Court, at the rate specified in 28 U.S.C. § 1961 as of the date of lodging.

10. Defendant shall pay the civil penalty due, together with interest, by FedWire Electronic Funds Transfer (EFT) to the DOJ account, in accordance with instructions provided to Defendant by the Financial Litigation Unit (FLU) of the United States Attorney’s Office for the Southern District of Ohio after the Effective Date. The payment instructions provided by the FLU will include a Consolidated Debt Collection System (CDCS) number, which Defendant shall use to identify all payments required to be made in accordance with this Consent Decree. The FLU will provide the payment instructions to:

Lucas Nicely
2017 State Route 60
Complex 2, Building 21
Marietta, OH 45750
(740) 984-8603
lnicely@ferroglobe.com

on behalf of Defendant. Defendant may change the individual to receive payment instructions on its behalf by providing written notice of such change to DOJ and EPA in accordance with Section XIV (Notices).

11. At the time of payment, Defendant shall send notice that payment has been made: (i) to EPA via email at cinwd_acctsreceivable@epa.gov or via regular mail to EPA Cincinnati Finance Office, 26 W. Martin Luther King Drive, Cincinnati, Ohio 45268; (ii) to DOJ via email or regular mail in accordance with Section XIV; and (iii) to EPA in accordance with Section XIV. Such notice shall state that the payment is for the civil penalty owed pursuant to the Consent Decree in *United States v. Globe Metallurgical, Inc.* and shall reference the civil action number, CDCS Number, and DOJ case number 90-5-2-1-11643.

12. Defendant shall not deduct any penalties paid under this Decree pursuant to this Section or Section VIII (Stipulated Penalties) in calculating its federal income tax.

V. COMPLIANCE REQUIREMENTS

A. Sulfur Input Limits

13. Defendant shall limit the sulfur content for all coals, cokes, and other sources of high concentration carbon (*i.e.* greater than 50% carbon, by dry weight) used as a reductant at any EAF at the Facility in accordance with the limits in Paragraph 13.a and 13.b below. Compliance with these sulfur content limits shall be based on a 30-Operating Day Rolling Average for each EAF, in accordance with the methodology in Paragraph 14 of this Decree.

a. General Limits. Except as provided by Paragraph 13.b below, Defendant shall comply with the sulfur content limits in Table 1.

Table 1

Furnace Production	30-Operating Day Rolling Average Sulfur Content Limit
Silicon Metal (SiMe) production	0.70%
Ferrosilicon (FeSi) production (default)	0.75%
FeSi production (purity exception)	0.80%

Certain customer orders require a purity specification that limits the use of coke as a reductant (the “purity exception”). The 0.75% 30-Operating Day Rolling Average sulfur content limit applies to all Batching for the intended purpose of production of FeSi where the purity exception does not apply. The 0.80% 30-Operating Day Rolling Average sulfur content limit applies only to Batching for the intended purpose of production of FeSi where the purity exception does apply. In its semi-annual reports due under Paragraph 72, Defendant shall submit documents sufficient to demonstrate the applicability of the purity exception for any period of time the 0.80% sulfur content limit was applied to one of more EAFs. Additionally, for each product for which application of the purity exception is sought, Defendant shall submit a narrative explaining the purity requirement(s) and how they limit or prohibit the use of coke in the first semi-annual report in which the purity exception is applied for such product.

b. Weighted-Average Limit. When a 30-Operating Day period at a single EAF has production to which varying limits in Paragraph 13.a apply (e.g. production of FeSi and SiMe, or production of FeSi and FeSi with the purity exception), Defendant shall calculate the applicable limit for that 30-Operating Day period using the following equation:

$$La = \frac{Ts \times Ls + Td \times Ld + Tpe \times Lpe}{Ts + Td + Tpe}$$

Where:

- Ts = Amount of SiMe production, in tons, during 30-Operating Day period
- Td = Amount of FeSi production subject to the default limit, in tons, during the 30-Operating Day period
- Tpe = Amount of FeSi production subject to the purity exception limit, in tons during the 30-Operating Day period
- La = Weighted average sulfur content limit for the 30-Operating Day period
- Ls = Sulfur content limit applicable to SiMe production per Paragraph 13
- Ld = Sulfur content limit for FeSi production subject to the default limit per Paragraph 13
- Lpe = Sulfur content limit for FeSi production subject to the purity exception limit per Paragraph 13.

14. Calculation of 30-Operating Day Rolling Average. Compliance with the applicable 30-Operating Day Rolling Average sulfur content or weighted-average sulfur content limit in Paragraphs 13.a or 13.b of this Consent Decree, respectively, shall be determined in accordance with the following procedure for each EAF:

30-Operating Day Average Percent Sulfur Content of Raw Materials

$$WS_{avg} = 100 \times \frac{\sum_{j=1}^m \left\{ \sum_{i=1}^n \left[w_i * \frac{100 - H}{100} \times \left(\frac{S_i}{100} \right) \right] \right\}_j}{\sum_{j=1}^m \left\{ \sum_{i=1}^n \left[w_i * \frac{100 - H}{100} \right] \right\}_j}$$

Where:

- WS_{avg} = weighted average percent sulfur content over m Operating Days (%_{dry})
- m = Operating Days to average (30 Operating Days)
- n = number of different raw materials used as a reductant during an Operating Day, such as coals, cokes, and other sources of high concentration carbon (i.e. greater than 50% carbon)
- w_i = weight of reductant *i* (raw material) (pounds_{wet})
- S_i = percent sulfur content of reductant *i* by weight, dry
- H = moisture content of reductant *i* (% H₂O)

15. The first date used to determine compliance with the applicable 30-Operating Day Rolling Average sulfur content or weighted-average sulfur content limit in Paragraphs 13.a or 13.b of this Consent Decree, respectively, will be 30 Operating Days after the Effective Date.

B. PM and CO Emission Standards

16. Within 18 months of the date of lodging of this Consent Decree, Defendant shall accept the applicability of 40 C.F.R. Part 60, Subpart Z to each EAF and associated dust handling equipment (as defined in 40 C.F.R. § 60.261) constructed on or before the date of lodging of this Consent Decree.

17. Within 3 months of the date of lodging of this Consent Decree, Defendant shall apply to have installation and Continuous Operation of bag leak detection systems (BLDS) at the Shop 1 Baghouse, Shop 2 Baghouse, and Plunging and Flow Caster Baghouse approved as an alternative monitoring method in accordance with 40 C.F.R. § 60.13(i) for the continuous monitoring system for the measurement of opacity required under 40 C.F.R. § 60.264(a).

18. Upon submittal of the ICD Report pursuant to Paragraph 44, but no later than 19 months after the Date of Entry, the Capture System for Shop 2 shall capture 95% of particulate emissions from each EAF in Shop 2 over a Furnace Cycle. Alternatively, Defendant may comply with a standard that visible particulate emissions from Shop 2 shall not exceed 8% opacity over an entire Furnace Cycle.

19. Ohio SIP Requirements.

- a. Visible particulate emissions from the Shop 1 Baghouse, Shop 2 Baghouse, and Plunging and Flow Caster Baghouse shall comply with OAC 3745-17-08(B)(3)(b).

- b. The Capture and Control System for the Shop 1 Baghouse, Shop 2 Baghouse, and Plunging and Flow Caster Baghouse shall comply with OAC 3745-17-08(B)(3)(a).
- c. Visible particulate emissions from Shop 1 and Shop 2 individually shall comply with OAC 3745-17-07(B)(3) and OAC 3745-17-07(B)(11). This Paragraph does not limit the applicability of 40 C.F.R. § 60.262(a).

C. Shop 1 Improvements and Operating Requirements

20. Within 18 months of the date of lodging of this Consent Decree, Defendant shall install and Continuously Operate the Plunging Station and Flow Caster Baghouse, with a design capacity of at least 100,000 scfm, to control PM emissions from the plunging station and flow caster and provide supplemental capture and control capacity to the Shop 1 Baghouse when neither plunging nor flow casting is occurring. The Plunging Station and Flow Caster Baghouse shall be designed to provide approximately (i) 65,000 scfm of capacity for emissions from the plunging station when plunging is occurring and (ii) 35,000 scfm of capacity for the flow caster when casting is occurring. Defendant shall route emissions from the Shop 1 EAFs to both the Shop 1 Baghouse and the Plunging Station and Flow Caster Baghouse when EAF No. 1, EAF No. 2, and EAF No. 3 are all operating and neither plunging nor flow casting is occurring.

21. Within 6 months of the date of lodging of this Consent Decree, Defendant shall submit to EPA for review and approval subject to Section V.L (Approval of Deliverables) engineering and design documents for improvements to capture of plunging station emissions (“Plunging Station Capture Plan”). The Plunging Station Capture Plan is anticipated to include the following elements: (i) at least two additional exhaust vents, each with a cross-sectional area of approximately 4 square feet, to the existing plunging station canopy; (ii) approximately

1.5 foot by 10 foot panels on each side of the plunging hood face; and (iii) chain curtain hangings from the front of the retractable plunging hood, covering an area of approximately 2 feet by 13 feet, to reduce the plunging hood open face area. The Plunging Station Capture Plan may deviate from the anticipated design specifications set forth above due to technical limitations or as necessary to maintain safe operation and the Plunging Station Capture Plan will state the basis for any such deviation, but in any case the design must meet the engineering standards for minimum exhaust rates or facial inlet velocities as contained in the ACGIH Guidelines or be designed as a permanent total enclosure (as defined in 40 C.F.R. Part 60, Appx. A-1, Method 204). Within 12 months of EPA's approval of the Plunging Station Capture Plan, Defendant shall implement the Plunging Station Capture Plan and Continuously Operate the elements contained therein.

22. Within 18 months of the date of lodging of this Consent Decree, Defendant shall install and commence Continuous Operation of a retractable flow caster canopy hood located over the ladle to capture emissions from the flow caster and route them to the Plunging Station and Flow Caster Baghouse when the ladle is actively pouring molten metal into the flow caster.

23. Defendant shall comply with the following operational restrictions, except as necessary to prevent damage to Facility equipment or to maintain safe operation:

- a. Defendant shall not tap all three Shop 1 EAFs simultaneously; and
- b. Defendant may tap two Shop 1 EAFs simultaneously only when (i) the third EAF is not tapping and neither plunging nor casting is occurring or (ii) the third EAF is idled.

24. Defendant shall comply with the following operational restrictions, except as necessary to prevent damage to Facility equipment or to maintain safe operation:

- a. Defendant shall maintain the plunging station damper in a closed position when plunging is not occurring; and
- b. Defendant shall maintain the flow caster damper in a closed position when flow casting is not occurring.

D. Shop 2 Improvements and Operating Requirements

25. Within 9 months following the date of lodging of this Consent Decree, around each EAF No. 5 and EAF No. 7 furnace hood, Defendant shall install door panels designed to achieve an indraft velocity at the hood face of no less than 3.03 feet per second when tapping is not occurring and 2.37 feet per second when tapping is occurring. The anticipated design specifications for the door panels are that they will be retractable, water cooled, and refractory lined.

26. Defendant shall comply with the following operational restrictions regarding tapping of the Shop 2 EAFs, except as necessary to prevent damage to Facility equipment or to maintain safe operation:

- a. Defendant shall not tap both Shop 2 EAFs simultaneously; and
- b. Defendant shall not operate the tap hole fans for EAF No. 5 or EAF No. 7 unless tapping at the respective EAF is occurring.
- c. In lieu of complying with the operational restrictions in Paragraphs 26.a and 26.b, Defendant may elect to install and Continuously Operate a dedicated tap fume capture system for either EAF No. 5 or EAF No. 7 with a dedicated baghouse (“TFCS”) that is designed to provide at least 30,000 scfm of capacity for the tap fume gas from the furnace. Defendant shall submit to EPA for review and approval pursuant to Section V.L.

(Approval of Deliverables) engineering and design documents for the TFCS. Defendant shall use CFD modeling to optimize the design of the hood and ducts of the TFCS. Defendant shall continue to comply with Paragraphs 26.a and 26.b: (i) until EPA approves the design of the TFCS and Defendant installs the TFCS as approved and (ii) at all times the TFCS is not operational (subject to the exceptions under Paragraph 26).

- d. The Shop 2 plunging station is currently idled. If Defendant seeks to restart the Shop 2 plunging station, prior to doing so it must submit an assessment proposing operational restrictions and/or an increase in baghouse capacity sufficient to address additional emissions from the restarted Shop 2 plunging station for EPA review and approval pursuant to Section V.L. (Approval of Deliverables).

27. Within 6 months following the date of lodging of this Consent Decree, Defendant shall complete replacement of all fabric filter bags in the Shop 2 Baghouse with redesigned tube sheet bags.

E. Shop 1 and Shop 2 Operating Requirements

28. Within 6 months following the date of lodging of this Consent Decree, Defendant shall install, maintain, and Continuously Operate an automated monitoring and actuation system for Shop 1 and Shop 2, consisting of the monitoring equipment required pursuant to Paragraph 35 below, automated dampers, and gas flow controls for each Shop's EAFs. Automatic dampers and the monitoring equipment shall be positioned downstream of each EAF hood and prior to the combination with exhaust streams from other EAF hoods. This system shall continuously adjust the various dampers to balance flow and maximize allocation of flow among

Emissions Units to improve emissions capture, based on changes in the parameters monitored pursuant to Para. 35.a.

29. The planned locations of the automated dampers and monitoring equipment shall be included in the monitoring plan required by Paragraph 35. Any subsequent alterations to the location of automated dampers or monitoring equipment shall be noted in the semi-annual reports.

30. Within 3 months following the date of lodging of this Consent Decree, Defendant shall Continuously Operate the EAFs in accordance with improved furnace management practices to minimize the generation of visible emissions, including fugitive emissions, and maximize capture of PM emissions from the EAFs. Furnace management practices, at a minimum, shall include: (i) management and response practices for furnace upsets; (ii) stoking practices to minimize generation of visible emissions during manual stoking; and (iii) raw material sizing and segregation practices.

31. Within 6 months following the date of lodging of this Consent Decree, Defendant shall install, maintain, and Continuously Operate a triboelectric monitoring system on the exhaust ducts of each EAF at the Facility. The triboelectric monitoring system shall be designed to provide real-time monitoring to furnace operators of changes in furnace conditions.

32. During cleaning cycles at the Shop 1 Baghouse, Shop 2 Baghouse, and Plunging Station and Flow Caster Baghouse, Defendant shall optimize the reverse air flow to improve baghouse cleaning, consistent with good engineering and maintenance practices.

F. Monitoring

33. Within 18 months following the date of lodging of this Consent Decree, Defendant shall install, calibrate, maintain, and Continuously Operate bag leak detection systems

(BLDS) at the Shop 1 Baghouse, the Shop 2 Baghouse, and the Plunging and Flow Caster Baghouse:

- a. Each BLDS shall be installed, calibrated, operated, and maintained according to the manufacturer's operating instructions;
- b. Each BLDS shall be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less;
- c. Each BLDS sensor shall provide output of relative or absolute PM loadings;
- d. Each BLDS shall be equipped with a device to continuously record the output signal from the sensor;
- e. Each BLDS shall be equipped with an alarm system linked to the Facility's Production Management Control System that shall automatically notify plant operating personnel that the BLDS has detected an increase in relative PM emissions over the baseline (established in accordance with Paragraph 33.g);
- f. Each BLDS shall be installed in each baghouse compartment or cell (or such other location(s) in the baghouse necessary to allow for the BLDS sensors to be located in an area with sufficient velocity); and
- g. The sensitivity, response time, alarm levels, and alarm delay (if applicable) (collectively, the "BLDS Baseline Level") for each BLDS shall be established prior to (but not less than 30 Days before) commencing Continuous Operation of the BLDS in a manner that is

consistent with Office of Air Quality Planning and Standards (OAQPS) Fabric Filter Bag Leak Detection Guidance – EPA-454/R-98-015.5.1-5.3 (“BLDS Guidance”). The BLDS Baseline Level shall be established under normal operating conditions with the applicable baghouse in good repair. Consistent with BLDS Guidance section 5.3, Defendant may adjust the BLDS Baseline Levels (i) if there is a change in a process condition(s) that affects the characteristics of the particles or exhaust gas stream, (ii) if a buildup of particulate on the BLDS probe affects the operation of the BLDS, or (iii) in response to variable particulate loading in the applicable baghouse.

34. Within 9 months following the date of lodging of this Consent Decree, Defendant shall install, calibrate, maintain, and Continuously Operate an alarm on each EAF furnace door:

- a. Each alarm system shall be installed, calibrated, operated, and maintained according to the manufacturer’s operating instructions;
- b. Each alarm system shall be equipped with a device to continuously record the output signal from the sensor; and
- c. Each alarm system shall be equipped with an alarm notification system linked to the Facility’s PMC System to notify plant operating personnel in real-time when one or more furnace door panels are in an open position for a time-period exceeding 20 minutes when such EAF is in operation.

35. Within 9 months following the date of lodging of this Consent Decree, Defendant shall submit to EPA for review and approval subject to Section V.L (Approval of Deliverables) a

Parametric Monitoring Plan proposing a parametric monitoring system addressing all Emission Units controlled by the Shop 1 Baghouse and Shop 2 Baghouse, providing for:

- a. Minimum Capture Parametric Monitoring: monitoring of parameters to ensure continuous compliance with fugitive emission capture/minimization requirements of Paragraph 19 and, if applicable, Paragraph 18;
- b. NSPS Parametric Monitoring: monitoring of furnace power input, determining volumetric flow rate through each fan of the Capture System, from power consumption of the fan motor, and pressure drop across the fan, consistent with 40 C.F.R. § 60.265.

The plan shall propose the parameters to be monitored, the type of equipment to be used, the accuracy and calibration requirements of the proposed equipment, the proposed locations at which the equipment will be installed, the averaging time proposed to be used for each parameter, and any other information necessary for EPA to determine the adequacy of the monitoring proposal.

G. Initial Compliance Demonstration and Corrective Action

36. Within 3 months of the date of lodging of this Consent Decree, Defendant shall submit to EPA for review and approval subject to Section V.L (Approval of Deliverables) a compliance demonstration plan for determining a method for demonstrating ongoing compliance with the applicable standard in Paragraph 19 (“Compliance Demonstration Plan”). At a minimum, the Compliance Demonstration Plan shall propose testing that will validate a method to determine baghouse outlet grain loading when visible emissions are present using: (i) methods described in the article “Louis Theodore & Joseph Reynolds (1979) *Effect of Bag Failure on*

Baghouse Outlet Loading, Journal of the Air Pollution Control Assoc., 29:8, 870-72, DOI: 10.1080/00022470.1979.10470875”; (ii) particulate matter test consistent with 40 C.F.R. Part 60, Appx. A-1, Method 1 through Method 5 in grains per dry standard cubic foot; and (iii) applicable parametric monitoring parameters to be established and monitored during the Initial Compliance Demonstrations for Shop 1 and Shop 2. Defendant shall conduct the testing in accordance with the approved plan under this Paragraph during the Initial Compliance Demonstrations for Shop 1 and Shop 2, and shall demonstrate continuous compliance with Paragraph 19 in accordance with Section V.H. (Continuous Compliance Demonstration.)

37. Within 3 months of the date of lodging of this Consent Decree, Defendant shall submit to EPA a protocol for EPA’s review and approval pursuant to Section V.L (Approval of Deliverables) for demonstrating through the use of computational fluid dynamics (CFD) modeling that the Capture System achieves the applicable standard in Paragraph 18 (“CFD Modeling Demonstration”). Within 3 months of EPA’s approval of the protocol, Defendant shall submit to EPA a written report regarding the CFD Modeling Demonstration for EPA’s review and approval pursuant to Section V.L (Approval of Deliverables). The protocol and written report shall meet the requirements in Appendix A to the Consent Decree. A qualified third-party shall conduct the CFD Modeling Demonstration and shall be responsible for preparing the protocol and written report.

38. Defendant shall demonstrate initial compliance with each applicable standard in Section V.B (PM and CO Emission Standards) by conducting Initial Compliance Demonstrations at Shop 1 and Shop 2. The Initial Compliance Demonstrations shall establish setpoints for the parametric monitoring parameters identified under the Parametric Monitoring Plan in accordance with Paragraph 35. The Initial Compliance Demonstrations shall be conducted by a qualified

third-party. Each compliance test conducted as part of an Initial Compliance Demonstration shall be conducted for a minimum of three one-hour runs, unless otherwise specified below.

Defendant is not required to conduct the Shop 1 and Shop 2 Initial Compliance Demonstrations concurrently.

39. The Initial Compliance Demonstrations shall also be designed to include the performance test under 40 C.F.R. § 60.8 in accordance with 40 C.F.R. § 60.265 and Paragraph 16 to establish, at a minimum, parametric setpoints for the volumetric flow rate through the fan (established in accordance with 40 C.F.R. § 60.265(e) from the fan power consumption, pressure drop across the fan, and the fan performance curve) and furnace power input.

40. The Shop 1 Initial Compliance Demonstration shall include the following components, conducted concurrently:

- a. All Emission Units routed to the Shop 1 Baghouse and the Plunging Station and Flow Caster Baghouse shall be operated under Representative Worst Case Conditions;
- b. PM emission rates shall be measured at the outlet of the Shop 1 Baghouse and at the outlet of the Plunging Station and Flow Caster Baghouse in accordance with 40 C.F.R. Part 60, Appx. A-1, Method 1 through Method 5 in grains per dry standard cubic foot and lb./MW-hr (or an equivalent or alternative method approved by EPA in accordance with 40 C.F.R. § 60.8);
- c. CO emission rates shall be measured at the outlet of the Shop 1 Baghouse in accordance with 40 C.F.R. Part 60, Appx. A-4, Method 10 (or an

equivalent or alternative method approved by EPA in accordance with 40 C.F.R. § 60.8);

- d. Opacity from the Shop 1 building shall be measured in accordance with Alt Method 082 and shall be conducted over an entire Furnace Cycle, provided, however, that Defendant may submit to EPA for review and approval subject to Section V.L. (Approval of Deliverables) a request to use 40 C.F.R. Part 60, Appx. A-4, Method 9 in lieu of Alt. Method 082 if Defendant demonstrates that Alt. Method 082 is not producing reliable or accurate measurements;
- e. Opacity shall be measured at the outlets of the Shop 1 Baghouse and the Plunging Station and Flow Caster Baghouse in accordance with Alt Method 082, provided, however, that Defendant may submit to EPA for review and approval subject to Section V.L. (Approval of Deliverables) a request to use 40 C.F.R. Part 60, Appx. A-4, Method 9 in lieu of Alt. Method 082 if Defendant demonstrates that Alt. Method 082 is not producing reliable or accurate measurements;
- f. For the duration of a Furnace Cycle, observation of all emissions which escape the Capture System at EAFs No. 1, No. 2, and No. 3 and are observed without the aid of instruments, and recording of the start and stop times of all such emissions (consistent with 40 C.F.R. § 60.262(a)(4));
- g. For the duration of a tap on each furnace, observation of all emissions which escape the Capture System at the Shop 1 tapping stations and are

observed without the aid of instruments, and recording of the start and stop times of all such emissions (consistent with 40 C.F.R.

§ 60.262(a)(5));

- h. Operations shall be monitored in accordance with 40 C.F.R. § 60.265; and
- i. The Capture and Control Systems shall be monitored in accordance with Section V.F (Monitoring).

41. The Shop 2 Initial Compliance Demonstration shall include the following components, conducted concurrently:

- a. All Emission Units routed to the Shop 2 Baghouse shall be operated under Representative Worst Case Conditions;
- b. PM emission rates shall be measured at the outlet of the Shop 2 Baghouse in accordance with 40 C.F.R. Part 60, Appx. A-1, Method 1 through Method 5 in grains per dry standard cubic foot and lb./MW-hr (or an equivalent or alternative method approved by EPA in accordance with 40 C.F.R. § 60.8);
- c. CO emission rates shall be measured at the outlet of the Shop 2 Baghouse in accordance with 40 C.F.R. Part 60, Appx. A-4, Method 10 (or an equivalent or alternative method approved by EPA in accordance with 40 C.F.R. § 60.8);
- d. Opacity from the Shop 2 building shall be measured in accordance with Alt Method 082 and shall be conducted over an entire Furnace Cycle, provided, however, that Defendant may submit to EPA for review and approval subject to Section V.L. (Approval of Deliverables) a request to

use 40 C.F.R. Part 60, Appx. A-4, Method 9 in lieu of Alt. Method 082 if Defendant demonstrates that Alt. Method 082 is not producing reliable or accurate measurements;

- e. Opacity shall be measured at the outlet of the Shop 2 Baghouse in accordance with Alt Method 082, provided, however, that Defendant may submit to EPA for review and approval subject to Section V.L. (Approval of Deliverables) a request to use 40 C.F.R. Part 60, Appx. A-4, Method 9 in lieu of Alt. Method 082 if Defendant demonstrates that Alt. Method 082 is not producing reliable or accurate measurements;
- f. For the duration of a Furnace Cycle, observation of all emissions which escape the Capture System at EAFs No. 5 and No. 7 and are observed without the aid of instruments, and recording of the start and stop times of all such emissions (consistent with 40 C.F.R. § 60.262(a)(4));
- g. For the duration of a tap on each furnace, observation of all emissions which escape the Capture System at the Shop 2 tapping stations and are observed without the aid of instruments, and recording of the start and stop times of all such emissions (consistent with 40 C.F.R. § 60.262(a)(5));
- h. Operations shall be monitored in accordance with 40 C.F.R. § 60.265; and
- i. The Capture and Control Systems shall be monitored in accordance with Section V.F (Monitoring).

42. Within 15 months following the date of lodging of this Consent Decree, Defendant shall submit a written protocol for conducting the Initial Compliance Demonstrations,

consistent with Paragraphs 40 and 41 and Emissions Measurement Center Guideline GD42, to EPA for EPA's review and approval pursuant to Section V.L (Approval of Deliverables). The Initial Compliance Demonstration protocol shall include the proposed date(s) for the performance tests and incorporate the Compliance Demonstration Plan submitted pursuant to Paragraph 36.

43. Within 2 months of EPA's written approval of the protocol, Defendant shall take all actions required by the protocol, as approved. Defendant may request, subject to EPA approval, a reasonable extension to conduct the Initial Compliance Demonstration (including the performance test under 40 C.F.R. § 60.8) if all EAFs in a shop are not operational or the Plunging Station and Flow Caster Baghouse is not yet installed.

44. Within 2 months following the date of completion of an Initial Compliance Demonstration, Defendant shall submit to EPA a report containing the results of each test and evaluation conducted as part of the demonstration and all relevant parametric monitoring data ("ICD Report"). The ICD Report shall contain all items detailed in the approved protocol and shall be consistent with Emissions Measurement Center Guideline GD43. The ICD Report shall propose (1) the setpoints for the parametric monitoring system and provide the basis for the proposed setpoints; and (2) the amount of time furnace doors must remain in the closed position, which shall not be less than the percentage of time they were closed during the ICD testing. Defendant shall submit separate ICD Reports for Shop 1 and Shop 2.

45. EPA shall notify Defendant in writing if EPA determines, based on the ICD Report, that Defendant is unable to demonstrate compliance with Consent Decree Section V.B (PM and CO Emission Standards) through its Initial Compliance Demonstrations. Defendant shall submit a Corrective Action Plan to EPA for EPA's review and approval within 90 Days

following the date of receipt of such notification from EPA (unless Defendant elects to invoke Dispute Resolution in accordance with Section X of this Consent Decree).

46. A Corrective Action Plan shall include:

- a. An identification and detailed analysis of the root cause(s) of the failure to achieve the requisite standard for compliance with Section V.B (PM and CO Emission Standards);
- b. An analysis of potential measures to reduce emissions, including evaluation of design and operation measures, and including costs estimates and time frames for implementing each measure; and
- c. A proposal of corrective actions, including detailed design information, to be implemented by Defendant to achieve compliance with Consent Decree Section V.B (PM and CO Emission Standards) and a timeline for implementation of corrective actions.

47. A Corrective Action Plan submitted under Paragraph 45 shall be subject to EPA approval pursuant to Section V.L (Approval of Deliverables). Defendant shall implement a Corrective Action Plan following approval by EPA.

48. Within 1 month of completing all projects identified in a Corrective Action Plan, Defendant shall repeat the requirements in Paragraphs 36 through 47 for the Shop(s) at which at least one requirement was not met, in order to demonstrate initial compliance with Section V.B (PM and CO Emission Standards).

H. Continuous Compliance Demonstration

49. After submittal of an ICD Report pursuant to Paragraph 44 demonstrating compliance with Section V.B (PM and CO Emission Standards), Defendant shall demonstrate

continuous compliance by maintaining parametric monitoring parameters to the setpoints established during the Initial Compliance Demonstration and by maintaining the furnace doors in the closed position as established during the Initial Compliance Demonstration. Defendant shall maintain the door panels on EAF #1, #2, #3, #5, and #7 in the closed position except (i) during furnace stoking or (ii) as necessary to prevent damage to Facility equipment or to maintain safe operation. When furnace stoking is occurring, Defendant shall use best efforts to minimize the number and duration of doors in an open position. Furnace doors shall be linked to the PMC System to record when one or more door panels are in an open position, in order to determine compliance with the foregoing requirement. These parameters and requirements shall be incorporated into the Operation & Maintenance Plan required by Paragraph 53.

50. Defendant may request that parametric monitoring setpoints and/or door closed requirements be reestablished by conducting new performance tests under 40 C.F.R. § 60.8, in accordance with 40 C.F.R. § 60.265. Any proposed revised parametric setpoint and/or door closed requirements will require performance of an additional compliance demonstration pursuant to Section G (Initial Compliance Demonstration and Corrective Action) above.

51. After submittal of an ICD Report pursuant to Paragraph 44 demonstrating compliance with Section V.B (PM and CO Emission Standards), Defendant shall conduct weekly opacity observations in accordance with Alt Method 082 at each Shop 1 and Shop 2, provided, however, that Defendant may submit to EPA for review and approval subject to Section V.L. (Approval of Deliverables) a request to use 40 C.F.R. Part 60, Appx. A-4, Method 9 in lieu of Alt. Method 082 if Defendant demonstrates that Alt. Method 082 is not producing reliable or accurate measurements. Defendant shall conduct each weekly opacity observation for a minimum of 30 minutes, including a minimum of one tap at each shop. Defendant shall use best

efforts to conduct weekly opacity observations during Representative Worst Case Conditions for that week.

52. If the BLDS signals an increase in relative particulate loading above the BLDS Baseline Level established pursuant to Paragraph 33.g for compliance with the applicable PM emission limits, Defendant shall investigate the root cause(s) of the alarm and (i) conduct corrective action(s) as necessary to reduce relative particle loading to no more than the BLDS Baseline Level, or (ii) if the BLDS signal was a false alarm, undertake adjustments or maintenance to the BLDS as necessary. Defendant shall initiate the investigation into the root cause within one hour of the alarm. Defendant shall initiate implementation of corrective actions or adjustments/maintenance to address the alarm within 24 hours of the alarm. Defendant shall complete any such corrective actions, adjustments, or maintenance as soon as practicable, but no later than 7 Days from the date of the alarm. Defendant shall implement any identified preventative measures to address the root cause(s) of the alarm as soon as practicable, but no later than 10 Days from the date of the alarm. Subject to EPA approval, Defendant may request a reasonable extension for performance of corrective action, adjustments, maintenance, or preventative measures, where additional time is necessary to procure parts, material, or labor.

I. Operation and Maintenance Plan

53. Within 6 months following the date of lodging of this Consent Decree, Defendant shall develop, implement, and submit to EPA for approval an Operation and Maintenance Plan (O&M Plan) that applies to the Capture and Control Systems and to the monitoring and recordkeeping equipment. Based on information and data available at the time of submission, the O&M Plan shall include, but is not limited to:

- a. Procedures for compliance with the operational requirements and furnace management practices in Section V.C (Shop 1 Improvements and Operating Requirements), Section V.D (Shop 2 Improvements and Operating Requirements), and Section V.E (Shop 1 and Shop 2 Operating Requirements);
- b. Procedures for the proper operation of monitoring devices or systems identified in Section V.F (Monitoring), including calibration and certification of accuracy of each monitoring device according to the OEM;
- c. Documentation and maintenance of records associated with calibration and certification of accuracy;
- d. A preventive maintenance plan and an inspection plan, including a schedule, for each Capture and Control System, consistent with the manufacturer's instructions (if available) for routine and long-term maintenance. The plan shall also include, but is not limited to:
 - (1) Monthly visual inspections to check all hoods and enclosures for signs of physical damage, leaks, rust, corrosion or erosion, clogs/obstructions, hood hinges, and lubricating damper and hood parts;
 - (2) Monthly visual inspection to check ductwork from hoods to baghouse for signs of physical damage, leaks, rust, corrosion or erosion, cracks, holes, dents, thermal deformation, material buildup, and corrosion, or visible leakage of contaminants;

- (3) Monthly visual inspection to check the baghouse, including bag cleaning system compression air pressure, proper rotation of rotary valve, screw conveyor, dust fines flow, bag cleaning system solenoid and diaphragm valves, system compressed air pressure, baghouse housing interior, hopper for build up, and exterior baghouse;
 - (4) Monthly external and annual internal visual inspection of the fans and motors, including fan blades for cleanliness, wear, damage, vibration; impeller, fan housing and back plate for material buildup and wear, physical damage, rust and corrosion; and pulley or sheave belts for tension and wear; and
 - (5) Semi-annual internal duct inspection to check for signs of settled particulate, confirmation that damper controls are moving as intended, and alarms are operating as intended;
- e. Documentation and maintenance of records in connection with the inspections identified in the O&M Plan, including: (1) the inspection date and name of inspector; and (2) identification of any observed deficiencies during the inspection. Defendant shall immediately address each deficiency, and shall document and maintain records of any deficiency and the corrective actions taken;
 - f. Documentation and maintenance of records in connection with preventative maintenance and repairs, including: (1) the date maintenance

or repair was performed; and (2) the identification of all preventative maintenance or repairs performed;

- g. A spare parts inventory adequate to support normal operation of the Capture and Control Systems and monitoring equipment. On-site spare parts inventory should be based initially on vendor recommendations;
- h. Documentation of all spare parts currently available on-site;
- i. Bag Leak Detection System Monitoring Plan that includes the following information:
 - (1) A description of each BLDS to be installed as required by Paragraph 33, including the name of the system manufacturer, specifications, general design and operational aspects of the system components (i.e. tribo-electric, light scattering, etc.), methods of data collection, and serial number(s) of each component;
 - (2) A description of the location(s) where each BLDS shall be installed;
 - (3) A description of the methods to be used to calibrate each BLDS;
 - (4) A description of procedures to perform the initial and periodic adjustments of the BLDS and BLDS alarms, consistent with OAQPS Fabric Filter Bag Leak Detection Guidance - EPA-454/R-98-015;
 - (5) A description of the initial BLDS setpoints, including a description of the baseline output, cleaning peaks, alarm delay time, alarm response time, and alarm set points and a description of how this is

consistent with OAQPS Fabric Filter Bag Leak Detection
Guidance - EPA-454/R-98-015;

- (6) A description of the procedures to be implemented for the operation of each BLDS including quality assurance and quality control procedures, recordkeeping and reporting on operational performance of each BLDS, all alarms, and any deviations from this plan when responding to an alarm;
- (7) A description of the procedures to be implemented for the maintenance of each BLDS, including routine maintenance schedules, a spare-parts inventory list, and explanation of how records of maintenance activities shall be maintained;
- (8) A description of how the BLDS output shall be recorded, analyzed (i.e. conversions from input to mass loadings), and stored; and
- (9) A description of the procedures to be implemented when an alarm occurs including procedures to identify root cause(s), corrective actions to be taken (i.e. possible corrective actions to be taken in the event of an alarm), and preventative measures implemented or to be implemented.

54. Defendant shall Continuously Operate and maintain all Emission Units and associated Capture and Control Systems in accordance with the approved O&M Plan. During the pendency of EPA's review of the O&M Plan pursuant to Section V.L (Approval of Deliverables), Defendant shall comply with the proposed O&M Plan. Defendant may revise the O&M Plan and shall submit any revisions to the O&M Plan ("Revised O&M Plan") to EPA for

review within 30 days following implementation of the proposed revision. Thereafter, Defendant shall Continuously Operate and maintain all Emission Units and associated Capture and Control Systems in accordance with the Revised O&M Plan, unless and until such plan is disapproved by EPA (in accordance with Section V.L (Approval of Deliverables)). Defendant shall follow the same procedure set forth in this Paragraph for any subsequent revisions to the Revised O&M Plan.

J. Training

55. Within 6 months following the date of lodging of this Consent Decree, Defendant shall commence annual training for all individuals (Defendant employees and contractors) involved with operation and maintenance of the EAFs, plunging station, or flow caster and/or the associated Capture and Control Systems, in order to ensure and maintain the necessary levels of competence in maintaining and operating the systems in order to minimize emissions. All newly hired individuals shall receive the training, which shall include a review of the applicable O&M Plan, prior to undertaking any related responsibilities. All individuals involved in the operation and maintenance of these systems shall have access to and be familiar with the applicable O&M Plan.

56. On a quarterly basis, Defendant shall evaluate all individuals (Defendant employees and contractors) involved with operation and maintenance of the EAFs, plunging station, or flow caster and/or the associated Capture and Control Systems to assess compliance with the O&M Plan in effect at that time.

K. Recordkeeping

57. Defendant shall keep records to demonstrate compliance with the sulfur content limits in Paragraphs 13.a and 13.b, including: sulfur content of all coals, cokes, and other sources

of high concentration carbon used as a reductant at the EAFs, and the amount of each used per day per EAF; for FeSi production, records demonstrating the applicability of any purity exception utilized; and calculations of the 30-Operating Day Rolling Average for each EAF.

58. Defendant shall keep records of visible particulate emissions that are not subject to the visible particulate emissions standard under Paragraph 19.c and OAC 3745-17-07(B)(3) in accordance with OAC 3745-17-07(B)(11), including:

- a. The source of the visible particulate emissions;
- b. The duration and the start and stop time of the blowing tap, poling, or oxygen lancing; and
- c. Any corrective action taken to reduce the duration of the event or the generation of visible particulate emissions.

59. Defendant shall keep records to demonstrate compliance with the operating restrictions in Paragraph 23, including, but not limited to:

- a. Heat sheets for each furnace that indicate the start and end time of tapping, blowing tap, plunging, flow castings, and casting to chill and the start and end time that the damper between the plunging station and furnace ventilation system remains open; and
- b. Descriptions of any events that occurred or actions taken to prevent damage to Facility equipment or to maintain safe operation that prevented compliance with operational restrictions.

60. Defendant shall keep records to demonstrate compliance with the operating restrictions in Paragraph 26, including, but not limited to:

- a. Heat sheets for each furnace that indicate the start and end time of tapping and furnace stoking; and
- b. Descriptions of any events that occurred or actions taken to prevent damage to Facility equipment or to maintain safe operation that prevented compliance with operational restrictions.

61. Defendant shall keep records to demonstrate compliance with the monitoring requirements in Section V.F, including dates and durations of monitoring downtime.

62. Defendant shall keep records to demonstrate compliance with the BLDS requirements in Paragraphs 33 and 52, including, but not limited to, the BLDS output, monitoring downtime, alarms, root causes, date and time root cause investigation was initiated, and the date and time any corrective action, adjustments, or maintenance to the BLDS was initiated and completed.

63. Defendant shall keep records to demonstrate compliance with the continuous compliance demonstration requirements in Section V.H, including (i) parametric monitoring and furnace door alarm outputs and start and end time of furnace door alarms and total percentage of time that the furnace doors on each EAF were open (consistent with Paragraph 49); and (ii) weekly opacity observations (consistent with Paragraph 51).

64. Defendant shall keep records to demonstrate compliance with the O&M Plan requirements in Paragraph 53, including but not limited to the O&M Plan and records required by the Plan, identified in 53.c, 53.e, 53.f, and 53.h.

65. Defendant shall keep records to demonstrate compliance with the training requirement in Paragraphs 55 and 56, including the content of training, the individuals involved

in the operation and maintenance the EAFs, plunging station, or flow caster and/or the associated Capture and Control Systems, and the date(s) each individual completed each training.

L. Approval of Deliverables.

66. After review of any plan, report, or other item that is required to be submitted for approval pursuant to this Consent Decree, EPA will in writing: (a) approve the submission; (b) approve the submission upon specified conditions; (c) approve part of the submission and disapprove the remainder; or (d) disapprove the submission.

67. If the submission is approved pursuant to Paragraph 66(a), Defendant shall take all actions required by the plan, report, or other document, in accordance with the schedules and requirements of the plan, report, or other document, as approved. If the submission is conditionally approved or approved only in part pursuant to Paragraph 66(b) or (c), Defendant shall, upon written direction from EPA, take all actions required by the approved plan, report, or other item that EPA determines are technically severable from any disapproved portions.

68. If the submission is disapproved in whole or in part pursuant to Paragraph 66(c) or (d), Defendant shall, within 45 Days or such other time as the Parties agree to in writing, correct all deficiencies and resubmit the plan, report, or other item, or disapproved portion thereof, for approval, in accordance with the preceding Paragraphs. If the resubmission is approved in whole or in part, Defendant shall proceed in accordance with the preceding Paragraph.

69. If a resubmitted plan, report, or other item, or portion thereof, is disapproved in whole or in part, EPA may again require Defendant to correct any deficiencies, in accordance with the preceding Paragraphs, or may itself correct any deficiencies.

70. If Defendant elects to invoke Dispute Resolution as set forth in Section X (Dispute Resolution) concerning a decision by EPA to disapprove, approve on specified conditions, or modify a deliverable, or concerning EPA having not issued a decision under Section V.L, Defendant shall do so by sending a Notice of Dispute in accordance with Paragraph 105 within 30 Days (or such other time as the Parties agree to in writing) after receipt of the applicable decision.

71. Any stipulated penalties applicable to the original submission, as provided in Section VIII, accrue during the 45 Day period or other specified period, but shall not be payable unless the resubmission is untimely or is disapproved in whole or in part; provided that, if the original submission was so deficient as to constitute a material breach of Defendant's obligations under this Decree, the stipulated penalties applicable to the original submission shall be due and payable notwithstanding any subsequent resubmission.

VI. REPORTING REQUIREMENTS

72. Defendant shall submit the following reports to EPA and DOJ at the addresses set forth Section XIV (Notices):

a. By January 31st and July 31st of each year after the lodging of this Consent Decree, until termination of this Decree pursuant to Section XVIII, Defendant shall submit by e-mail a semi-annual report for the preceding six months that includes:

- (1) the status of any construction or compliance measures;
- (2) completion of milestones;
- (3) problems encountered or anticipated, together with implemented or proposed solutions;
- (4) status of permit applications;

- (5) documentation supporting the applicability of any purity exception utilized;
- (6) for the period covered by the report, a table with: the 30-Operating Day Rolling Average sulfur content for each EAF and the sulfur limit that applies to that 30-Operating Day Rolling Average period. Also identify the amount of FeSi produced subject to the purity exception and the amount subject to the default limit;
- (7) for the period covered by the report, any deviation(s) from the operational requirements at Shop 1 or Shop 2 and heat sheets for the days during which the deviation(s) occurred. If Defendant is unable to comply with an operational requirement in order to prevent damage to Facility equipment or to maintain safe operations, a description of the issue that occurred and how a reoccurrence will be prevented;
- (8) for the period covered by the report, any monitoring downtime for the monitoring systems required by Section V.F (Monitoring);
- (9) for the period covered by the report, all exceedances of parametric monitoring setpoints;
- (10) for the period covered by the report, records of each BLDS alarm, time of the alarm, time corrective action, adjustment, or maintenance was initiated and completed, and a brief description of the cause of the alarm and the corrective action, adjustment, or maintenance taken;

- (11) for the period covered by the report, records of furnace door alarm outputs and start and end time of furnace door alarms;
- (12) for the period covered by the report, any deviation(s) from the requirements to demonstrate continuous compliance consistent with Section V.H (Continuous Compliance Demonstration);
- (13) for the period covered by the report, records of weekly opacity observations required by Section V.H (Continuous Compliance Demonstration);
- (14) for the period covered by the report, records of calibration and certification of accuracy of each monitoring device; and
- (15) for the period covered by the report, records of inspections and preventative maintenance of the Capture and Control Systems.

b. The report shall also include a description of any non-compliance with the requirements of this Consent Decree and an explanation of the violation's likely cause and of the remedial steps taken, or to be taken, to prevent or minimize such violation. If Defendant violates, or has reason to believe that it may violate, any requirement of this Consent Decree, Defendant shall notify DOJ and EPA of such violation or potential future violation and its likely duration, in writing, within 10 business days of the Day Defendant first becomes aware of the violation or potential future violation, with an explanation of the violation's (or potential future violation's) likely cause and of the remedial steps taken, or to be taken, to prevent or minimize such violation. If the cause of a violation cannot be fully explained at the time the notification is due, Defendant shall so state in the report. Defendant shall investigate the cause of the violation and shall then

submit an amendment to the report, including a full explanation of the cause of the violation, within 30 Days of the Day Defendant becomes aware of the cause of the violation. Nothing in this Paragraph or the following Paragraph relieves Defendant of its obligation to provide the notice required by Section IX (Force Majeure).

73. Whenever any violation of this Consent Decree or of any applicable permits or any other event affecting Defendant's performance under this Decree may pose an immediate threat to the public health or welfare or the environment, Defendant shall notify EPA by email to Galinsky.Virginia@epa.gov as soon as possible, but no later than 24 hours after Defendant first knew of the violation or event. This procedure is in addition to the requirements set forth in the preceding Paragraph.

74. Each report submitted by Defendant under this Section shall be signed by an official of the submitting party and include the following certification:

I certify under penalty of perjury that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

75. This certification requirement does not apply to emergency or similar notifications where compliance would be impractical.

76. The reporting requirements of this Consent Decree do not relieve Defendant of any reporting obligations required by the Act or implementing regulations, or by any other federal, state, or local law, regulation, permit, or other requirement.

77. Any information provided pursuant to this Consent Decree may be used by the United States in any proceeding to enforce the provisions of this Consent Decree and as otherwise permitted by law.

VII. INCORPORATION OF CONSENT DECREE REQUIREMENTS INTO FEDERALLY ENFORCEABLE PERMITS

78. Permits Needed to Meet Compliance Obligations. Where any compliance obligation under Section V of this Consent Decree (Compliance Requirements) requires Defendant to obtain a federal, state, or local permit or approval, Defendant shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals. All applications shall be submitted within 2 years of the Effective Date, unless otherwise stated herein. Any permit required under State law must comply with all applicable State statutory and regulatory requirements for obtaining such permit. Defendant may seek relief under the provisions of Section IX (Force Majeure) for any delay in the performance of any such obligation resulting from a failure to obtain, or a delay in obtaining, any permit or approval required to fulfill such obligation, if Defendant has submitted timely and complete applications and has taken all other actions necessary to obtain all such permits or approvals.

79. Prior to termination of this Consent Decree, Defendant shall submit to applicable permitting authorities complete applications, amendments, and/or supplements for the Facility to (i) incorporate the limits and standards consistent with the compliance parameters specified in Section V.A (Sulfur Input Limit); Section V.B (PM and CO Emission Standards); Section V.C (Shop 1 Improvements and Operating Requirements), Section V.D (Shop 2 Improvements and Operating Requirements), Section V.E (Shop 1 and Shop 2 Operating Requirements); Section V.F (Monitoring), and Section V.H (Continuous Compliance Demonstration) as “applicable requirements” and (ii) identify EAFs and dust handling equipment in Shop 1 and

Shop 2 as subject to the requirements of NSPS Subpart Z, 42 U.S.C. § 7411(b) and 40 C.F.R. §§ 60.260 through 60.266, into a non-Title V, federally-enforceable permit that will survive termination of this Consent Decree.

80. Modifications to Title V Operating Permits. Prior to termination of this Consent Decree, Defendant shall submit complete applications to applicable permitting authorities to modify, amend or revise its Title V Permit for the Facility to incorporate the applicable limits and standards identified in the preceding Paragraph into the Title V Permit. The Parties agree that the incorporation of these emission limits and standards into the Title V Permit shall be done in accordance with applicable state or local Title V rules. The Parties agree that the incorporation may be by “amendment” under 40 C.F.R. § 70.7(d) and analogous state Title V rules, where allowed by state law.

VIII. STIPULATED PENALTIES

81. Defendant shall be liable for stipulated penalties to the United States for violations of this Consent Decree as specified below, unless excused under Section IX (Force Majeure). A violation includes failing to perform any obligation required by the terms of this Decree, including any work plan or schedule approved under this Decree, according to all applicable requirements of this Decree and within the specified time schedules established by or approved under this Decree.

82. Late Payment of Civil Penalty. If Defendant fails to pay the civil penalty required to be paid under Section IV (Civil Penalty) when due, Defendant shall pay a stipulated penalty of \$2,500 per Day for each Day that the payment is late.

83. Compliance Milestones: Input Limits, Emissions Standards, and Capture and Control Equipment.

a. The following stipulated penalties shall accrue per violation per Day for each violation of an input limit or emission standard specified in Section V (Compliance Requirements) and each failure to install and/or Continuously Operate any capture or control equipment, as required in Section V (Compliance Requirements):

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$1,250	1st through 14th Day
\$1,750	15th through 30th Day
\$2,750	31st Day and beyond

b. Emission standard violations during Initial Compliance Demonstrations: For each Initial Compliance Demonstration required by Section V (Compliance Requirements) where the applicable emission standard is exceeded, a stipulated penalty of \$5,000 shall accrue per Initial Compliance Demonstration. In addition, a daily penalty shall accrue for each Operating Day of the affected Emissions Unit from the day of the Initial Compliance Demonstration until a re-test shows compliance with the applicable emission standard, in the amounts listed in Paragraph 83.a, above.

c. Violation of a 30-Operating Day Rolling Average limit constitutes 30 days of violation, provided that where a violation of a 30-Operating Day Rolling Average limit (for the same pollutant and from the same EAF) recurs within periods of less than 30 days, Defendant shall not pay a daily stipulated penalty for any day of recurrence for which a stipulated penalty has already been paid.

84. Compliance Milestones: Operational Requirements. The following stipulated penalties shall accrue per violation per Day for each violation of an operational requirement

specified in Section V (Compliance Requirements) including parametric monitoring setpoints for demonstrating continuous compliance:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$1,000	1st through 14th Day
\$1,500	15th through 30th Day
\$2,000	31st Day and beyond

85. Failure to Conduct Required Testing. The following stipulated penalties shall accrue per violation per Day for each violation for failure to conduct any testing, including opacity observations, specified in Section V (Compliance Requirements):

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$750.....	1st through 14th Day
\$1,000	15th through 30th Day
\$1,500	31st Day and beyond

86. Monitoring Requirements. The following stipulated penalties shall accrue per violation per Day for each violation for failure to install, certify, calibrate, Continuously Operate, and/or maintain any monitoring equipment, including the BLDS and furnace door alarm system as specified in Section V (Compliance Requirements):

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$300.....	1st through 14th Day
\$600.....	15th through 30th Day
\$1,200	31st Day and beyond

87. Operation and Maintenance Plan Requirements. The following stipulated penalties shall accrue per violation per Day for each violation of the O&M Plan requirements specified in Section V (Compliance Requirements):

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$1,000	1st through 14th Day
\$1,500	15th through 30th Day
\$2,000	31st Day and beyond

88. Recordkeeping, Reporting, and Notice Requirements. The following stipulated penalties shall accrue per violation per Day for each violation of the recordkeeping, reporting, and notice requirements of Section V (Compliance Requirements), Section VI (Reporting Requirements), and Section XIV (Notices):

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$250.....	1st through 14th Day
\$500.....	15th through 30th Day
\$1,000	31st Day and beyond

89. Other Violations. The following stipulated penalties shall accrue per violation per Day for each violation of any other requirement of this Consent Decree:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$500.....	1st through 14th Day
\$1,000	15th Day and beyond

90. Stipulated penalties under this Section shall begin to accrue on the Day after performance is due or on the Day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation ceases. Stipulated penalties shall accrue simultaneously for separate violations of this Consent Decree.

91. Defendant shall pay any stipulated penalty within 30 Days of receiving the United States’ written demand.

92. The United States may in the unreviewable exercise of its discretion, reduce or waive stipulated penalties otherwise due it under this Consent Decree.

93. Stipulated penalties shall continue to accrue as provided in Paragraph 90, during any Dispute Resolution, but need not be paid until the following:

- a. If the dispute is resolved by agreement of the Parties or by a decision of EPA that is not appealed to the Court, Defendant shall pay accrued penalties determined

to be owing, together with interest, to the United States within 30 Days of the effective date of the agreement or the receipt of EPA's decision or order.

b. If the dispute is appealed to the Court and the United States prevails in whole or in part, Defendant shall pay all accrued penalties determined by the Court to be owing, together with interest, within 60 Days of receiving the Court's decision or order, except as provided in subparagraph c, below.

c. If any Party appeals the District Court's decision, Defendant shall pay all accrued penalties determined to be owing, together with interest, within 15 Days of receiving the final appellate court decision.

94. Obligations Prior to the Effective Date. Upon the Effective Date, the stipulated penalty provisions of this Decree shall be retroactively enforceable with regard to any and all violations of this Consent Decree that have occurred prior to the Effective Date, provided that stipulated penalties that may have accrued prior to the Effective Date may not be collected unless and until this Consent Decree is entered by the Court.

95. Defendant shall pay stipulated penalties owing to the United States in the manner set forth in Paragraph 10 and with the confirmation notices required by Paragraph 11, except that the transmittal letter shall state that the payment is for stipulated penalties and shall state for which violation(s) the penalties are being paid.

96. If Defendant fails to pay stipulated penalties according to the terms of this Consent Decree, Defendant shall be liable for interest on such penalties, as provided for in 28 U.S.C. § 1961, accruing as of the date payment became due. Nothing in this Paragraph shall be construed to limit the United States from seeking any remedy otherwise provided by law for Defendant's failure to pay any stipulated penalties.

97. The payment of penalties and interest, if any, shall not alter in any way Defendant's obligation to complete the performance of the requirements of this Consent Decree.

98. Non-Exclusivity of Remedy. Stipulated penalties are not the United States' exclusive remedy for violations of this Consent Decree. Subject to the provisions of Section XII (Effect of Settlement/Reservation of Rights), the United States expressly reserves the right to seek any other relief it deems appropriate for Defendant's violation of this Decree or applicable law, including but not limited to an action against Defendant for statutory penalties, additional injunctive relief, mitigation or offset measures, and/or contempt. However, the amount of any statutory penalty assessed for a violation of this Consent Decree shall be reduced by an amount equal to the amount of any stipulated penalty assessed and paid pursuant to this Consent Decree.

IX. FORCE MAJEURE

99. "Force majeure," for purposes of this Consent Decree, is defined as any event arising from causes beyond the control of Defendant, of any entity controlled by Defendant, or of Defendant's contractors, that delays or prevents the performance of any obligation under this Consent Decree despite Defendant's best efforts to fulfill the obligation. The requirement that Defendant exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any potential force majeure event (a) as it is occurring and (b) following the potential force majeure, such that the delay and any adverse effects of the delay are minimized. "Force majeure" does not include Defendant's financial inability to perform any obligation under this Consent Decree.

100. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Decree, whether or not caused by a force majeure event, Defendant shall provide notice by email to Galinsky.Virginia@epa.gov, within 5 Days of when Defendant

first knew that the event might cause a delay. Within 10 Days thereafter, Defendant shall provide in writing to EPA an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Defendant's rationale for attributing such delay to a force majeure event if it intends to assert such a claim; and a statement as to whether, in the opinion of Defendant, such event may cause or contribute to an endangerment to public health, welfare or the environment. Defendant shall include with any notice all available documentation supporting the claim that the delay was attributable to a force majeure. Failure to comply with the above requirements shall preclude Defendant from asserting any claim of force majeure for that event for the period of time of such failure to comply, and for any additional delay caused by such failure. Defendant shall be deemed to know of any circumstance of which Defendant, any entity controlled by Defendant, or Defendant's contractors knew or should have known.

101. If EPA agrees that the delay or anticipated delay is attributable to a force majeure event, the time for performance of the obligations under this Consent Decree that are affected by the force majeure event will be extended by EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure event shall not, of itself, extend the time for performance of any other obligation. EPA will notify Defendant in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.

102. If EPA does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, EPA will notify Defendant in writing of its decision.

103. If Defendant elects to invoke the dispute resolution procedures set forth in Section X (Dispute Resolution), it shall do so no later than 20 Days after receipt of EPA's notice. In any such proceeding, Defendant shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and that Defendant complied with the requirements of Paragraphs 99 and 100. If Defendant carries this burden, the delay at issue shall be deemed not to be a violation by Defendant of the affected obligation of this Consent Decree identified to EPA and the Court.

X. DISPUTE RESOLUTION

104. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Decree. Defendant's failure to seek resolution of a dispute under this Section shall preclude Defendant from raising any such issue as a defense to an action by the United States to enforce any obligation of Defendant arising under this Decree.

105. Informal Dispute Resolution. Any dispute subject to Dispute Resolution under this Consent Decree shall first be the subject of informal negotiations. The dispute shall be considered to have arisen when Defendant sends DOJ and EPA a written Notice of Dispute. Such Notice of Dispute shall state clearly the matter in dispute. The period of informal negotiations shall not exceed 20 Days from the date the dispute arises, unless that period is modified by written agreement. If the Parties cannot resolve a dispute by informal negotiations, then the position advanced by the United States shall be considered binding unless, within 30 Days after

the conclusion of the informal negotiation period, Defendant invokes formal dispute resolution procedures as set forth below.

106. Formal Dispute Resolution. Defendant shall invoke formal dispute resolution procedures, within the time period provided in the preceding Paragraph, by sending DOJ and EPA a written Statement of Position regarding the matter in dispute. The Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting Defendant's position and any supporting documentation relied upon by Defendant.

107. The United States shall send Defendant its Statement of Position within 45 Days of receipt of Defendant's Statement of Position. The United States' Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting that position and any supporting documentation relied upon by the United States. The United States' Statement of Position is binding on Defendant, unless Defendant files a motion for judicial review of the dispute in accordance with the following Paragraph.

108. Judicial Dispute Resolution. Defendant may seek judicial review of the dispute by filing with the Court and serving on the United States a motion requesting judicial resolution of the dispute. The motion (a) must be filed within 30 Days of receipt of the United States' Statement of Position pursuant to the preceding Paragraph; (b) may not raise any issue not raised in informal dispute resolution pursuant to Paragraph 105, unless the Plaintiffs raise a new issue of law or fact in the Statement of Position; (c) shall contain a written statement of Defendant's position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation, and (d) shall set forth the relief requested and any schedule within which the dispute must be resolved for orderly implementation of the Consent Decree.

109. The United States shall respond to Defendant's motion within the time period allowed by the Local Rules of this Court. Defendant may file a reply memorandum, to the extent permitted by the Local Rules.

110. Standard of Review. Except as otherwise provided in this Consent Decree, in any dispute brought under Paragraph 106, Defendant shall bear the burden of demonstrating that its position complies with this Consent Decree and better furthers the objectives of the Consent Decree. The United States reserves the right to argue that its position is reviewable only on the administrative record and must be upheld unless arbitrary and capricious or otherwise not in accordance with law, and Defendant reserves the right to argue to the contrary.

111. The invocation of dispute resolution procedures under this Section shall not, by itself, extend, postpone, or affect in any way any obligation of Defendant under this Consent Decree, unless and until final resolution of the dispute so provides. Stipulated penalties with respect to the disputed matter shall continue to accrue from the first Day of noncompliance, but payment shall be stayed pending resolution of the dispute as provided in Paragraph 93. If Defendant does not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section VIII (Stipulated Penalties).

XI. INFORMATION COLLECTION AND RETENTION

112. The United States and its representatives, including attorneys, contractors, and consultants, shall have the right of entry into any facility covered by this Consent Decree, at all reasonable times, upon presentation of credentials, to:

- a. monitor the progress of activities required under this Consent Decree;
- b. verify any data or information submitted to the United States in accordance with the terms of this Consent Decree;

- c. obtain samples and, upon request, splits of any samples taken by Defendant or its representatives, contractors, or consultants;
- d. obtain documentary evidence, including photographs and similar data; and
- e. assess Defendant's compliance with this Consent Decree.

113. Upon request, Defendant shall provide EPA or its authorized representatives splits of any samples taken by Defendant. Upon request, EPA shall provide Defendant splits of any samples taken by EPA.

114. Until 5 years after the termination of this Consent Decree, Defendant shall retain, and shall instruct its contractors and agents to preserve, all non-identical copies of all documents, records, or other information (including documents, records, or other information in electronic form) in its or its contractors' or agents' possession or control, or that come into its or its contractors' or agents' possession or control, and that relate in any manner to Defendant's performance of its obligations under this Consent Decree. This information-retention requirement shall apply regardless of any contrary corporate or institutional policies or procedures. At any time during this information-retention period, upon request by the United States, Defendant shall provide copies of any documents, records, or other information required to be maintained under this Paragraph.

115. At the conclusion of the information-retention period provided in the preceding Paragraph, Defendant shall notify the United States at least 90 Days prior to the destruction of any documents, records, or other information subject to the requirements of the preceding Paragraph and, upon request by the United States, Defendant shall deliver any such documents, records, or other information to EPA. Defendant may assert that certain documents, records, or other information is privileged under the attorney-client privilege or any other privilege

recognized by federal law. If Defendant asserts such a privilege, it shall provide the following:

(a) the title of the document, record, or information; (b) the date of the document, record, or information; (c) the name and title of each author of the document, record, or information; (d) the name and title of each addressee and recipient; (e) a description of the subject of the document, record, or information; and (f) the privilege asserted by Defendant. However, no documents, records, or other information created or generated pursuant to the requirements of this Consent Decree shall be withheld on grounds of privilege.

116. Defendant may also assert that information required to be provided under this Section is protected as Confidential Business Information (CBI) under 40 C.F.R. Part 2. As to any information that Defendant seeks to protect as CBI, Defendant shall follow the procedures set forth in 40 C.F.R. Part 2.

117. This Consent Decree in no way limits or affects any right of entry and inspection, or any right to obtain information, held by the United States pursuant to applicable federal laws, regulations, or permits, nor does it limit or affect any duty or obligation of Defendant to maintain documents, records, or other information imposed by applicable federal or state laws, regulations, or permits.

XII. EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS

118. This Consent Decree resolves the civil claims of the United States for the violations alleged in the Complaint filed in this action and the NOV's from the date those claims accrued through the date of lodging.

119. The United States reserves all legal and equitable remedies available to enforce the provisions of this Consent Decree. This Consent Decree shall not be construed to limit the rights of the United States to obtain penalties or injunctive relief under the Act or implementing

regulations, or under other federal laws, regulations, or permit conditions, except as expressly specified in Paragraph 118. The United States further reserves all legal and equitable remedies to address any conditions if there is or may be an imminent and substantial endangerment to the public health or welfare or the environment arising at, or posed by, Defendant's Facility, whether related to the violations addressed in this Consent Decree or otherwise.

120. In any subsequent administrative or judicial proceeding initiated by the United States for injunctive relief, civil penalties, or other appropriate relief relating to the Facility or Defendant's violations, Defendant shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States in the subsequent proceeding were or should have been brought in the instant case, except with respect to claims that have been specifically resolved pursuant to Paragraph 118.

121. This Consent Decree is not a permit, or a modification of any permit, under any federal, State, or local laws or regulations. Defendant is responsible for achieving and maintaining complete compliance with all applicable federal, State, and local laws, regulations, and permits; and Defendant's compliance with this Consent Decree shall be no defense to any action commenced pursuant to any such laws, regulations, or permits, except as set forth herein. The United States does not, by its consent to the entry of this Consent Decree, warrant or aver in any manner that Defendant's compliance with any aspect of this Consent Decree will result in compliance with provisions of the Act, 42 U.S.C. § 7401, et seq., or with any other provisions of federal, State, or local laws, regulations, or permits.

122. This Consent Decree does not limit or affect the rights of Defendant or of the United States against any third parties, not party to this Consent Decree, nor does it limit the rights of third parties, not party to this Consent Decree, against Defendant, except as otherwise provided by law.

123. This Consent Decree shall not be construed to create rights in, or grant any cause of action to, any third party not party to this Consent Decree.

XIII. COSTS

124. The Parties shall bear their own costs of this action, including attorneys' fees, except that the United States shall be entitled to collect the costs (including attorneys' fees) incurred in any action necessary to collect any portion of the civil penalty or any stipulated penalties due but not paid by Defendant.

XIV. NOTICES

125. Unless otherwise specified in this Decree, whenever notifications, submissions, or communications are required by this Consent Decree, they shall be made in writing and sent by mail or email, with a preference for email, addressed as follows:

As to DOJ by email (preferred): eescdcopy.enrd@usdoj.gov
Re: DJ # 90-5-2-1-11643

As to DOJ by mail: EES Case Management Unit
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Washington, D.C. 20044-7611
Re: DJ # 90-5-2-1-11643

As to EPA by email: R5ARDreporting@epa.gov

As to Defendant: Matthew Greene
Globe Metallurgical, Inc.
mgreene@ferroglobe.com

and

Brian D'Amico
Vice President, Secretary
bdamico@ferroglobe.com

126. Any Party may, by written notice to the other Parties, change its designated notice recipient or notice address provided above.

127. Notices submitted pursuant to this Section shall be deemed submitted upon mailing or transmission by email, unless otherwise provided in this Consent Decree or by mutual agreement of the Parties in writing.

XV. EFFECTIVE DATE

128. The Effective Date of this Consent Decree shall be the date upon which this Consent Decree is entered by the Court or a motion to enter the Consent Decree is granted, whichever occurs first, as recorded on the Court's docket; provided, however, that Defendant hereby agrees that it shall be bound to perform duties scheduled to occur prior to the Effective Date. In the event the United States withdraws or withholds consent to this Consent Decree before entry, or the Court declines to enter the Consent Decree, then the preceding requirement to perform duties scheduled to occur before the Effective Date shall terminate.

XVI. RETENTION OF JURISDICTION

129. The Court shall retain jurisdiction over this case until termination of this Consent Decree, for the purpose of resolving disputes arising under this Decree or entering orders modifying this Decree, pursuant to Sections X and XVII, or effectuating or enforcing compliance with the terms of this Decree.

XVII. MODIFICATION

130. The terms of this Consent Decree, including any attached appendices, may be modified only by a subsequent written agreement signed by all the Parties. Where the

modification constitutes a material change to this Decree, it shall be effective only upon approval by the Court.

131. Any disputes concerning modification of this Decree shall be resolved pursuant to Section X (Dispute Resolution), with the Party seeking the modification bearing the burden of demonstrating that it is entitled to the requested modification in accordance with Federal Rule of Civil Procedure 60(b).

XVIII. TERMINATION

132. After Defendant has completed the requirements of Section V (Compliance Requirements), has thereafter maintained satisfactory compliance with this Consent Decree for a period of 5 years, has complied with all other requirements of this Consent Decree, and has paid the civil penalty and any accrued stipulated penalties as required by this Consent Decree, Defendant may serve upon the United States a Request for Termination, stating that Defendant has satisfied those requirements, together with all necessary supporting documentation.

133. Following receipt by the United States of Defendant's Request for Termination, the Parties shall confer informally concerning the Request and any disagreement that the Parties may have as to whether Defendant has satisfactorily complied with the requirements for termination of this Consent Decree. If the United States agrees that the Decree may be terminated, the Parties shall submit, for the Court's approval, a joint stipulation terminating the Decree.

134. If the United States does not agree that the Decree may be terminated, Defendant may invoke Dispute Resolution under Section X. However, Defendant shall not seek Dispute Resolution of any dispute regarding termination until 90 Days after service of its Request for Termination.

XIX. PUBLIC PARTICIPATION

135. This Consent Decree shall be lodged with the Court for a period of not less than 30 Days for public notice and comment in accordance with 28 C.F.R. § 50.7. The United States reserves the right to withdraw or withhold its consent if the comments regarding the Consent Decree disclose facts or considerations indicating that the Consent Decree is inappropriate, improper, or inadequate. Defendant consents to entry of this Consent Decree without further notice and agrees not to withdraw from or oppose entry of this Consent Decree by the Court or to challenge any provision of the Decree, unless the United States has notified Defendant in writing that it no longer supports entry of the Decree.

XX. SIGNATORIES/SERVICE

136. Each undersigned representative of Defendant and the Assistant Attorney General for the Environment and Natural Resources Division of the Department of Justice identified on the DOJ signature page below, certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind the Party he or she represents to this document.

137. This Consent Decree may be signed in counterparts, and its validity shall not be challenged on that basis. Defendant agrees to accept service of process by mail with respect to all matters arising under or relating to this Consent Decree and to waive the formal service requirements set forth in Rules 4 and 5 of the Federal Rules of Civil Procedure and any applicable Local Rules of this Court including, but not limited to, service of a summons. Defendant need not file an answer to the complaint in this action unless or until the Court expressly declines to enter this Consent Decree.

XXI. INTEGRATION

138. This Consent Decree, including deliverables that are subsequently approved pursuant to this Decree, constitutes the entire agreement among the Parties regarding the subject matter of the Decree and supersedes all prior representations, agreements and understandings, whether oral or written, concerning the subject matter of the Decree herein.

XXII. 26 U.S.C. SECTION 162(f)(2)(A)(ii) IDENTIFICATION

139. For purposes of the identification requirement in Section 162(f)(2)(A)(ii) of the Internal Revenue Code, 26 U.S.C. § 162(f)(2)(A)(ii), and 26 C.F.R. § 1.162-21(b)(2), performance of Sections V, VI, and VII, is restitution, remediation, or required to come into compliance with law.

XXIII. HEADINGS

140. Headings to the Sections and Subsections of this Consent Decree are provided for convenience and do not affect the meaning or interpretation of the provisions of this Consent Decree.

XXIV. FINAL JUDGMENT

141. Upon approval and entry of this Consent Decree by the Court, this Consent Decree shall constitute a final judgment of the Court as to the United States and Defendant. The Court finds that there is no just reason for delay and therefore enters this judgment as a final judgment under Fed. R. Civ. P. 54 and 58.

XXV. APPENDIX

142. The following Appendix is attached to and part of this Consent Decree:

“Appendix A” identifies the elements for the CFD Modeling Demonstration as required pursuant to Paragraph 37

Dated and entered this ___ day of _____, 2023

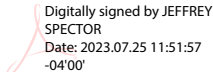
UNITED STATES DISTRICT JUDGE

Signature page in *United States v. Globe Metallurgical, Inc.* (S.D. Ohio)

FOR THE UNITED STATES OF AMERICA:

TODD KIM
Assistant Attorney General
Environment and Natural Resources Division
U.S. Department of Justice

JEFFREY SPECTOR



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Date: 2023.07.25 11:51:57 -04'00'

Date

JEFFREY A. SPECTOR
Senior Attorney
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
Washington, DC 20044-7611

KENNETH L. PARKER
United States Attorney
Southern District of Ohio

/s Andrew Malek

ANDREW MALEK
Civil Chief
Office of the United States Attorney
Southern District of Ohio

Signature page in *United States v. Globe Metallurgical, Inc.* (S.D. Ohio)

FOR THE U.S. ENVIRONMENTAL PROTECTION
AGENCY:

ROBERT
KAPLAN

Digitally signed by ROBERT KAPLAN
Date: 2023.06.29 08:53:37 -04'00'

ROBERT A. KAPLAN
Regional Counsel
U.S. Environmental Protection Agency, Region 5

TASIA
KASTANEK

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KASTANEK
Date: 2023.06.27
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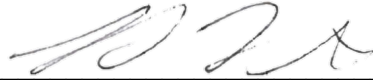
TASIA KASTANEK
Assistant Regional Counsel
U.S. Environmental Protection Agency, Region 5
Office of Regional Counsel

Signature page in *United States v. Globe Metallurgical, Inc.* (S.D. Ohio)

FOR GLOBE METALLURGICAL, INC.:

06/02/2023

Date

A handwritten signature in black ink, appearing to read "B D'Amico", written over a horizontal line.

BRIAN D'AMICO
Vice President, Secretary

APPENDIX A

Computational Fluid Dynamics Modeling Demonstration

Paragraph 37 Protocol:

The Protocol must include all elements necessary to perform a comprehensive computational fluid dynamics (CFD) modeling analysis and must specifically include (but not necessarily be limited to) the following:

- (i) Name and relevant experience of consultant(s);
- (ii) Source description;
- (iii) Items related to Operation:
 - a. Specification that each capture efficiency evaluation for each EAF in Shop 2 will be conducted over a Furnace Cycle (i.e., include charging, melting, and tapping operations);
 - b. Identification of the highest production level achievable with feed materials representative of the type of materials processed by the EAF that yield the highest rate of particulate matter (PM) emissions (i.e., largest PM emission generating scenario);
 - c. Identification of process or operating rates for the EAFs in Shop 2 that will be evaluated; and
 - d. Identification of the operating conditions and scenarios that will be evaluated.
- (iv) Detailed description of steps and methods used as part of the CFD analysis to determine the current capture efficiency evaluated over each operating condition. The methods should include, but not be limited to:

- a. Identifying the geometry of Shop 2;
 - b. Determining static pressure, velocity, temperature, fan performance, and any other relevant data measurements at each furnace emission capture point(s), and tapping emission capture point(s), prior to combining with exhaust streams from other hoods; and air flows at each baghouse if it is not possible to determine air flows at each furnace emission capture point(s) and tapping emission capture point(s), prior to combining with exhaust streams from other hoods; frequency of and averaging times for data measurements;
 - c. Identifying necessary boundary conditions;
 - d. Evaluating videos or imagery to develop modeling inputs of exhaust gas characteristics for each EAF for each operating scenario; and
 - e. Data analysis and development of models.
- (v) Proposed testing schedule.
- (vi) Procedure to estimate capture efficiency for each EAF.

Paragraph 37 Written Report:

The Written Report must include the following information:

- (i) Design capacity (i.e., flow rate) of the current Capture System, including the design flow rates at each capture point, including the EAF emission capture point(s), and tapping emission capture point(s);
- (ii) Actual flow rates that are associated with the exhaust gases during EAF operations, as measured at each baghouse if it is not possible to determine air flows at each EAF

- emission capture point(s) and tapping emission capture point(s), prior to combining with exhaust streams from other hoods;
- (iii) Expected fume generation flow rate during each operating scenario;
 - (iv) Capture efficiency during each operating scenario;
 - (v) Estimated capture efficiency for each EAF;
 - (vi) A plot of predicted capture efficiency vs airflow at each capture hood, including the furnace hoods(s), tapping hoods(s),
 - (vii) Brief description of sampling and analytical methods;
 - (viii) Description of any deviations from the Protocol; and
 - (ix) Copies of any and all raw field data, including the following:
 - a. Complete results, with example calculations (as appropriate);
 - b. Photos and videos reviewed in conjunction with the CFD model;
 - c. Air flow measurements at fixed openings, wall louvers, and doors (as appropriate);
 - d. Air flow velocity, pressure, and temperature readings inside the shop, in the ducts, at the dust collector units, at hoods, and at the baghouses, as applicable;
 - e. Heat sheets and operating sheets;
 - f. CFD modeling inputs and outputs;
 - g. Additional modeling inputs, outputs, and results;
 - h. Operating data (fan performance, baghouse operating data, etc);
 - i. Sampling port locations and dimensioned cross sections (as appropriate) used to develop the CFD model; and
 - j. Calibration procedures and results.