IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF PENNSYLVANIA

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UNITED STATES OF AMERICA

and

ALLEGHENY COUNTY HEALTH DEPARTMENT,

Plaintiffs,

v.

Civil No. 2:22-cv-00729-CRE

UNITED STATES STEEL CORPORATION,

Defendant.

- x

CONSENT DECREE

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A. Plaintiff United States of America, on behalf of the United States Environmental Protection Agency ("EPA"), has filed a Complaint in this action pursuant to Section 113(b) of the Clean Air Act ("CAA" or "Act"), 42 U.S.C. § 7413(b), concurrently with this Consent Decree. The Complaint alleges that Defendant United States Steel Corporation ("U. S. Steel") violated the Allegheny County portion of Pennsylvania's CAA State Implementation Plan ("SIP"), the National Emission Standards for Hazardous Air Pollutants for Integrated Iron and Steel Manufacturing Facilities, and the CAA Title V Permit for U. S. Steel's Edgar Thomson Steel Plant facility ("Facility") located in Braddock, Pennsylvania.

B. On November 9, 2017, EPA, in consultation with the Allegheny County Health Department ("ACHD"), issued CAA Notice of Violation ("NOV") No. CAA-III-18-0002 to U. S. Steel, and provided a copy of the NOV to the Commonwealth of Pennsylvania and ACHD as required by Section 113(a)(1) of the CAA, 42 U.S.C. § 7413(a)(1). The United States is providing notice of the commencement of this action to the Commonwealth of Pennsylvania as required by Section 113(b) of the CAA, 42 U.S.C. § 7413(b).

C. Plaintiff ACHD has joined this action.

D. U. S. Steel does not admit any liability to the United States or ACHD arising out of the transactions or occurrences alleged in the Complaint.

E. 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 among 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 (Jurisdiction and Venue),

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, 1355, and Sections 113(b) and 304 of the CAA, 42 U.S.C. §§ 7413(b) and 7604, and over the Parties. This Court has supplemental jurisdiction over the State law claims asserted by ACHD pursuant to 28 U.S.C. § 1367. Venue lies in this District pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), and 28 U.S.C. §§ 1391(b)-(c) and 1395(a), because the violations alleged in the Complaint are alleged to have occurred in, and U. S. Steel conducts business in, this judicial district. For purposes of this Decree, or any action to enforce this Decree, U. S. Steel consents to the Court's jurisdiction over this Decree and any such action and over U. S. Steel and consents to venue in this judicial district.

2. For purposes of this Consent Decree, U. S. Steel agrees that the Complaint states claims upon which relief may be granted pursuant to Sections 113(b) and 304 of the CAA, 42 U.S.C. §§ 7413(b) and 7604.

II. APPLICABILITY

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

4. No transfer of ownership or operation of the Facility, whether in compliance with the procedures of this Paragraph or otherwise, shall relieve U. S. Steel of its obligation to ensure that the terms of the Decree are implemented. At least 30 Days prior to such transfer, U. S. Steel 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 Region III, DOJ, and ACHD, in accordance with Section XIII (Notices). Any attempt to transfer ownership or operation of the Facility without complying with this Paragraph constitutes a violation of this Decree.

5. U. S. Steel 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. U. S. Steel shall condition any such contract upon performance of the work in conformity with the terms of this Consent Decree.

6. In any action to enforce this Consent Decree, U. S. Steel 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

7. 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:

"ACHD" means the Allegheny County Health Department and any of its successor departments or agencies;

"Basic Oxygen Process Furnace" or "BOPF" means a refractory-lined vessel in which high-purity oxygen is blown under pressure through a bath of molten iron, scrap metal, and fluxes to produce steel. This definition includes both top and/or bottom blown furnaces but does not include argon oxygen decarburization furnaces. There are two BOPF vessels at the Facility,

designated Vessel F and Vessel R, where molten iron and scrap steel are converted into molten steel through the use of high purity oxygen blowing;

"Blast Furnace" means a furnace used for the production of molten iron from materials including iron pellets, iron bearing materials, coke, and fluxes. There are two blast furnaces at the Facility, designated Blast Furnace No. 1 and Blast Furnace No. 3;

"Blast Furnace Stove Stack" means the emission point that discharges emissions from the combustion of Blast Furnace gas, coke oven gas, and natural gas, or other enriching gas, which is used to heat the combustion air for the Blast Furnace;

"BOP Shop" means the place where steelmaking operations occur, beginning with the transfer of molten iron (hot metal) from the torpedo car and ending prior to casting the molten steel, including hot metal transfer, desulfurization, slag skimming, refining in a basic oxygen process furnace, and ladle metallurgy;

"BOP Shop Access Door" means the door at the 6th and ½ floor level of the BOP Shop which opens to the F-2 Belt used by maintenance staff as a means of egress to complete various tasks;

"BOP Shop Fugitive Baghouse" means the ten-compartment fabric filter baghouse used for the capture and collection of secondary emissions (particulate matter emissions that are not controlled by the primary emission control system, including emissions that escape from open and closed hoods, lance hole openings, and gaps or tears to the primary emission control system);

"BOP Shop Ladle Metallurgy Furnace (LMF) Baghouse" means the six-compartment fabric filter for the control of particulate matter emissions generated by the ladle metallurgy furnace;

"BOP Shop Mixer Baghouse" means the 12-compartment fabric filter for the control of particulate matter emissions generated by the molten iron mixing and desulfurization operation in the BOP Shop;

"BOP Shop Primary Emissions System" means the BOP Shop Scrubber System used for the capture and collection of primary emissions and all associated hoods and ductwork used to route waste gas to the BOP Shop Scrubber System;

"BOP Shop Roof Monitor" means the openings along the length of the BOP Shop roof at the Facility;

"BOP Shop Scrubber Stack" means the emission point that discharges emissions from the BOP Shop Scrubber System. There are two BOP Shop Scrubber Stacks at the Facility, designated as Stack A and Stack B;

"BOP Shop Scrubber System" means the wet scrubber used to control primary emissions from the BOPF operation by removing particulate matter from the waste gas stream of the BOPF;

"Casthouse" means the building or structure that includes the bottom portion of a Blast Furnace where the hot metal and slag are tapped from the furnace. Both Blast Furnaces at the Facility have their own dedicated Casthouse;

"Casthouse Baghouse" means the four-compartment fabric filter for the control of particulate matter emissions from both of the Blast Furnace Casthouses at the Facility;

"Casthouse Baghouse System" means the Casthouse Baghouse as well as the collection of hoods and ductwork used to route emissions to the Casthouse Baghouse;

"Casthouse Roof Monitor" means the openings along the roof of each Blast Furnace Casthouse, including the annular gap where the furnace protrudes through the Casthouse roof structure;

"Complaint" means the complaint filed by the United States and ACHD in this action;

"Consent Decree" or "Decree" means this Decree and all appendices attached hereto;

"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 the United States Steel Corporation ("U. S. Steel");

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

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

"Effective Date" means the definition provided in Section XIV;

"Facility" means U. S. Steel's Edgar Thomson Steel Plant located in Braddock, Pennsylvania;

"Facility-Wide Asset Tree" means a system by which U. S. Steel catalogues and tracks the quantity, availability, and location of individual parts and components required by the various processes at the Facility;

"H_2S" means hydrogen sulfide;

"Malfunction" means any sudden, infrequent, and not reasonably preventable failure of air pollution control and/or monitoring equipment, process equipment, or a process to operate in

a normal or usual manner which causes, or has the potential to cause, an emission limitation in this Consent Decree to be exceeded. Failures that are caused in part or in whole by poor maintenance or by careless operation are not malfunctions;

"Maintenance Practices Audit" means the audit conducted by the Maintenances Practices Auditor pursuant to Paragraph 48 of this Consent Decree;

"Maintenance Practices Auditor" means an independent third party meeting the requirements of Paragraph 49 who is approved by EPA, in consultation with ACHD, and contracted by U. S. Steel to perform the duties set forth in Paragraphs 50 and 51;

"Operation and Maintenance Plan" or "O&M Plan" means the written plan required by 40 C.F.R. § 63.7800(b) for each capture system or control device subject to an operating limit in 40 C.F.R. § 63.7790(b);

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

"Parties" means the United States, ACHD, and U. S. Steel;

"Plaintiffs" means the United States and ACHD;

"PM" means particulate matter;

"Post-Study VEOs" means Visible Emissions observations using EPA Method 9, 40 C.F.R. Part 60, Appendix A-4, that are conducted after the submittal of notices of completion for the Blast Furnace Casthouse, BOP Shop Roof Monitor, and BOP Shop Scrubber Stack pursuant to Paragraphs 21, 28, and 35, respectively.

"Pre-Study VEOs" means Visible Emissions observations using EPA Method 9, 40 C.F.R. Part 60, Appendix A-4, that are conducted prior to the submittal of notices of completion for the Blast Furnace Casthouse, BOP Shop Roof Monitor, and BOP Shop Scrubber Stack pursuant to Paragraphs 21, 28, and 35, respectively.

"Riley Boilers" means the three multi-fuel firing, water-tube boilers at the Facility designated as Boilers 1, 2, and 3;

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

"Slag Pit" means the water- and air-cooled pit system utilizing direct pour of slag from Blast Furnaces Nos. 1 and 3 into troughs located in the Blast Furnace Casthouse floors and transferred to pits adjacent to the blast furnaces;

"SO_2" means sulfur dioxide;

"SO_2 CEMS" means a Continuous Emissions Monitoring System for SO_2 that meets the requirement of 40 C.F.R. Part 75; 25 Pa. Code Chapter 139.102(3); and ACHD Rules and Regulations, Article XXI, § 2108.03;

"Steel Production Cycle" means the operations conducted within the basic oxygen process furnace shop that are required to produce each batch of steel, including scrap charging, preheating, hot metal charging, primary oxygen blowing, sampling (vessel turndown and turnup), additional oxygen blowing, tapping, and deslagging. The steel production cycle begins when the scrap is charged to the furnace and ends three minutes after the slag is emptied from the vessel into the slag pot;

"Torpedo Car" means a refractory lined rail car designed specifically to transport molten iron at the Facility from the Blast Furnace Casthouse to the BOP Shop;

"United States" means the United States of America, acting on behalf of EPA;

"Visible Emissions" means emissions of air contaminants which can be seen with the naked eye in contrast with any background.

"Week" means the period of time from Monday through Sunday.

IV. CIVIL PENALTY

8. U. S. Steel has agreed to pay a civil penalty of $1,500,000 to the United States and ACHD collectively, as provided below.

9. Within 30 Days after the Effective Date, U. S. Steel shall pay to the United States the sum of $750,000, 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. U. S. Steel shall pay the civil penalty due to the United States by FedWire Electronic Funds Transfer ("EFT") to the DOJ account, in accordance with instructions provided to U. S. Steel by the Financial Litigation Unit ("FLU") of the United States Attorney's Office for the Western District of Pennsylvania after the Effective Date. The payment instructions provided by the FLU will include a Consolidated Debt Collection System ("CDCS") number, which U. S. Steel shall use to identify all payments required to be made in accordance with this Consent Decree. The FLU will provide the payment instructions by e-mail to: David W. Hacker, dwhacker@uss.com, (412) 433-2919, United States Steel Corporation, 600 Grant Street, Suite 1844, Pittsburgh, PA 15219, on behalf of U. S. Steel. U. S. Steel 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 XIII (Notices).

11. At the time of payment to the United States, U. S. Steel shall send notice that payment has been made: (i) to EPA via email at CINWD_AcctsReceivable@epa.gov or via regular mail at 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 XIII (Notices); and (iii) to the EPA Region III Regional Hearing Clerk at R3_Hearing_Clerk@epa.gov. Such notice shall state that the payment is for the civil penalty owed pursuant to the Consent Decree in

United States et al. v. U. S. Steel Corporation (W.D. Pa.) and shall reference the civil action number, CDCS Number, and DOJ case number 90-5-2-1-12083.

12. U. S. Steel shall pay a civil penalty of $750,000 to ACHD. In lieu of receiving payment, ACHD agrees that U. S. Steel shall satisfy the ACHD civil penalty by providing funding in the amount of $750,000 to the Allegheny County Department of Economic Development, which ACHD has approved as a Supplemental Environmental Project ("ACHD-Only SEP"). The ACHD-Only SEP is described in Appendix A.

a. Certification: For the ACHD-Only SEP, U. S. Steel certifies as follows:

(1) That, as of the date of executing this Consent Decree, U. S. Steel is not required to perform or develop the ACHD-Only SEP by any federal, state, or local low or regulation and is not required to perform or develop the ACHD-Only SEP by agreement, grant, or as injunctive relief awarded in any other action in any forum.

(2) That the ACHD-Only SEP is not a project that U. S. Steel was planning or intended to construct, perform, or implement other than in settlement of the claims resolved in this Consent Decree.

(3) U. S. Steel has not received and will not receive credit for the ACHD-Only SEP in any other enforcement action.

(4) U. S. Steel will not receive reimbursement for any portion of the ACHD-Only SEP from another person or entity.

(5) Any public statement, oral or written in print, film, or other media, made by U. S. Steel making reference to the ACHD-Only SEP under this Consent Decree from the date of its execution shall

include the following language: "This project was undertaken in connection with the settlement of an enforcement action, *United States et al. v. U. S. Steel Corporation* (W.D. Pa.), taken on behalf of ACHD to enforce federal and state laws.

13. U. S. Steel shall not deduct any penalties paid under this Decree pursuant to this Section or Section VII (Stipulated Penalties) in calculating its federal or State or local income tax.

V. COMPLIANCE REQUIREMENTS

14. Pre-Settlement Remedial Measures Completed Since EPA Issued the NOV: As of the date of lodging of this Consent Decree, U. S. Steel has performed certain actions to address the violations alleged in the Complaint, including, but not limited to:

a. Blast Furnace Casthouse Baghouse upgrades included replacement of the cleaning air system, baghouse filter bags with new membrane-style bags, cages, access doors, rotary valves, motors and fan sheaves;

b. BOP Shop Fugitive Baghouse upgrades included replacement of the cleaning air system, baghouse filter bags with new membrane-style bags, cages, access doors, and rotary valves;

c. BOP Shop Mixer Baghouse upgrades included replacement/repair of the cleaning air system, baghouse filter bags, and access doors;

d. BOP Shop Ladle Metallurgy Furnace Baghouse upgrades included replacement of the cleaning air system and baghouse filter bags;

e. Research and development to refine tap hole clay chemistry at Blast Furnace No. 1;

f. Re-training of third-party contractors responsible for roadway monitoring;

g. Re-training of BOP Shop employees responsible for keeping the BOP Shop doors closed;

h. Installing an alarm that provides a notification in the BOP Shop pulpit if the BOP Shop Access Door is open for longer than one minute, so that corrective action can be taken as quickly as possible;

i. Implementing a revised BOP Shop Primary Emissions System fan switching procedure;

j. Reconfiguring the gas lance system to better reduce emissions generated when molten iron enters the sub ladles at the Blast Furnace Casthouses; and

k. Adopting and implementing, in addition to the Facility's Operation and Maintenance Plan, an ACHD-approved standard operating procedure for Torpedo Cars producing Visible Emissions that requires (1) the use of temporary covers on empty Torpedo Cars wherever practicable and except for periods of high winds and crane Malfunctions, and (2) moving cars to appropriate process areas as soon as possible.

A. EMISSIONS CONTROLS

15. Casthouse Baghouse: U. S. Steel has retained and EPA, after consultation with ACHD, has approved, an independent third-party contractor to conduct a study of the Casthouse Baghouse System, to ensure that U. S. Steel can maintain compliance with ACHD Rules and Regulations Article XXI, § 2104.01, as more fully described in Paragraph 17.

16. Selection of Replacement Contractor for Casthouse Baghouse System Study: If at any time U. S. Steel seeks to replace the independent third-party contractor, U. S. Steel shall submit to EPA and ACHD a list of two or more proposed contractors with experience in evaluating air pollution control compliance at blast furnace casthouses. The proposed contractors must have no direct financial stake in the outcome of the study. U. S. Steel shall disclose to EPA and ACHD any past or existing contractual or financial relationship with the proposed contractor when the proposed contractor is identified.

a. EPA, in consultation with ACHD, shall notify U. S. Steel of whether it approves any contractors on the list submitted by U. S. Steel. If EPA, after consultation with ACHD, does not approve any of the proposed contractors, then U. S. Steel shall submit another list of proposed contractors to EPA and ACHD within 30 Days of receipt of EPA's written notice. If after U. S. Steel has submitted a third list of proposed contractors, which must be submitted within 30 Days of receipt of written notice that EPA has not approved any of the contractors on U. S. Steel's second list, the Parties are unable to agree on a contractor, the Parties agree to resolve the selection of the contractor through the procedures in Section IX (Dispute Resolution).

b. Within 30 Days after U. S. Steel receives notice of EPA's approval, U. S. Steel shall retain one contractor from those approved by EPA, to perform the duties described in Paragraph 17.

17. Within 30 Days of the Effective Date, U. S. Steel shall submit to EPA and ACHD for approval pursuant to Paragraph 57 (Approval of Deliverables), a plan, prepared with consultation of the independent contractor, to conduct the Casthouse Baghouse System Study.

a. The study shall evaluate the capacity of the Casthouse Baghouse System to capture and control air emissions from the Blast Furnace Casthouses. The Parties recognize that U. S. Steel may at times be forced to operate with two compartments of the Casthouse Baghouse offline with one Blast Furnace casting while the other Blast Furnace is opening or closing the taphole, and that a goal of the study should be to ensure that the Casthouse Baghouse System has sufficient capacity to maintain compliance with all applicable regulations, including ACHD Rules and Regulations Article XXI, § 2104.01, during such periods.

b. The study shall consider air pollution controls for each Blast Furnace during temporary stops in production and resumption in production, and shall be performed using U. S. Steel's operational personnel and under normal and anticipated operating conditions. The study period shall be conducted during a minimum of five consecutive Days, for which such operating conditions shall include a combined minimum production rate of 7,400 net tons of hot metal ("nthm") per 24 hours at Blast Furnace No. 1 and Blast Furnace No. 3 for at least four of those five Days. If the production rate of 7,400 nthm per 24 hours is not achieved on at least four of the five Days as required above, U.S. Steel shall extend the study period to include two additional consecutive Days at a production rate of at least

7,400 nthm per 24 hours to satisfy the production rate criteria of the study. The study shall also include at least the following additional elements: development of a field-testing plan including any relevant past reports of the Casthouse Baghouse System; inspection and evaluation of the Casthouse Baghouse and emissions capture effectiveness between the furnace shells and Casthouse structures (including sheeting) at the hoods on the Number 1 and 3 Casthouses; evaluation of the overall capture for both furnaces, together and individually, including field measurements of system flows, pressures, and temperatures; Visible Emissions observations using EPA Method 9, 40 C.F.R. Part 60, Appendix A-4 ("Method 9") during such field measurements; evaluation of Visible Emissions from the Blast Furnace Casthouse Roof Monitor or Casthouse Baghouse, including the root cause of any Visible Emissions in excess of applicable opacity requirements; evaluation of the manner in which the Casthouse Baghouse is operated including blast furnace operating data relevant to damper positioning, fan motor ramp ups and downs, and cleaning cycle sequencing; evaluation of the particulate matter control and efficiency of the Casthouse Baghouse System; and opportunities for improvement, including the potential installation of additional baghouse capacity or compartments, in these areas. The study shall also include a report describing the methodology, observations, data, and other information reviewed, and the study's findings, along with a certification by

U. S. Steel and the third-party contractor that the study was performed in accordance with the provisions of this Consent Decree.

18. The Casthouse Baghouse System Study shall be completed by no later than 120 Days after approval of the plan submitted in accordance with Paragraph 17.

19. By no later than 90 Days after completion of the Casthouse Baghouse System Study, U. S. Steel shall submit to EPA and ACHD a copy of the completed third-party study along with a report for approval pursuant to Paragraph 57 (Approval of Deliverables) which includes:

a. Proposed improvements to the capture and control systems and Blast Furnace operating procedures to ensure compliance with applicable opacity requirements for the Blast Furnace Casthouses, including an evaluation of the potential improvements identified by the third-party study and justifications for including or excluding them from the proposed action(s);

b. Estimated costs of the proposed action(s); and

c. A schedule for completing the proposed action(s).

20. EPA shall review the report required by Paragraph 19, in consultation with ACHD in accordance with Paragraph 57 (Approval of Deliverables), and U. S. Steel shall thereafter implement the proposed action(s) in accordance with the schedule in the approved report.

21. Within 30 Days after completion of the approved action(s), U. S. Steel shall submit a notice of completion to EPA and ACHD that certifies that the actions were implemented in accordance with the approved report.

22. BOP Shop Roof Ventilation. U. S. Steel has retained and EPA, after consultation with ACHD, has approved, an independent third-party contractor to conduct a ventilation study to evaluate the capture and control of secondary emissions from the BOP Shop and identify the root cause of Visible Emissions from the BOP Shop Roof, as more fully described in Paragraph 24.

23. Selection of Replacement Contractor for BOP Shop Roof Ventilation Study: If at any time U. S. Steel seeks to replace the independent third-party contractor, U. S. Steel shall submit to EPA and ACHD a list of two or more proposed contractors with experience in evaluating air pollution control compliance at BOP Shops. The proposed contractors must have no direct financial stake in the outcome of the study. U. S. Steel shall disclose to EPA and ACHD any past or existing contractual or financial relationship with the proposed contractor when the proposed contractor is identified.

a. EPA, in consultation with ACHD, shall notify U. S. Steel of whether it approves any contractors on the list submitted by U. S. Steel. If EPA, after consultation with ACHD, does not approve any of the proposed contractors, then U. S. Steel shall submit another list of proposed contractors to EPA and ACHD within 30 Days of receipt of EPA's written notice. If after U. S. Steel has submitted a third list of proposed contractors, which must be submitted within 30 Days of receipt of written notice that EPA has not approved any of the contractors on U. S. Steel's second list, the Parties are unable to agree on a contractor, the Parties agree to resolve the selection of the contractor through the procedures in Section IX (Dispute Resolution).

b. Within 30 Days after U. S. Steel receives notice of EPA's approval, U. S. Steel shall retain one contractor from those approved by EPA, to perform the duties described in Paragraph 24.

24. Within 60 Days of the Effective Date, U. S. Steel shall submit to EPA and ACHD for approval pursuant to Paragraph 57 (Approval of Deliverables), a plan, prepared with consultation of the independent contractor, to conduct the BOP Shop Roof Ventilation Study.

a. The study shall consider air pollution control for the start-up and shut-down for each BOPF vessel, and shall be performed using U. S. Steel's operational personnel and under operating conditions that reflect normal and anticipated operating conditions, including those with minimal to no delays in process operations. The study shall also include at least the following additional elements: development of a field-testing plan including any relevant past reports of the BOP Shop Fugitive Baghouse system (including all associated hoods and ductwork); inspection and evaluation of the BOP Shop Fugitive Baghouse and emissions capture effectiveness within the BOP Shop; evaluation of the overall capture during oxygen blowing, including field measurements of system flows, pressures, and temperatures; Method 9 Visible Emissions observations during such field measurements; evaluation of Visible Emissions from the BOP Shop Roof Monitor or BOP Shop Fugitive Baghouse, including the root cause of any Visible Emissions in excess of applicable opacity requirements; evaluation of the manner in which the BOP Shop Fugitive Baghouse is operated including BOPF operating data

relevant to damper positioning fan motor ramp ups and downs, and cleaning cycle sequencing; evaluation of the particulate matter control and efficiency of the BOP Shop Fugitive Baghouse system (including all associated hoods and ductwork); and opportunities for improvement in these areas. The ventilation study shall also contain a description of the methodology, observations, data, and other information reviewed, and the study's findings, along with a certification by U. S. Steel and the third-party contractor that the study was performed in accordance with the provisions of this Consent Decree.

25. The BOP Shop Roof Ventilation Study shall be completed by no later than 120 Days after approval of the plan submitted in accordance with Paragraph 24.

26. By no later than 90 Days after completion of the BOP Shop Roof Ventilation Study, U. S. Steel shall submit to EPA and ACHD a copy of the completed third-party study along with a report for approval pursuant to Paragraph 57 (Approval of Deliverables) which includes:

a. Proposed improvements to the capture and control systems and BOP Shop operating procedures to minimize emissions from the BOP Shop Roof Monitor and ensure compliance with applicable opacity requirements for the BOP Shop, including an evaluation of the potential improvements identified by the third-party study and justifications for including or excluding them from the proposed action(s).

b. Estimated costs of the proposed action(s); and

c. A schedule for completing the proposed action(s).

27. EPA shall review the report required by Paragraph 26, in consultation with ACHD in accordance Paragraph 57 (Approval of Deliverables), and U. S. Steel shall thereafter implement the proposed action(s) in accordance with the schedule in the approved report.

28. Within 30 Days after completion of the approved action(s), U. S. Steel shall submit a notice of completion to EPA and ACHD that certifies that the actions were implemented in accordance with the approved report.

29. BOP Shop Scrubber System: U. S. Steel has retained and EPA, after consultation with ACHD has approved, an independent third-party contractor to conduct a study to evaluate the BOP Shop Scrubber System and identify the root cause of Visible Emissions at the BOP Shop Scrubber System from either Stack A or Stack B, as more fully described in Paragraph 31.

30. Selection of Replacement Contractor for BOP Shop Scrubber System Study: If at any time U. S. Steel seeks to replace the independent third-party contractor, U. S. Steel shall submit to EPA and ACHD a list of two or more proposed contractors with experience in evaluating air pollution control compliance at BOP Shops. The proposed contractors must have no direct financial stake in the outcome of the study. U. S. Steel shall disclose to EPA and ACHD any past or existing contractual or financial relationship with the proposed contractor when the proposed contractor is identified.

a. EPA, in consultation with ACHD, shall notify U. S. Steel of whether it approves any contractors on the list submitted by U. S. Steel. If EPA, after consultation with ACHD, does not approve any of the proposed contractors, then U. S. Steel shall submit another list of proposed contractors to EPA and ACHD within 30 Days of receipt of EPA's written notice. If after U. S. Steel has submitted a third list of proposed

contractors, which must be submitted within 30 Days of receipt of written notice that EPA has not approved any of the contractors on U. S. Steel's second list, the Parties are unable to agree on a contractor, the Parties agree to resolve the selection of the contractor through the procedures in Section IX (Dispute Resolution).

b. Within 30 Days after U. S. Steel receives notice of EPA's approval, U. S. Steel shall retain one contractor from those approved by EPA, to perform the duties described in Paragraph 31.

31. Within 60 Days of the Effective Date, U. S. Steel shall submit to EPA and ACHD for approval pursuant to Paragraph 57 (Approval of Deliverables), a plan, prepared with consultation of the independent contractor, to conduct the BOP Shop Scrubber System Study.

a. The study shall include at least the following elements: development of a field-testing plan including any relevant past reports of the BOP Shop Scrubber System; inspection and evaluation of the BOP Shop Scrubber System; evaluation of the overall capture of particulate matter, including field measurements of system flows, pressures, and temperatures; Method 9 Visible Emissions observations during such field measurements; evaluation of Visible Emissions from the two BOP Shop Scrubber Stacks, including the root cause of any Visible Emissions in excess of applicable opacity requirements; evaluation of the manner in which the scrubber is operated including BOP operating data relevant to damper positioning, fan and pump motor ramp ups and downs, emission minimization during fan switching procedures, and cleaning cycle sequencing of both the gas

stream and the scrubbing fluid; and opportunities for improvement, as applicable, in these areas. The study shall also contain a description of the methodology, observations, data, and other information reviewed, and the study's findings, along with a certification by U. S. Steel and the third-party contractor that the study was performed in accordance with the provisions of this Consent Decree.

32. The BOP Shop Scrubber System Study shall be completed by no later than 120 Days after approval of the plan submitted in accordance with Paragraph 31.

33. By no later than 90 Days after completion of the BOP Shop Scrubber System Study, U. S. Steel shall submit to EPA and ACHD a copy of the completed third-party study along with a report for approval pursuant to Paragraph 57 (Approval of Deliverables) which includes:

a. Proposed improvements to the BOP Shop Scrubber System and BOP Shop operating procedures to ensure compliance with applicable opacity requirements for the BOP Shop Scrubber Stacks, including an evaluation of the potential improvements identified by the third-party study and justifications for including or excluding them from the proposed action(s);

b. Estimated costs of the proposed action(s); and

c. A schedule for completing the proposed action(s).

34. EPA shall review the report required by Paragraph 33, in consultation with ACHD in accordance Paragraph 57 (Approval of Deliverables), and U. S. Steel shall thereafter implement the proposed action(s) in accordance with the schedule in the approved report.

35. Within 30 Days after completion of the approved action(s), U. S. Steel shall submit a notice of completion to EPA and ACHD that certifies that the actions were implemented in accordance with the approved report.

36. Environmental Awareness Training. U. S. Steel shall conduct annual environmental awareness training for blast furnace operators, BOP Shop operators, transportation personnel responsible for Torpedo Cars, and other employees and contractors with responsibilities under this Consent Decree, to enable them to identify, control, and minimize the environmental impacts of their work and where possible identify environmental improvement opportunities.

B. MONITORING REQUIREMENTS

37. Emissions Surveillance and Process Optimization Cameras for Blast Furnace Area and BOP Shop. Within 180 Days after the Effective Date, U. S. Steel shall install and maintain a video camera system that includes multiple video cameras that are aimed at the Blast Furnace Stove Stacks, Casthouse Roof Monitors, Casthouse Baghouse, BOP Shop Roof Monitor, BOP Shop Scrubber Stacks, and the two Torpedo Car staging areas near the location of the Riley Boilers. The video camera system shall record and send live video feeds to appropriate personnel, including personnel in the control rooms for the Casthouses and BOP Shop. The video camera system shall:

a. consist of no fewer than seven permanently installed video cameras strategically placed at the Facility that record, during daylight hours, the areas identified in this Paragraph;

b. record in digital format at a rate of no less than 1 frame per second, having a resolution of no fewer than 20 pixels per foot;

c. date and time stamp the recordings, and

d. be maintained in a manner consistent with manufacturer recommendations.

38. U. S. Steel shall maintain recordings from the video camera system in MP4, MKV, or other format supported by the camera system. U. S. Steel shall maintain the video camera recordings in a labeled and chronologically-ordered system for at least 30 rolling Days, and shall make such recordings available for viewing by ACHD while at the Facility on monitor(s) provided by U. S. Steel. After ACHD's viewing of video recordings, ACHD shall identify portions of the video recordings for downloading or transfer by U. S. Steel to ACHD. In addition, while at the Facility, ACHD may also take still shots of the video recordings as long as the shots do not include U. S. Steel or contractor personnel and copies of such still shots are shared with U. S. Steel before ACHD leaves the Facility. ACHD cannot share the shots with any third party until either U. S. Steel provides written or electronic confirmation of receipt of the still shots or two business days from when the shots were successfully electronically shared with U. S. Steel via an email sent to cdavis@uss.com, cwhardin@uss.com, dwhacker@uss.com, and ETphotos@uss.com, whichever is earlier. U. S. Steel shall make all video recordings downloadable or transferrable to ACHD within five business days of the ACHD's request for such recordings if there are no U. S. Steel or contractor personnel depicted in the video recordings. If U. S. Steel or contractor personnel are depicted in the video recordings, then U. S. Steel shall make video recordings downloadable or transferable to ACHD within ten business days of ACHD's request for such recordings. Video recordings requested by ACHD

within the 30-day rolling period shall be maintained by U. S. Steel until such time as the recordings are downloaded or transferred to ACHD.

39. U. S. Steel shall use the video camera system as a tool to minimize emissions by ensuring that processes are optimized and allowing its operators to monitor the applicable areas so as to recognize and react to potentially non-compliant Visible Emissions by taking corrective actions to minimize or eliminate any such emissions as expeditiously as possible. The parties agree that the cameras were not installed to determine compliance or noncompliance with Article XXI § 2104.01 because the video cameras (and any still shots taken therefrom) do not meet the criteria to determine opacity as required by EPA Method 9 or other approved EPA methods. Within 120 Days after the installation of the video camera system required by Paragraph 37, U. S. Steel shall have incorporated the use of the video cameras into a standard operating procedure. The standard operating procedure shall provide for continuous operation of the cameras during all daylight hours to the extent technically practicable and consistent with manufacturer maintenance recommendations. U. S. Steel shall also train its operators on use of the video camera system using the standard operating procedure and any applicable provisions of the Facility's Operation and Maintenance Plan within 120 Days of installation of the video camera system required by Paragraph 37.

40. Pre-Study VEOs for Blast Furnace Casthouses and BOP Shop. Within 30 Days after the Effective Date, U. S. Steel shall ensure that a third-party observer, trained and certified in accordance with EPA Method 9, conducts Visible Emissions readings covering the Casthouse Roof Monitors, BOP Shop Roof Monitor, and BOP Shop Scrubber Stacks in accordance with the procedures in the Facility's Title V Permit and EPA Method 9, as provided in this Paragraph.

a. For any Week in which there are no planned or unplanned outages, the

Method 9 Visible Emissions observations shall be completed as provided below:

Source	Per Week
Blast Furnace No. 1 Casthouse Roof Monitor, that includes at least one cast cycle (from tap to plug) per observation	Two Days
Blast Furnace No. 3 Casthouse Roof Monitor, that includes at least one cast cycle (from tap to plug) per observation	Two Days
BOP Shop Roof Monitor—Minimum of a two-hour observation that includes at least one Steel Production Cycle	Two Days
BOP Shop Scrubber Stacks—Minimum of a two-hour observation that includes at least one Steel Production Cycle	Two Days

b. No later than Thursday of each Week, U. S. Steel shall provide ACHD with a schedule of the Days Method 9 Visible Emission readings will be taken at the Facility during the following Week, to allow ACHD staff or an ACHD contractor to be present for the readings and, as necessary, perform ACHD's own observations to verify compliance. U. S. Steel shall notify ACHD of any planned outage that will affect the above schedule in the weekly notice of planned Method 9 Visibility Emissions observations.

c. U. S. Steel shall promptly notify ACHD regarding any planned or unplanned outage that would foreclose U. S. Steel from satisfying any requirement, including the required frequency and/or duration, of the Method 9 Visible Emissions observations required in Paragraph 40.a, and shall make best efforts to reschedule such readings, where reasonably possible, so as to complete the total number of weekly Method 9 Visible Emissions readings required by Paragraph 40.a.

d. In the event that a Method 9 Visible Emissions observation indicates opacity levels exceeding any applicable opacity limit, U. S. Steel shall

conduct Method 9 readings for at least the next two hours or until daylight conditions allow; or until Method 9 readings indicate opacity levels that do not exceed any applicable opacity limit.

e. U. S. Steel may invoke Dispute Resolution under Section IX (Dispute Resolution) for any Method 9 Visible Emissions observations performed by ACHD or EPA pursuant to this Paragraph.

f. The requirement to perform Method 9 Visible Emissions observations pursuant to this Paragraph shall be superseded by the requirements of Paragraph 41 beginning 30 Days after U. S. Steel submits the notices of completion required by Paragraphs 21, 28, and 35.

41. Post-Study VEOs for Blast Furnace Casthouses and BOP Shop. Within 30 Days after U. S. Steel submits the notices of completion required by Paragraphs 21, 28, and 35, and continuing for at least the first four months after the submittal of such notices of completion, U. S. Steel shall ensure that a third-party observer, trained and certified in accordance with EPA Method 9, conducts Visible Emissions readings covering the Casthouse Roof Monitors, BOP Shop Roof Monitor, and BOP Shop Scrubber Stacks in accordance with the procedures in the Facility's Title V Permit and EPA Method 9, as provided in this Paragraph.

a. For any Week in which there are no planned or unplanned outages, the Method 9 Visible Emissions observations shall be completed as provided below:

Source	Per Week
Blast Furnace No. 1 Casthouse Roof Monitor, that includes at least one cast cycle (from tap to plug) per observation	Four Days
Blast Furnace No. 3 Casthouse Roof Monitor, that includes at least one cast cycle (from tap to plug) per observation	Four Days
BOP Shop Roof Monitor—Minimum of a two-hour observation that includes at least one Steel Production Cycle	Four Days
BOP Shop Scrubber Stacks—Minimum of a two-hour observation that includes at least one Steel Production Cycle	Four Days

b. No later than Thursday of each Week, U. S. Steel shall provide ACHD with a schedule of the Days Method 9 Visible Emission readings will be taken at the Facility during the following Week, to allow ACHD staff or an ACHD contractor to be present for the readings and, as necessary, perform ACHD's own observations to verify compliance. U. S. Steel shall notify ACHD of any planned outage that will affect the above schedule in the weekly notice of planned Method 9 Visibility Emissions observations

c. U. S. Steel shall promptly notify ACHD regarding any planned or unplanned outage that would foreclose U. S. Steel from satisfying any requirement, including the required frequency and/or duration, of the Method 9 Visible Emissions observations required in Paragraph 41.a, and shall make best efforts to reschedule such readings, where reasonably possible, so as to complete the total number of weekly Method 9 Visible Emissions readings required by Paragraph 41.a.

d. In the event that a Method 9 Visible Emissions observation indicates opacity levels exceeding any applicable opacity limit, U. S. Steel shall conduct Method 9 readings for at least the next two hours or until daylight

conditions allow; or until Method 9 readings indicate opacity levels that do not exceed any applicable opacity limit.

e. U. S. Steel may invoke Dispute Resolution under Section IX (Dispute Resolution) for any Method 9 Visible Emissions observations performed by ACHD or EPA pursuant to this Paragraph.

f. The requirement to perform the scheduled Method 9 Visible Emissions observations pursuant to this Paragraph for the Blast Furnace Casthouse shall cease at the occurrence of the sooner of: (i) if the required Visible Emissions observations show a compliance rate of 100 percent for four consecutive months at the Blast Furnace No. 1 Casthouse Roof Monitor and the Blast Furnace No. 3 Casthouse Roof Monitor; or (ii) twelve months of collecting Post-Study VEOs.

g. The requirement to perform the scheduled Method 9 Visible Emissions observations pursuant to this Paragraph for the BOP Shop Roof Monitor shall cease at the occurrence of the sooner of: (i) if the required Visible Emissions observations show a compliance rate of 100 percent for four consecutive months at the BOP Shop Roof Monitor; or (ii) twelve months of collecting Post-Study VEOs.

h. The requirement to perform the scheduled Method 9 Visible Emissions observations pursuant to this Paragraph for the BOP Shop Scrubber Stack shall cease at the occurrence of the sooner of: (i) if the required Visible Emissions observations show a compliance rate of 100 percent for four

consecutive months at the BOP Shop Scrubber Stack; or (ii) twelve months of collecting Post-Study VEOs.

42. U. S. Steel shall generate a report for each Method 9 reading required by this Consent Decree. The report shall include the operation conditions in the Blast Furnace Casthouse and/or BOP Shop, as applicable, including but not limited to which furnaces were operating; how many baghouse compartments were in use; and general weather conditions.

43. In addition to the semi-annual reports required pursuant to Section VI (Reporting Requirements), U. S. Steel shall submit to EPA and ACHD quarterly reports of its compiled Method 9 Visible Emissions observations. The quarterly reports shall identify any deviation(s) from the applicable opacity standards at ACHD Rules and Regulations, Article XXI, §§ 2104.01 and 2105.49, the likely cause of such deviations(s), corrective measure(s) taken to address the deviation(s), and the effectiveness of such corrective measures as can be determined at the time of the report.

44. If U. S. Steel implements a digital camera opacity technique ("DCOT") system pursuant to the Integrated Iron and Steel MACT, 40 C.F.R. Part 63, Subpart FFFFF, U. S. Steel may use the DCOT system to satisfy the Method 9 obligations of this Consent Decree.

45. Blast Furnace Slag Pits. U. S. Steel shall continue to utilize slag wetting practices to cool, solidify, and break up the Blast Furnace slag prior to removal, so as to minimize the release of fugitive PM emissions to the atmosphere. U. S. Steel shall inspect the Slag Pit spray systems on a once per shift basis, documenting the condition of the slag prior to load-out, and maintaining associated records pursuant to the Facility's Operation and Maintenance Plan.

46. To satisfy the requirements of Article XXI, § 2104.04.b, within 60 Days of the Effective Date, U. S. Steel shall begin feeding an oxidizing chemical additive or additives such

as, but not limited to, potassium permanganate or hydrogen peroxide into the Slag Pit quench water spray system, to enhance suppression of H_2S emissions at the Slag Pit. Within 90 Days of the start of this initial period, which may rely on temporary hoses and local controls, U. S. Steel shall submit to EPA and ACHD for approval pursuant to Paragraph 57 (Approval of Deliverables), proposed written procedures for the Slag Pit that require:

a. Pouring practices that achieve the thinnest uniform slag layers practicable;

b. Slag Pit filling schedules that maximize the air-cooling time between subsequent slag pours over a given surface and the air-cooling time prior to the quenching of slag with water;

c. Schedule for implementation and description of systems for distributing quench water uniformly over the slag surface at rates sufficiently high to minimize or prevent the evolution of H_2S;

d. Excavation of Slag Pits in such a way as to achieve the maximum practicable volume and/or surface area;

e. Schedule for implementation and description of operation and maintenance of a permanent system for suppression of H_2S emissions by use of a potassium permanganate or hydrogen peroxide (or equivalently effective chemical as approved by ACHD) feed system, which shall feed into the Slag Pit quench water spray system; and

f. Daily records of the operational status of the quench water spray system and chemical feed system, and weekly records of the quantity of chemical additive employed in the quench water spray system.

U. S. Steel shall thereafter implement the Slag Pit actions in accordance with the approved procedures submitted in accordance with this Paragraph, and shall continue to use any temporary H_2S suppression system until installation and operation of the approved permanent system.

47. SO_2 CEMS for Riley Boilers.

a. Within 90 Days after the Effective Date, U. S. Steel shall submit a monitoring plan in the Pennsylvania Department of Environmental Protection ("Pennsylvania DEP") CEM Data Processing System ("CEMDPS") to install SO_2 CEMS to continuously measure SO_2 emissions from the Riley Boilers. U. S. Steel's monitoring plan shall contain the information required in the Initial Application (Phase 1) Section of the latest version (currently revision 8) of the Continuous Source Monitoring Manual ("Manual"). U. S. Steel shall notify ACHD and EPA that submission has occurred in the CEMDPS within five Days following submission.

b. U. S. Steel shall comply with all relevant requirements of the latest version (currently revision 8) of the Pennsylvania DEP's Manual.

c. Performance testing (Phase 2) of the SO_2 CEMS must be completed within 210 Days after the Effective Date, or within 90 Days after Pennsylvania DEP approval of Phase 1, whichever is later. A notification must be submitted to Pennsylvania DEP, EPA, and ACHD within 10 Days following completion of performance testing.

d. U. S. Steel shall submit a report to Pennsylvania DEP through the CEMDPS verifying the monitoring system's compliance with all

regulatory requirements. This shall be done within 60 Days of completion of testing.

e. Upon certification and approval by the Pennsylvania DEP of the SO_2 CEMS for the Riley Boilers, hourly emissions data must be submitted to the Pennsylvania DEP thorough the CEMDPS starting with the hour following the completion of performance specification testing. Emissions data will be submitted on a quarterly basis and adhere to the Record Keeping and Reporting requirements of the Manual and in the Pennsylvania DEP certification approval letter.

f. The SO_2 CEMS for the Riley Boilers shall be operated and maintained in accordance with the Quality Assurance section of the Manual.

C. MAINTENANCE PRACTICES

48. Maintenance Practices Audits. U. S. Steel has retained and EPA, after consultation with ACHD, has approved, a third-party auditor to conduct a Maintenance Practices Audit pursuant to Paragraphs 50 and 51. U. S. Steel shall bear all costs associated with the Maintenance Practices Auditor, cooperate fully with the Maintenance Practices Auditor, and provide the Maintenance Practices Auditor with access to all records, employees, contractors, and areas of the Facility that the Maintenance Practices Auditor deems reasonably necessary to effectively perform the duties described in Paragraphs 50 and 51.

49. Selection of Replacement Maintenance Practices Auditor. If at any time U. S. Steel seeks to replace the Maintenance Practices Auditor, U. S. Steel shall submit to EPA and ACHD a list of two or more proposed Maintenance Practices Auditors who have experience

and competence in evaluating emission control maintenance practices for compliance with CAA requirements at industrial facilities. The proposed Maintenance Practices Auditors must have no direct financial stake in the outcome of the Maintenance Practices Audit conducted pursuant to this Consent Decree. U. S. Steel shall disclose to EPA and ACHD any past or existing contractual or financial relationship with the proposed Maintenance Practices Auditors when the proposed Maintenance Practices Auditors are identified.

a. EPA, in consultation with ACHD, shall notify U. S. Steel of whether it approves any Maintenance Practices Auditors on the list submitted by U. S. Steel. If EPA, after consultation with ACHD, does not approve any of the proposed Maintenance Practices Auditors, then U. S. Steel shall submit another list of proposed auditors to EPA and ACHD within 30 Days of receipt of EPA's written notice. If after U. S. Steel has submitted a third list of proposed Maintenance Practices Auditors, which must be submitted within 30 Days of receipt of written notice that EPA has not approved any of the Maintenance Practices Auditors on U. S. Steel's second list, the Parties are unable to agree on an auditor, the Parties agree to resolve the selection of the Maintenance Practices Auditor through the procedures in Section IX (Dispute Resolution).

b. Within 30 Days after U. S. Steel receives notice of EPA's approval, U. S. Steel shall retain one Maintenance Practices Auditor from those approved by EPA, to perform the duties described in Paragraphs 50 and 51.

50. Scope of the Maintenance Practices Audit. U. S. Steel shall direct the Maintenance Practices Auditor to perform an audit to analyze operation and maintenance practices for emissions controls, including the adequacy of the effective O&M Plan, as applicable, current version attached as Appendix B, and U. S. Steel's implementation of the O&M Plan. The emissions controls to be covered by the Maintenance Practices Audit shall include:

a. the Casthouse Baghouse;

b. the BOP Shop Fugitive Baghouse;

c. the BOP Shop Mixer Baghouse;

d. the BOP Shop LMF Baghouse;

e. the BOP Shop Primary Emissions System/BOP Shop Scrubber; and

f. the Slag Pits.

51. U. S. Steel shall direct the Maintenance Practices Auditor to prepare a report which shall be submitted to U. S. Steel within 180 Days of the Effective Date. The report shall contain:

a. a summary of the audit process, including any obstacles encountered;

b. detailed audit findings, including the basis for each finding and each area of concern related to:

(1) The adequacy of the effective O&M Plan for ensuring current and continued future functioning of emissions controls and compliance with applicable emission limitations;

(2) The adequacy of the Facility-Wide Asset Tree for ensuring current and continued future functioning of emissions controls and

compliance with applicable emission limitations;

(3) Whether requirements, targets, objectives, or other benchmarks identified in Paragraph 50 are being achieved;

(4) Whether there are examples of noncompliance with the written O&M Plan;

(5) Recommendations for resolving any area of concern or otherwise achieving compliance with the written O&M Plan;

c. A certification by U. S. Steel and the Maintenance Practices Auditor that the audit was performed in accordance with the provisions of this Consent Decree.

52. Within 60 Days of U. S. Steel's receipt of the Maintenance Practices Auditor's report, U. S. Steel shall submit to EPA and ACHD pursuant to Paragraph 57 (Approval of Deliverables): (a) a copy of the report, and (b) a plan for approval which includes a proposal for implementing any recommendations in the report.

53. U. S. Steel shall thereafter implement the proposed actions in accordance with the schedule in the approved plan, and shall ensure that its employees are properly trained to implement the proposed actions.

54. Subsequent Self-Audits. Beginning no later than 12 months after EPA's approval of the Maintenance Practices Auditor's report pursuant to Paragraph 52, U. S. Steel shall perform a self-audit of its O&M practices once every twelve months in accordance with the same scope and protocol used by the Maintenance Practices Auditor as set forth in Paragraph 50.

55. Within 30 Days of U. S. Steel's completion of the self-audit, U. S. Steel shall submit to EPA and ACHD pursuant to Paragraph 57 (Approval of Deliverables) a report for approval that identifies:

a. A summary of the audit process, including any obstacles encountered;

b. Detailed audit findings, including the basis for each finding and each area of concern related to:

(1) The adequacy of the effective O&M Plan for ensuring current and continued future functioning of emissions controls and compliance with applicable emission limitations;

(2) The adequacy of the Facility-Wide Asset Tree for ensuring current and continued future functioning of emissions controls and compliance with applicable emission limitations;

(3) Whether requirements, targets, objectives, or other benchmarks identified in Paragraph 50 are being achieved;

(4) Whether there are examples of noncompliance with the written O&M Plan;

(5) Recommendations and a schedule for resolving any area of concern or otherwise achieving compliance with the written O&M Plan;

c. A certification by U. S. Steel that the audit was performed in accordance with the provisions of this Consent Decree.

56. U. S. Steel shall thereafter implement the proposed actions in accordance with the schedule in the approved report.

57. Approval of Deliverables. After review of any plan, report, or other item that is required to be submitted pursuant to this Consent Decree, EPA, after consultation with ACHD, 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.

58. If the submission is approved pursuant to Paragraph 57(a), U. S. Steel 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 57(b) or (c), U. S. Steel shall, upon written direction from EPA (after consultation with ACHD), take all actions required by the approved plan, report, or other item that EPA, after consultation with ACHD, determines are technically severable from any disapproved portions, subject to U. S. Steel's right to dispute only the specified conditions or the disapproved portions under Section IX (Dispute Resolution).

59. If the submission is disapproved in whole or in part pursuant to Paragraph 57(c) or (d), U. S. Steel shall, within 30 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, U. S. Steel shall proceed in accordance with the preceding Paragraph.

60. Any stipulated penalties applicable to the original submission, as provided in Section VII (Stipulated Penalties), accrue during the 30 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

U. S. Steel's obligations under this Decree, the stipulated penalties applicable to the original submission shall be due and payable notwithstanding any subsequent resubmission.

61. If a resubmitted plan, report, or other item, or portion thereof, is disapproved in whole or in part, EPA, after consultation with ACHD, may again require U. S. Steel to correct any deficiencies, in accordance with the preceding Paragraphs, subject to U. S. Steel's right to invoke Dispute Resolution and the right of EPA and ACHD to seek stipulated penalties as provided in the preceding Paragraphs.

62. If U. S. Steel elects to invoke Dispute Resolution as set forth in Paragraphs 58 or 61, U. S. Steel shall do so by sending a Notice of Dispute in accordance with Paragraph 92 (Informal Dispute Resolution) within 30 Days (or such other time as the Parties agree to in writing) after receipt of the applicable decision.

63. Permits. Where any compliance obligation under this Section requires U. S. Steel to obtain a federal, state, or local permit or approval, U. S. Steel shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals. U. S. Steel may seek relief under the provisions of Section VIII (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 U. S. Steel has submitted timely and complete applications and has taken all other actions necessary to obtain all such permits or approvals.

VI. REPORTING REQUIREMENTS

64. Within 10 Days after the Effective Date, U. S. Steel shall submit to EPA and ACHD for review a list of deadlines included in this Consent Decree. For any deliverable required by the Consent Decree, the list shall indicate whether EPA and ACHD approval is

required. The list shall be in substantially the same form as Appendix C and shall be submitted in an electronic format (e.g., unlocked spreadsheet or similar format agreed to by the Parties). Within 10 Days of modification of any deadline under this Consent Decree, U. S. Steel shall provide an updated list reflecting changes to the future schedule. In the event of conflict between the list generated pursuant to this Paragraph and the Consent Decree, the Consent Decree shall control.

65. U. S. Steel shall submit the following semi-annual reports to EPA and ACHD at the addresses set forth in Section XIII (Notices):

a. By February 28th and August 31st of each year after the lodging of this Consent Decree, until termination of this Decree pursuant to Section XVII (Termination), U. S. Steel shall submit a semi-annual report for the preceding six months that includes:

(1) Identification of work performed and progress made toward implementing the requirements of Section V (Compliance Requirements), including a narrative description of activities undertaken, the status of any compliance measures, the completion of any milestones, and problems encountered or anticipated, together with implemented or proposed solutions;

(2) A description of the efforts, results, and achievements of the Environmental Awareness Training required by Paragraph 36;

(3) All reports, data sheets, and other information required in Paragraphs 40, 41, and 42 regarding emissions monitoring;

(4) Any changes to the Facility's Operation and Maintenance Plan made in the preceding six months, along with the justification for

any such changes.

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 the cause of the non-compliance cannot be fully explained at the time the report is due, U. S. Steel shall so state in the report. U. S. Steel shall investigate the cause of the non-compliance and shall then submit an amendment to the report, including a full explanation of the cause of the non-compliance, within 30 Days of the Day U. S. Steel becomes aware of the cause of the non-compliance. Nothing in this Paragraph or the following Paragraph relieves U. S. Steel of its obligation to provide the notice required by Section VIII (Force Majeure).

66. Whenever any violation of this Consent Decree or any other event affecting U. S. Steel's performance under this Decree, or the performance of its Facility, may pose an immediate threat to the public health or welfare or the environment, U. S. Steel shall notify EPA and ACHD orally or electronically as soon as possible, but no later than 24 hours after U. S. Steel first knew of the violation or event. This procedure is in addition to the requirements set forth in the preceding Paragraph.

67. Each report submitted by U. S. Steel under this Section shall be signed by an official of the submitting party and include the following certification:

> I certify under penalty of law 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.

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

69. The reporting requirements of this Consent Decree do not relieve U. S. Steel 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.

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

VII. STIPULATED PENALTIES

71. U. S. Steel shall be liable for stipulated penalties to the United States and ACHD for violations of this Consent Decree as specified below, unless excused under Section VIII (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.

72. Late Payment of Civil Penalty. If U. S. Steel fails to pay the civil penalty required to be paid under Section IV (Civil Penalty) when due, U. S. Steel shall pay a stipulated penalty of $1,000 per Day, per Plaintiff not fully paid, for each Day that the payment is late.

73. The following stipulated penalties shall accrue for violations of ACHD Rules and Regulations, Article XXI, §§ 2104.01 and 2105.49, at the Facility's BOP Shop, BOP Shop Scrubber Stack, and Blast Furnace Casthouses:

a. For violations that occur prior to U. S. Steel's submittal of the notices of

completion required by Paragraphs 21, 28, and 35:

Penalty Per Day of Violation	Number of Exceedances
$500	1-5 Exceedances/Day
$1,000	6-10 Exceedances/Day
$1,500	11+ Exceedances/Day

b. For violations that occur after U. S. Steel's submittal of the notices of completion required by Paragraphs 21, 28, and 35:

Penalty Per Day of Violations	Number of Exceedances
$1,500	1-5 Exceedances/Day
$3,000	6-10 Exceedances/Day
$4,500	11+ Exceedances/Day

74. Submittal of Notices, Plans, Procedures, Proposals, Protocols, Performance Tests, Reports, and Studies: The following stipulated penalties shall accrue per violation per Day for each failure to submit a notice, plan, procedure, proposal, protocol, performance test, report, or study as required by Paragraphs 15 to 21 (submittals for Casthouse Baghouse System), 22 to 28 (submittals for BOP Shop Roof Ventilation), 29 to 35 (submittals for BOP Shop Scrubber System), 46 (submittals for slag pit), 47 (submittals for SO_2 CEMS), 48 to 49 (submittals for Maintenance Practices Auditor), 52 (submittal of Maintenance Practices Auditor's report and implementation plan), and 55 (submittal of maintenance self-audit reports):

Penalty Per Violation Per Day	Period of Noncompliance
$750	1st through 14th Day
$1,500	15th through 30th Day
$3,250	31st Day and beyond

75. Implementation of Compliance Requirements. The following stipulated penalties shall accrue per violation per Day for each failure to implement a compliance requirement in

accordance with the requirements of this Consent Decree, as required by Paragraphs 15 to 21 (performance of Casthouse Baghouse System study, and implementation of approved Casthouse Baghouse improvements), 22 to 28 (performance of BOP Shop Roof Ventilation study, and implementation of approved BOP Shop ventilation improvements), 29 to 35 (performance of BOP Shop Scrubber System study, and implementation of approved BOP Shop Scrubber System improvements), 36 (implementation of Environmental Awareness Training), 37 to 39 (installation, maintenance, and use of emissions surveillance and process optimization cameras), 40 to 41 (performance of Pre-Study and Post-Study VEO Method 9 readings at the Blast Furnace Casthouses and BOP Shop except stipulated penalties shall not accrue for any Day(s) or period(s) of time in which the Facility's Blast Furnace(s), BOP Shop, BOP Shop Scrubber Stack, as applicable, is not operating), 45 to 46 (Slag Pit practices), 47 (operation and maintenance of SO_2 CEMs), 48 to 49 (hiring and cooperation with Maintenance Practices Auditor), 50 (performance of third-party Maintenances Practices Audit), 51 (completion of third-party Maintenance Practices Audit report), 53 (implementation of approved third-party maintenance practices improvements), 54 (performance of maintenance self-audits), and 56 (implementation of approved self-audit maintenance practices improvements):

Penalty Per Violation Per Day	Period of Noncompliance
$1,250	1st through 14th Day
$2,500	15th through 30th Day
$4,500	31st Day and beyond

76. Reporting and Recordkeeping Requirements. The following stipulated penalties shall accrue per violation per Day for each violation of the reporting and recordkeeping requirements identified in Paragraphs 12 (ACHD-Only SEP), 38 (maintain and provide recordings of emissions surveillance cameras), 42 (Method 9 reading reports), 43 (quarterly

reports), 64 (schedule of deadlines and deliverables), 65 (general reporting requirements), 66 (immediate threat to the public health or welfare or the environments), and 67 (compliance certifications):

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

77. Stipulated Penalties for ACHD-Only Supplemental Environmental Project.

a. Subject to subparagraph (b) below, if U. S. Steel fails to satisfactorily complete the ACHD-Only SEP set forth in Paragraph 12 and Appendix A, U. S. Steel shall pay stipulated penalties to ACHD in the following amounts for each Day after the deadline:

Penalty Per Violation Per Day	Period of Noncompliance
$1,000	1st through 14th Day
$2,000	15th through 30th Day
$4,000	31st Day and beyond

b. If U. S. Steel fails to expend the entire amount of the required expenditure for the ACHD-Only SEP but otherwise has satisfactorily completed the project, U. S. Steel shall pay a stipulated penalty equal to 100% of the difference between the required expenditure for the project and any eligible project dollar amounts expended to implement the project in accordance with Paragraph 12 and Appendix A.

78. If any approved report submitted under this Consent Decree contains a compliance schedule with interim compliance dates, stipulated penalties for deviations from interim compliance dates shall accrue but not be owed if the final compliance date is met.

Stipulated penalties 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.

79. U. S. Steel shall pay stipulated penalties to the United States and ACHD within 30 Days of a written demand by either Plaintiff. U. S. Steel shall pay 50 percent of the total stipulated penalty amount due to the United States and 50 percent to ACHD. The Plaintiff making a demand for payment of a stipulated penalty shall simultaneously send a copy of the demand to the other Plaintiff, and where ACHD is the demanding Plaintiff, ACHD shall also send notice of such stipulated penalty demand to:

a. U.S. EPA Cincinnati Finance Office, via email at CINWD_AcctsReceivable@epa.gov; and

b. EPA Region III, via email to the U.S. EPA Region III Regional Hearing Clerk at R3_Hearing_Clerk@epa.gov.

80. Either Plaintiff may in the unreviewable exercise of its discretion, reduce or waive stipulated penalties otherwise due it under this Consent Decree.

81. Stipulated penalties shall continue to accrue as provided in Paragraph 77, 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 or ACHD that is not appealed to the Court, U. S. Steel shall pay accrued penalties determined to be owing, together with interest at the rate specified in 28 U.S.C. § 1961, to the United States or ACHD within 30 Days of the effective date of the agreement or the receipt of EPA's or ACHD's decision or order.

b. If the dispute is appealed to the Court and the United States or ACHD prevails in whole or in part, U. S. Steel shall pay all accrued penalties determined by the Court to be owing, together with interest at the rate specified in 28 U.S.C. § 1961, 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, U. S. Steel shall pay all accrued penalties determined to be owing, together with interest at the rate specified in 28 U.S.C. § 1961, within 15 Days of receiving the final appellate court decision.

82. U. S. Steel 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, and U. S. Steel shall simultaneously send notice of such stipulated penalty payment to the email addresses identified in Paragraph 79.a and 79.b. U. S. Steel shall pay stipulated penalties owing to ACHD by corporate or certified check, or the like, made payable to the "Allegheny County Clean Air Fund," and sent to Air Quality Program Manager, Allegheny County Health Department, 301 39th Street, Bldg. #7, Pittsburgh, PA 15201.

83. If U. S. Steel fails to pay stipulated penalties according to the terms of this Consent Decree, U. S. Steel 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 or ACHD from seeking any remedy otherwise provided by law for U. S. Steel's failure to pay any stipulated penalties.

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

85. Non-Exclusivity of Remedy. Stipulated penalties are not the Plaintiffs' exclusive remedy for violations of this Consent Decree. Subject to the provisions of Section XI (Effect of Settlement/Reservation of Rights), the United States and ACHD expressly reserve the right to seek any other relief they deem appropriate for U. S. Steel's violation of this Decree or applicable law, including but not limited to an action against U. S. Steel 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.

VIII. FORCE MAJEURE

86. "Force majeure," for purposes of this Consent Decree, is defined as any event arising from causes beyond the control of U. S. Steel, of any entity controlled by U. S. Steel, or of U. S. Steel's contractors, that delays or prevents the performance of any obligation under this Consent Decree despite U. S. Steel's best efforts to fulfill the obligation. The requirement that U. S. Steel 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 U. S. Steel's financial inability to perform any obligation under this Consent Decree.

87. 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, U. S.

Steel shall provide written notice to EPA and ACHD within seven Days of when U. S. Steel first knew that the event might cause a delay. The notice shall include 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; U. S. Steel'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 U. S. Steel, such event may cause or contribute to an endangerment to public health, welfare or the environment. U. S. Steel 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 U. S. Steel 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. U. S. Steel shall be deemed to know of any circumstance of which U. S. Steel, any entity controlled by U. S. Steel, or U. S. Steel's contractors knew or should have known.

88. If EPA, after a reasonable opportunity for review and comment by ACHD, 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, after a reasonable opportunity for review and comment by ACHD, 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 U. S. Steel in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.

89. If EPA, after a reasonable opportunity for review and comment by ACHD, does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, EPA will notify U. S. Steel in writing of its decision.

90. If U. S. Steel elects to invoke the dispute resolution procedures set forth in Section IX (Dispute Resolution), it shall do so no later than 15 Days after receipt of EPA's notice. In any such proceeding, U. S. Steel 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 U. S. Steel complied with the requirements of Paragraphs 86 and 87. If U. S. Steel carries this burden, the delay at issue shall be deemed not to be a violation by U. S. Steel of the affected obligation of this Consent Decree identified to EPA and the Court.

IX. DISPUTE RESOLUTION

91. 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. U. S. Steel's failure to seek resolution of a dispute under this Section shall preclude U. S. Steel from raising any such issue as a defense to an action by the Plaintiffs to enforce any obligation of U. S. Steel arising under this Decree.

92. 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 U. S. Steel sends the United States and ACHD 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, U. S. Steel invokes formal dispute resolution procedures as set forth below.

93. Formal Dispute Resolution. U. S. Steel shall invoke formal dispute resolution procedures, within the time period provided in the preceding Paragraph, by sending the United States and ACHD 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 U. S. Steel's position and any supporting documentation relied upon by U. S. Steel.

94. The United States, after consultation with ACHD, will send U. S. Steel its Statement of Position within 45 Days of receipt of U. S. Steel'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 U. S. Steel, unless U. S. Steel files a motion for judicial review of the dispute in accordance with the following Paragraph.

95. Judicial Dispute Resolution. U. S. Steel 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 must be filed within 30 Days of receipt of the United States' Statement of Position pursuant to the preceding Paragraph. The motion shall contain a written statement of U. S. Steel's position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation, and shall set forth the relief requested and any schedule within which the dispute must be resolved for orderly implementation of the Consent Decree.

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

97. Standard of Review. Except as otherwise provided in this Consent Decree, in any dispute brought under Paragraph 93, U. S. Steel shall bear the burden of demonstrating that its position complies with this Consent Decree, and that U. S. Steel is entitled to relief under applicable principles of law. 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 oppose this position.

98. The invocation of dispute resolution procedures under this Section shall not, by itself, extend, postpone, or affect in any way any obligation of U. S. Steel 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 81. If U. S. Steel does not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section VII (Stipulated Penalties).

X. INFORMATION COLLECTION AND RETENTION

99. The United States, ACHD, and their 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 or ACHD in accordance with the terms of this Consent Decree;

c. obtain samples and, upon request, splits of any samples taken by U. S. Steel or its representatives, contractors, or consultants;

d. obtain documentary evidence, including photographs and similar data; and

e. assess U. S. Steel's compliance with this Consent Decree.

100. Until five years after the termination of this Consent Decree, U. S. Steel 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 U. S. Steel'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 or ACHD, U. S. Steel shall provide copies of any documents, records, or other information required to be maintained under this Paragraph.

101. At the conclusion of the information-retention period provided in the preceding Paragraph, U. S. Steel shall notify the United States and ACHD 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 or ACHD, U. S. Steel shall deliver any such documents, records, or other information to EPA or ACHD. U. S. Steel 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 U. S. Steel 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 U. S. Steel. 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.

102. U. S. Steel 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 U. S. Steel seeks to protect as CBI, U. S. Steel shall follow the procedures set forth in 40 C.F.R. Part 2.

103. 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 or ACHD pursuant to applicable federal or state laws, regulations, or permits, nor does it limit or affect any duty or obligation of U. S. Steel to maintain documents, records, or other information imposed by applicable federal or state laws, regulations, or permits.

XI. EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS

104. This Consent Decree resolves the civil claims of the United States and ACHD for the violations alleged in the Complaint filed in this action, and those alleged in EPA's November 9, 2017 NOV No. CAA-III-18-0002; ACHD's Notices of Violation Nos. 160402, 160802, 161204, and 171101; ACHD's Administrative Order No. 180706; alleged observed visible emission exceedances of Article XXI § 2104.01.a on August 22, 2017 and February 26, 2021; and U. S. Steel self-reported deviations of Article XXI § 2104.01.a regarding the Blast Furnaces, BOP Shop Roof Monitor, and BOP Shop Scrubber Stacks, through the date of lodging.

105. The United States and ACHD reserve 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 or ACHD to obtain penalties or injunctive relief under the Act or implementing regulations, or under other federal or state laws, regulations, or permit conditions, except as expressly specified in Paragraph 104. The United States and ACHD further reserve all legal and equitable remedies to address any imminent and substantial endangerment to the public health or welfare or the environment arising at, or posed by, U. S. Steel's Facility, whether related to the violations addressed in this Consent Decree or otherwise.

106. In any subsequent administrative or judicial proceeding initiated by the United States or ACHD for injunctive relief, civil penalties, other appropriate relief relating to the Facility, U. S. Steel 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 or ACHD 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 104.

107. This Consent Decree is not a permit, or a modification of any permit, under any federal, State, or local laws or regulations. U. S. Steel is responsible for achieving and maintaining complete compliance with all applicable federal, State, and local laws, regulations, and permits; and U. S. Steel'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 and ACHD do not, by their consent to the entry of this Consent Decree, warrant or aver in any manner that U. S. Steel's compliance with any aspect of this Consent

Decree will result in compliance with provisions of the Act, or with any other provisions of federal, State, or local laws, regulations, or permits.

108. This Consent Decree does not limit or affect the rights of U. S. Steel or of the United States or ACHD 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 U. S. Steel, except as otherwise provided by law.

109. 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.

XII. COSTS

110. The Parties shall bear their own costs of this action, including attorneys' fees, except that the United States and ACHD 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 U. S. Steel.

XIII. NOTICES

111. 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 # 90-5-2-1-12083
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 # 90-5-2-1-12083
As to EPA by email:	R3_ORC_Mailbox@epa.gov and

	Augustine.Bruce@epa.gov Re: *U.S. et al. v. U. S. Steel Corporation* (W.D. Pa.)
As to ACHD by email (preferred):	AQReports@AlleghenyCounty.US
As to ACHD by mail:	Air Quality Program Manager Allegheny County Health Department 301 39th Street, Bldg. #7 Pittsburgh, PA 15201-1811
As to U. S. Steel:	Environmental Director Mon Valley Works United States Steel Corporation Clairton Plant – MS 71 400 State Street Clairton, PA 15025 and United States Steel Corporation Assistant General Counsel – Environmental 600 Grant Street – Suite 1844 Pittsburgh, PA 15219

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

113. 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.

XIV. EFFECTIVE DATE

114. 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.

XV. RETENTION OF JURISDICTION

115. 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 IX (Dispute Resolution) and XVI (Modification), or effectuating or enforcing compliance with the terms of this Decree.

XVI. MODIFICATION

116. 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.

117. Any disputes concerning modification of this Decree shall be resolved pursuant to Section IX (Dispute Resolution), provided, however, that instead of the burden of proof provided by Paragraph 97, the Party seeking the modification bears the burden of demonstrating that it is entitled to the requested modification in accordance with Federal Rule of Civil Procedure 60(b).

XVII. TERMINATION

118. After U. S. Steel has completed the requirements of Section V (Compliance Requirements), has thereafter maintained satisfactory compliance with this Consent Decree for a period of 24 months, and has paid the civil penalty and any accrued stipulated penalties as required by this Consent Decree, U. S. Steel may serve upon the United States and ACHD a Request for Termination, stating that U. S. Steel has satisfied those requirements, together with all necessary supporting documentation.

119. Following receipt by the United States and ACHD of U. S. Steel's Request for Termination, the Parties shall confer informally concerning the Request and any disagreement

that the Parties may have as to whether U. S. Steel has satisfactorily complied with the requirements for termination of this Consent Decree. If the United States after consultation with ACHD agrees that the Decree may be terminated, the Parties shall submit, for the Court's approval, a joint stipulation terminating the Decree.

120. If the United States after consultation with ACHD does not agree that the Decree may be terminated, U. S. Steel may invoke Dispute Resolution under Section IX (Dispute Resolution). However, U. S. Steel shall not seek Dispute Resolution of any dispute regarding termination until 45 Days after service of its Request for Termination.

XVIII. PUBLIC PARTICIPATION

121. 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. U. S. Steel 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 U. S. Steel in writing that it no longer supports entry of the Decree.

XIX. SIGNATORIES/SERVICE

122. Each undersigned representative of U. S. Steel and ACHD, and the Assistant Attorney General for the Environment and Natural Resources Division of the Department of Justice 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.

123. This Consent Decree may be signed in counterparts, and its validity shall not be challenged on that basis. U. S. Steel 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. U. S. Steel need not file an answer to the complaint in this action unless or until the Court expressly declines to enter this Consent Decree.

XX. INTEGRATION

124. This Consent Decree constitutes the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in the Decree and supersedes all prior agreements and understandings, whether oral or written, concerning the settlement embodied herein. Other than deliverables that are subsequently submitted and approved pursuant to this Decree, the Parties acknowledge that there are no representations, agreements, or understandings relating to the settlement other than those expressly contained in this Consent Decree.

XXI. FINAL JUDGMENT

125. 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, ACHD, and U. S. Steel.

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

126. 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. § 162-21(b)(2)(iii)(A), performance of:

a. Section II (Applicability), Paragraph 5;

b. Section V (Compliance Requirements), Paragraphs 15 to 58 and 63;

c. Section VI (Reporting Requirements), Paragraphs 64, 65, and 67; and

d. Section X (Information Collection and Retention), Paragraphs 99 to 101,

is restitution, remediation, or required to come into compliance with law.

APPENDICES

127. The following Appendices are attached to and part of this Consent Decree:

"Appendix A" is the ACHD-Only SEP;

"Appendix B" is the Facility's existing O&M Plan;

"Appendix C" is the template for the schedule of deliverables required under Paragraph 64.

Dated and entered this __ day of _____, 20__

_____
UNITED STATES DISTRICT JUDGE

FOR THE UNITED STATES OF AMERICA:

5/5/22
Date

NATHANIEL DOUGLAS
Deputy Section Chief
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice

Devon Ahearn
Jason A. Dunn
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice

FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE:

LAWRENCE STARFIELD

Digitally signed by LAWRENCE STARFIELD
Date: 2022.05.11 16:26:33 -04'00'

Lawrence E. Starfield
Acting Assistant Administrator
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue
Washington, D.C. 20460

FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY REGION III:

5/2/22
Date

ADAM ORTIZ Digitally signed by ADAM ORTIZ Date: 2022.05.02 11:47:43 -04'00'

Adam Ortiz
Regional Administrator
U.S. Environmental Protection Agency, Region III

4/26/22
Date

DONNA MASTRO Digitally signed by DONNA MASTRO Date: 2022.04.26 15:26:32 -04'00'

Donna Mastro
Acting Regional Counsel
U.S. Environmental Protection Agency, Region III

4/26/22
Date

DANIEL BOEHMCKE Digitally signed by DANIEL BOEHMCKE Date: 2022.04.26 15:22:44 -04'00'

Daniel Boehmcke
Assistant Regional Counsel
U.S. Environmental Protection Agency, Region III
Office of Regional Counsel

FOR THE ALLEGHENY COUNTY HEALTH DEPARTMENT:

4/26/2022
Date

Dean DeLuca
Air Quality Program Manager

4/26/2022
Date

Jason K. Willis
Solicitor

FOR UNITED STATES STEEL CORPORATION:

4/5/2022
Date

Kurt Barshick
General Manager
United States Steel – Mon Valley Works

4/5/2022
Date

David W. Hacker
Senior Counsel

APPENDIX A

ACHD-ONLY SUPPLEMENTAL ENVIRONMENTAL PROJECT

U. S. Steel shall comply with the requirements of this Appendix in fulfilling its obligations under Paragraph 12 with regard to the ACHD-Only SEP.

The Westmoreland Heritage Trail to Great Allegheny Passage Trail Connector Project. U. S. Steel shall provide $750,000 in funding to the Allegheny County Department of Economic Development in support of the creation of a multimodal connection that links the Great Allegheny Passage ("GAP") in Rankin Borough to the Westmoreland Heritage Trail ("WHT") in Trafford Borough through the Turtle Creek Valley. The purpose of the project will be to provide funding for a multimodal connection to communities near U. S. Steel Edgar Thomson Plant (namely Rankin, Braddock, North Braddock, East Pittsburgh, Turtle Creek, Wilmerding, Monroeville, Pitcairn, and Trafford, North Versailles, East McKeesport, and Wall) and that the funding would go towards providing a link from the GAP in Rankin Borough to the WHT in Trafford Borough through the Turtle Creek Valley.

APPENDIX B

FACILITY O&M PLAN

United States Steel Corporation
Edgar Thomson Works

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40 CFR Subpart FFFFF
National Emission Standard for Hazardous Air Pollutants
For Integrated Iron and Steel Manufacturing Facilities

Revision 13
March 20, 2022

- **Operation and Maintenance Plan**
- **Site-Specific Monitoring Plan**

Applicable to the following:

- **Processes:**
  - **#1 and #3 Blast Furnace Emissions System**
  - **"F" and "R" BOP Furnaces Emissions System**
  - **BOP Fugitive Emissions System**
  - **LMF Emissions System**
  - **Mixer Emissions System**

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PART I.

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A. Introduction

1.0 Background

National Emissions Standards for Hazardous Air Pollutants for Integrated Iron and Steel Manufacturing were promulgated under 40 CFR 63 Subpart FFFFF on May 20, 2003. The standards specify the following processes at the Edgar Thomson Plant as affected facilities under 40 CFR 63 Subpart FFFFF:

- blast furnaces
- basic oxygen process furnaces (BOPFs)

The standards address emissions from each of the following emission sources at the Edgar Thomson Plant:

- Blast Furnace #1 Casthouse and Blast Furnace #3 Casthouse Emissions System
- Basic oxygen process furnaces (BOPFs)
- BOPF shop hot metal transfer
- BOFP shop hot metal desulfurization
- BOPF shop hot metal slag skimming
- BOPF shop ladle metallurgy

2.0 Purpose

The purpose of this document is to describe operations and maintenance, and monitoring processes and procedures to conform with the requirements of 40 CFR 63 Subparts A and FFFFF, that require the development and implementation of the following plans:

- Operation and maintenance plan
- Site-specific monitoring plan

3.0 Applicability

3.1(a) Operation and Maintenance Plan

40 CFR 63.7800(b) requires that a written Operation and Maintenance plan be developed and implemented for each capture system and control device subject to an operating limit specified in 40 CFR 63.7790(b)*:

- Blast furnace casthouse particulate emission capture systems
- BOPF secondary particulate emission capture systems
- BOPF venturi scrubber primary particulate emission control systems

* For purposes of this plan, “emission capture system” includes emission capture hoods, ductwork, dampers and fans important to the efficient collection and transport of particulate emissions to a particulate emission control device. The particulate emission control device is not part of the particulate emission capture system. (See attached letter from USEPA.)

3.1(b) Site-Specific Monitoring Plan

40 CFR 63.7831(a) requires that a Site-Specific Monitoring Plan be developed and implemented for each Continuous Parametric Monitoring System (CPMS) required in 40 CFR 63.7830. Therefore, each CPMS associated with each particulate emission capture system and each particulate emission control device required to have an Operation and Maintenance Plan, listed in 1.0 above, is also required to have a Site-Specific Monitoring Plan.

4.0 Letter from Environmental Protection Agency

Mulrine.Phil@epamail.epa.gov
06/20/2005 04:20 PM

To William S Kubiak <WSKubiak@uss.com>
cc Fruh.Steve@epamail.epa.gov
bcc
Subject Re: Clarification of I&S MACT Requirements

Bill,
I agree with your interpretation of the integrated iron & steel standard operating limit requirements. Let me know if you have any other questions.

Phil

William S Kubiak <WSKubiak@uss.com>
06/17/2005 10:44 AM

To Phil Mulrine/RTP/USEPA/US@EPA
cc Steve Fruh/RTP/USEPA/US@EPA
Subject Clarification of I&S MACT Requirements

Phil,

I appreciate your taking time to go over the operating limit requirements with me.

Just to confirm our discussion, I understand operating limits to apply as follows:

1. Capture systems associated with the sinter windbox, BOP hot metal transfer, BOP hot metal desulfurization, BOP hot metal slag skimming and BOP ladle metallurgy are not required to establish operating limits for volumetric flow rate, fan amps, static pressure or damper positions.

2. Since the capture systems listed in No. 1 above are not required to establish operating limits, they are also not required to be included in any written Operation and Maintenance Plan required by 63.7800(b).

B. No. 1 Blast Furnace Casthouse and No. 3 Blast Furnace Casthouse Emissions Systems

1.1 Description of Capture System During Production

1.2 Operation and Maintenance Plan

1.3 Site-Specific Monitoring Plan

1.4 Plan Maintenance, Record Keeping and Reporting

1.1 Description of Capture System During Production

The Blast Furnace Baghouse collects the fugitive emissions from the number one and number three blast furnace cast houses via ducts that are located in front of each furnace tap hole. These fugitive emissions are directed toward the ductwork by the operation of an air curtain. From the hood and ductwork, the induced draft fans convey the emissions to a four (4) module Wheelabrator positive pressure pulse jet type baghouse. The gas stream is cleaned by impinging particulate matter on the outside of the filter media.

The bags in each module are periodically cleaned by means of high pressure air directed through a venturi mounted at the top of each individual bag. The dust, after being loosened from the bag exterior, falls into the module hopper.

1.2 Operation and Maintenance Plans

1.2.1 Scope

The following particulate emission capture systems and particulate emission control devices are covered by this plan:

- Particulate emission capture systems
  - #1 Blast Furnace Casthouse and #3 Blast Furnace Casthouse Emissions Capture System

- Particulate emission control devices
  - #1 Blast Furnace Casthouse and #3 Blast Furnace Casthouse Baghouse

1.2.2 Equipment inspection of capture systems for #1 and #3 Blast Furnace Baghouse (63.7800(b)(1))

(a.) Equipment to be inspected:

Equipment	Inspecting Frequency	Inspecting Department	Regulatory Citation
Ductwork to Isolation Dampers (external)	Monthly	BF Maintenance	63.7800(b)(1)
Air Curtain System Integrity	Monthly	BF Maintenance	63.7800(b)(1)

Emission Gas Lances	Monthly	BF Maintenance	63.7800(b)(1)
Emission Hood	Monthly	BF Maintenance	63.7800(b)(1)
External Ductwork from Isolation Damper	Monthly	Utilities	63.7800(b)(1)
Isolation Damper and Actuator	Monthly	Utilities	63.7800(b)(1)
Baghouse Fans Integrity	Monthly	Utilities	63.7800(b)(1)

(b.) All deficiencies found during inspections listed in the above table such as holes, corrosion, deformation, broken drives or belts or any other conditions affecting performance will be recorded on existing inspection forms. Corrective action will be completed before the next scheduled inspection.

1.2.3 Preventative Maintenance of Control Devices #1 Blast Furnace Casthouse and #3 Blast Furnace Casthouse Baghouse (63.7800.(b)(2))

(a.) This preventative maintenance schedule below is consistent with good operating practice for routine or long term maintenance.

Task to be performed	**Performed By:**	**Frequency**
Confirm proper operation of automatic fan bearing lubrication system	Gas washer operator	Monthly
Lubricate motor bearings	Gas washer operator	Semi-annually
Lubricate hopper conveyor motors	Gas washer operator	Semi-annually
Lubricate conveyors	Gas washer operator	Monthly
Vibration testing	Vibration analyst	Monthly
Thermography readings	Utilities Mtce or designee	Semi-annual
Calibrate key environmental instruments		Per Manufacturer's recommendation

1.2.4 Operating Limits for #1 Blast Furnace Casthouse and #3 Blast Furnace Casthouse Baghouse (63.7800(b)(3))

Operating Parameter	Monitoring Method	Averaging Frequency	Parameter Values	Regulatory Citation
Fan amps	Current Transducer	Hourly	≥568 amps for compartments in operation	63.7800(b)(3)
Damper Position	Position Feedback Transmitter	N/A	Appendix A	63.7800(b)(3)

(a.) Description of capture system design and capture system in operation during production will be maintained in Appendix A. (63.7800(b)(3)(iii))

(b.) Rationale for why the parameter was chosen will be maintained in the Site-Specific Monitoring Plan. (63.7800(b)(3)(iii))

(c.) Description of each selected operating limit parameter is shown in the above table in 1.2.4. (63.7800(b)(3)(iii))

(d.) Description of the method used to monitor parameters is shown in the above Table in 1.2.4. (63.7800(b)(3)(iii))

(e.) Data used to set the value or settings for fan amps will be maintained in the Environmental Control Department files. (63.7800(b)(3)(iii))

1.2.5 Bag Leak Detectors (63.7800(b)(4))

The Wheelabrator baghouse used for the capture of emissions from the blast furnace casthouses is a positive pressure type baghouse and is not required by this regulation to have bag leak detectors. (63.7830(b)(3)(i) and (ii))

1.3 Site-Specific Monitoring Plan

1.3.1 Scope

The following continuous parametric monitoring systems (CPMS) are covered by this plan:

- #1 Blast Furnace Casthouse and #3 Blast Furnace Casthouse Baghouse fan amp
- #1 Blast Furnace Casthouse and #3 Blast Furnace Casthouse Baghouse damper actuator position

1.3.2 Plan Elements

(a.) For each CPMS, a site-specific monitoring plan must be incorporated and made available to the permitting authorities for each of the items prescribed as follows:

Measuring System	Monitoring Method	Averaging Frequency	Regulatory Citation
Fan amps	Current Transducer	Hourly	63.7831(a)
Damper Position	Position Feedback Transmitter	N/A	63.7831(a)

(b.) Documentation that each CPMS that sample probes and other interfaces are installed and located such that measurements are representative is maintained in PI and Engineering and/or Utilities Department files. (63.7831(a)(1))

(c.) Documentation of performance evaluation procedures and calibrations will be maintained in Environmental and/or Utilities Department files. (63.7831(a)(3))

(d.) Documentation of ongoing operation and maintenance procedures in accordance with the general requirements of 63.8(c)(1),(c)(3),(c)(4)(ii), (c)(7) and (c)(8) will be maintained in the Utilities Department files. (63.7831(a)(4))

(e.) Documentation for each CPMS will be maintained in Appendix B. (63.7831(a)(2))

(f.) Documentation for each CPMS that ongoing data QA procedures are consistent with 40 CFR 63.8(d). (Not applicable to this process) (63.7831(a)(5))

(g.) Documentation for each CPMS that ongoing record keeping and reporting procedures are consistent with the general requirements of 40 CFR 63.10(c), (e)(1) and (e)(2)(i) will be maintained in the PI monitoring system Environmental Control Department and appropriate operating department files. (63.7831(a)(6))

1.3.3 Rationale for Measuring System Selection

(a.) Monitoring of fan amperage provides an indication of flow rate, volume and pressure in the capture system.

(b.) Monitoring damper position provides an indication of flow from the capture system to the capture device.

1.3.4 Inspections Specific to Baghouses

Baghouse Equipment	Inspection Frequency	Monitoring Method	Regulatory Citation
Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating (5-16 in water column). If outside of the range, initiate corrective action	Daily	Visual	63.7830(b)(4)
Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.	Weekly	Visual	63.7830(b)(4)
Check the compressed air supply for pulse-jet baghouses.	Daily	Visual	63.7830(b)(4)
Monitor cleaning cycles to ensure proper operation using an appropriate methodology.	Daily	Visual	63.7830(b)(4)
Check bag cleaning mechanisms for proper functioning using an appropriate methodology.	Monthly	Visual	63.7830(b)(4)
Confirm the physical integrity of the baghouse through visual inspections of the baghouse interior for air leaks.	Quarterly	Visual	63.7830(b)(4)
Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors or equivalent means.	Quarterly	Vibration Analysis	63.7830(b)(4)

1.4 Plan Maintenance, Recordkeeping and Reporting

1.4.1 Initial Plan Requirements

- The Operation and Maintenance Plan and Site-Specific Monitoring Plan was developed and implemented prior to May 22, 2006.
- Failure to meet any condition in a plan is a deviation and must be reported as such in the periodic deviation report.

1.4.2 Plan Revisions

- Plans may be revised at any time provided you notify your permitting agency that you have done so in the next periodic Title V compliance certification.

1.4.3 Record Keeping

- You must keep all current plans, superseded plans and all information necessary to demonstrate that you have complied with each plan requirement on-site for a period of at least 5 years. The first three years the information must be kept on-site and the last two years information can be stored off-site.

Appendix A:

Operational Description of No. 1 Blast Furnace Casthouse and No. 3 Blast Furnace Casthouse Emissions System

1.0 INTRODUCTION

This document is intended to describe the casthouse emission system equipment and operation for the Nos. 1 and 3 Blast Furnaces at the Edgar Thomson Plant.

2.0 SYSTEM OVERVIEW

The system is divided into the collection system and the control system. The collection system consists of trough hoods located over the iron notch, iron and slag trough at both blast furnaces, air curtain systems utilized to help contain the fumes within the hoods at both blast furnaces, collection ductwork at each furnace and butterfly type isolation dampers for each furnace.

The control system consists of a central baghouse that controls emissions from both the No. 1 and No. 3 blast furnace casthouses. The baghouse consists of four (4) positive pressure compartments, each with its own separate fan and 250 HP motor.

Each compartment fan is equipped with an inlet and outlet isolation damper. The inlet damper is a simple mechanical blank off plate. The outlet damper is electrically operated to control fan motor current under normal operating conditions.

The main fans channel the dust laden casting emissions through the compartment filter bags and the cleaned air is passed out into the atmosphere. The dust and debris that accumulates on the outside of the bags are cleared by periodic cleaning to maintain adequate air flow.

To insure maximum airflow to the baghouse while both Blast Furnaces are casting, off-line compartment cleaning will not be allowed.

There are five modes of operation for compartment cleaning. They are: **Differential Pressure, Continuous**, **Manual**, **High Differential Pressure**, and **Off**. The method of cleaning each module is accomplished by pulsing the filter bags with compressed air through solenoid-operated valves. Each module contains 30 solenoids, which will be energized in alternating pairs.

For the cleaning of the modules the baghouse uses the plant air supply and at times the drill air compressor is used for higher pressure cleaning. The introduction of the compressed air into the filter bag dislodges the accumulated dust so it can fall into a hopper at the bottom of each compartment. Once the dust is at the bottom of the hopper, a continuously operated screw conveyor directs the dust and debris into four dustbins located directly below each

hopper screw conveyor. The individual dustbins are visually checked periodically and emptied upon operator discretion.

3.0 DAMPER CONTROL

The baghouse configuration consists of furnace isolation dampers and fan outlet dampers. The furnace isolation dampers are used to shut off air flow or allow air flow from the respective furnace. The fan outlet dampers are used to control fan amps and to cut the air flow during module cleaning. The baghouse processor will keep the fan outlet dampers and isolation dampers closed when neither furnace is casting. The “Cast”, “No Cast” signals work off of the operation of the “Cast Switch” located in each cast house control room and the drill.

When a furnace goes to Cast the associated isolation damper will open for that furnace. When one of the dampers opens all dampers of running fans will open as well, controlling the fan amps to a predetermined set point.

When No. 1 furnace goes to cast and No. 3 furnace is already casting, the damper for No. 3 furnace will close to the pre-selected setpoint to allow only partial air flow. Once No.1 furnace has been on line for 10 minutes the damper for number 3 furnace will then be reopened all the way. This procedure was added to direct the maximum collection volume to trough hood during the drill-out and initial tap when emissions are typically the greatest.

The baghouse operator will have a maintenance mode of control of the furnace isolation dampers if a furnace is in a ‘no cast’ state. If a furnace is off cast, the bag house operator will have the ability to open the isolation damper to any position desired. However, if the damper is open more than 40 percent while the other furnace is casting all off-line cleaning will be suspended.

The fan outlet dampers are controlled by digital outputs from the control processor to open or close each damper. The process controller will control module fan amps by positioning the modules damper. The modules final amps will be with in 20 amps of the setpoint provided that the module can achieve the setpoint without the damper being opened a hundred percent. The control processor also controls the damper for clean. When the module goes into a cleaning cycle the processor will close the damper to allow for maximum cleaning of the bags.

4.0 MACT ALARMS

The following alarms are considered MACT alarms and require the reaction of the appropriate personnel.

Total Baghouse Low Amps
Cast House No. 1 Isolation Damper Open Failure
Cast House No. 1 Isolation Damper Close Failure
Cast House No. 3 Isolation Damper Open Failure
Cast House No. 3 Isolation Damper Close Failure

These alarms will be annunciated in the Gas Washer Control Room, both furnace mud gun rooms and each furnace's command center.

The trigger points for the Low Amperage Alarms will be set at the time of the compliance test.

Only the personnel in the gas washer control room can acknowledge the alarm. This person is also responsible for initiating the appropriate procedure to determine the cause of the alarm and initiate corrective action. The alarm in the other two areas is to ensure that the presence of an alarm condition is known and to ensure that the personnel in these areas notify the gas washer personnel of an unacknowledged alarm.

5.0 MONITORING

The following parameters will be monitored by the local instrumentation coupled to the local PLC and the instantaneous readings will be electronically transferred to the PI monitoring system. Alarms will be provided when a parameter is out of a preset range or minimum setpoint.

Individual compartment pressure drop
Total baghouse fan amperage
Furnace isolation damper positions
Cleaning air pressure

Local instrumentation for measuring pressures are typically pressure transmitters while fan amps are measured by current transducers. Damper positions are measured using limit switches. All of the local instrumentation is connected to a PLC which is in turn networked into the PI system.

All MACT alarms and their time of acknowledgement will be on the PI monitoring system.

Pressure drop and fan amperage will be averaged on an hourly basis with the hour being an hour of operation, not necessarily a clock hour.

Cleaning air pressure has a minimum hourly alarm setpoint.

Appendix B:

CPMS Documentation

- Ohio Semitronics, Inc. Single-Phase AC Current Transducer Installation and Operating Instructions.

- Kerry Actuators

♣ KERRY ACTUATOR ♣

OPERATION

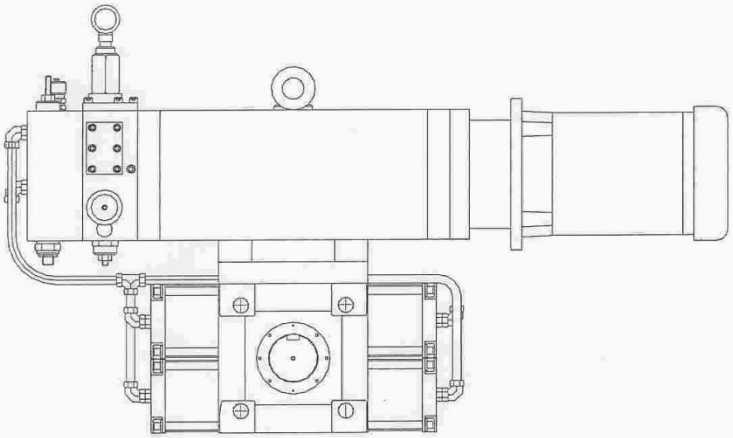
AND

MAINTENANCE

MANUAL

FOR

USS CORP.
ET WORKS
BRADDOCK, PA 15104
CUSTOMER PO#: 00560342
DATE ORDERED: 1/3/06
DATE REQUIRED: 1/28/06
KERRY NUMBER: 1012890



♣ THE KERRY COMPANY INC. ♣
P.O. BOX 51
3003 WILDWOOD SAMPLE ROAD
ALLISON PARK, PA 15101
PHONE: 412-486-3388
FAX: 412-486-7449

1

GENERAL SPECIFICATIONS

SERIES:	KRE-25000
ROTATION:	90 DEGREES
TORQUE CW:	2080 FT-LBS
PRESSURE CW:	2500 PSI
TORQUE CCW:	2080 FT-LBS
PRESSURE CCW:	2500 PSI
SPEED CW:	7.5 DEGREES/SEC
TOTAL TIME CW:	12 SECONDS
SPEED CCW:	7.5 DEGREES/SEC
TOTAL TIME CCW:	12 SECONDS
SHAFT TYPE:	2 1/4" BORE WITH 9/16" SQ. KEY
MOUNTING:	FRONT FLANGE
MOTOR:	1 HP: 1725 RPM: 230/460/3/60: 56C FRAME.
HYDRAULIC FLUID:	76 UNAX AW-WR32
ATTITUDE OF ACTUATOR:	HORIZONTAL
STANDARD FEATURES:	TWO ADJUSTABLE PRESSURE CONTROLS TWO ADJUSTABLE SPEED CONTROLS TWO PILOT OPERATED CHECK VALVES TWO LOAD HOLDING CHECK VALVES TWO PRESSURE TEST TAPS TWO SUCTION CHECK VALVES BI-ROTATIONAL GEAR PUMP SEALED CAPTIVE AIR RESERVOIR CHROME PLATED THRUST ROD
SPECIAL FEATURES:	ONE ROTARY TRANSMITTER 4-20 mA WITH 4 SPDT LIMIT SWITCHES (TRANSMITTER CALIBRATED FOR A 4-20 mA OUTPUT IN THE CLOCKWISE DIRECTION OF ROTATION AS DEFINED BY THE OUTPUT SHAFT OF THE ACTUATOR.) ONE MANUAL PUMP SYSTEM

MCT5 SINGLE PHASE AC CURRENT TRANSDUCER

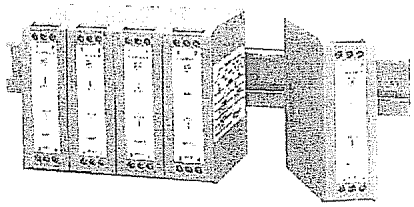
DIN RAIL MOUNTED AC CURRENT TRANSDUCER
0.25% ACCURACY

FEATURES

- Ruggedized Polyamide DIN mount case.
- Slim profile allows maximum use of available space.
- Field selectable analog outputs.
- Recessed terminals provide increased safety.

APPLICATIONS

- Ideal for use in enclosures with dimensional constraints.
- Designed for industrial environments.
- OEM measurement systems.
- Designed for use with **OSI** current transformers.
- Easily integrated into control systems.



Transducer output is derived from the average absolute value of the input and calibrated as the RMS value of a sine wave input.

*Models are self-powered from measured AC input line with **DIP switch selectable 0-1mA, 0-5Vdc, or 0-10Vdc output.**
**Denotes 4-20mA loop-powered unit, (15-40Vdc).
All other units require 85-135 Vac instrument power.

INPUT	STANDARD OUTPUTS MODEL MCT5-		
AC AMPS	0-1mAdc*	4-20mAdc	4-20mAdc**
0 to 1.0	001A	001E	001E2
0 to 5.0	005A	005E	005E2

ORDERING INFORMATION

Example: 0-5A Input with 4-20mA Output.
MCT5 - 005E

5 YEAR WARRANTY

c UL us LISTED

Measuring Equipment 7N93

SPECIFICATIONS

INPUT
- Current ..... See Table
- Frequency Range ..... 48 to 65Hz.;60Hz. Nom.
- Burden ..... 1 Amp models 0.05VA
  5 Amp models 0.175VA
- Current Overload
  - 2 X F.S. rating ..... (continuous)
  - 10 X F.S. rating ..... (10Sec./Hr.)
- Dielectric Test...(Input/Output) 1500Vac

OUTPUT
- Ripple ..... < 1.0% F.S.
- Response ..... (99%) ..... 400 milliseconds
- Field Adjustable Span ..... ± 5%

OUTPUT LOADING (Ohms)
- 4-20mA 0-500
- 4-20mA ..... (24V Loop Power) 0-600
- 0-1mA 0-10k
- 0-5Vdc ..... > 5M
- 0-10Vdc ..... > 10M

ACCURACY ..... ±0.25% F.S.@ 60Hz
Includes effects of linearity and setpoint.
- Temperature Effect ..... (-20°C to +65°C) ..... ± 1.0%
- E Output ..... (-20°C to +40°C) ..... ± 1.0%
- Instrument Power ..... 85-135Vac, 50-60Hz. ,3VA
  Loop Powered 15-40Vdc
- Termination ..... Wire size 22 to 12 AWG
- Net Weight ..... 0.4 Lb.

CONNECTION DIAGRAMS AND DIMENSIONS SHOWN ON NEXT PAGE

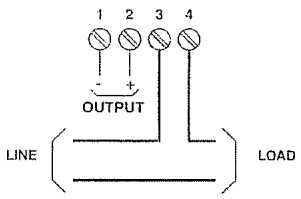
(Consult factory for availability of DIN rail)

OHIO SEMITRONICS, INC.
4242 REYNOLDS DRIVE * HILLIARD, OHIO * 43026-1264
PHONE: (614) 777-1005 * FAX: (614) 777-4511
WWW.OHIOSEMITRONICS.COM * 1-800-537-6732

040404

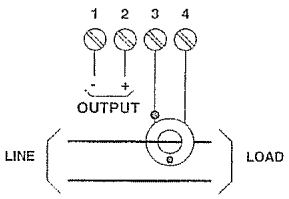
CONNECTION DIAGRAMS — MODEL MCT5-

Direct Connection



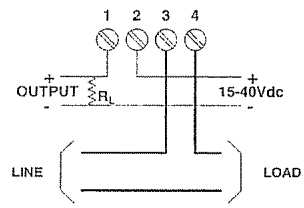
Self-Powered Models, MCT5-***A

External Current Transformers



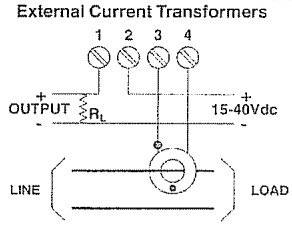
Self-Powered Models, MCT5-***A

Direct Connection



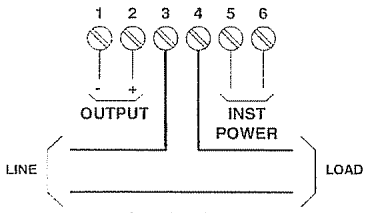
Loop-Powered Models, MCT5-***E2

External Current Transformers



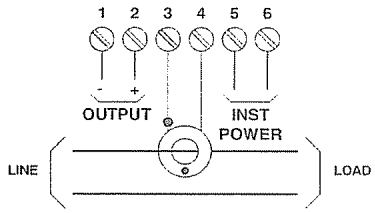
Loop-Powered Models, MCT5-***E2

Direct Connection



4-20mA Output Models, MCT5-***E

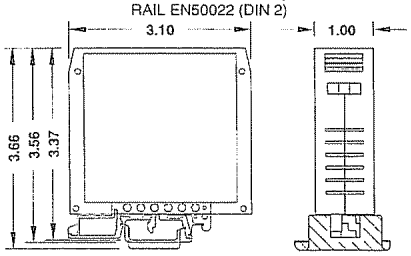
External Current Transformers



4-20mA Output Models, MCT5-***E

CASE DIMENSIONS

UNIT CAN BE MOUNTED ON:
RAIL EN50035 (DIN 1)
RAIL EN50022 (DIN 2)

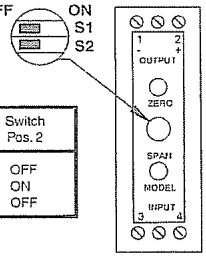


All Dimensions in Inches

OUTPUT SELECTION MCT5-***A

UNITS ARE SHIPPED WITH 0-1mA SETTING

REMOVE SNAP BUTTON FOR ACCESS TO DIP SWITCHES



Output Required	Switch Pos. 1	Switch Pos. 2
0-1mA	OFF	OFF
0-5V	ON	ON
0-10V	ON	OFF

OHIO SEMITRONICS, INC.
4242 REYNOLDS DRIVE * HILLIARD, OHIO * 43026-1264
PHONE: (614) 777-1005 * FAX: (614) 777-4511
WWW.OHIOSEMITRONICS.COM * 1-800-537-6732

040404

UNIVERSAL SINGLE-PHASE AC CURRENT TRANSDUCER AND METER

INSTALLATION INSTRUCTIONS

1. Installation should be performed by qualified electricians only!
2. Make sure electrical service is disconnected before making any electrical connections.
3. Branch circuit protection is required to be provided in accordance with the National and Local codes of the inspection authority.
4. Route wires as required and secure to terminals per connection diagram on this sheet and on the unit.

OPERATING INSTRUCTIONS

1. This unit is intended for indoor use at altitudes up to 2000 meters.
2. Transient overvoltages according to Installation Category (overvoltage category)II, pollution Degree 2.
3. The output signal is intended to be "Not accessible to the user." To prevent contact with live circuits, the transducer is required to be mounted in an enclosure that requires the use of a tool for access.
4. If cleaning of the exterior surface is necessary, de-energize all services of supply (both measuring and instrument power circuits) and brush with a soft brush or blow off with low pressure air. Use appropriate eye protection. Not suitable for hose-down cleaning.
5. Maximum relative humidity 80 percent for temperatures up to 31°C decreasing linearly to 50 percent relative humidity at 40°C.
6. Maximum operating temperature range is -20°C to 65°C (-20°C to 40°C for "E" suffix models).

WARRANTY STATEMENT

Ohio Semitronics, warrants this unit to be free of defects in material and workmanship for a period of five years from date of shipment. This unit must not be used in any manner other than as specified in this document.

OHIO SEMITRONICS, INC.
4242 REYNOLDS DRIVE • HILLIARD, OHIO • 43026-1264
PHONE: (614) 777-1005 • FAX: (614) 777-4511
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Appendix C:

Definitions

Control Device:	A mechanical device with integral filter media located at the end of the Capture System that entraps or entrains the fumes, dust and other non-gaseous pollutants generated by the Blast Furnace under normal operating conditions.
Capture System:	That equipment or devices including but not limited to hoods, air curtains, fans, ductwork and dampers used to capture and convey emissions generated by the Blast Furnace to the Capture Device. The physical limits of the Capture System extend from the Blast Furnace troughs to the inlet flange of the Capture Device.
ESS:	*Environmental Software System utilized to track, report and document environmental requirements.*
PI	A computer based process parameter monitoring system.
Primary Emissions	Particulate matter emissions from the basic oxygen process furnace generated during the steel production cycle which are captured and treated in the furnace's primary emission control system.
Secondary Emissions	Particulate matter emissions that are not controlled by a primary emission control system, including emissions that escape from open and closed hoods, lance hole openings and gaps or tears in ductwork to the primary emission control system.
Shutdown:	The standard operational procedure (SOP) for removing a Blast Furnace from operation for reasons of inspection, maintenance or repair.
Startup:	The standard operational procedure (SOP) for bringing a Blast Furnace back into operation after inspection, maintenance or repair.

C. "F" & "R" BOP Furnaces Emissions System

1.1 Description of System During Production

1.2 Operation and Maintenance Plan

1.3 Site-Specific Monitoring Plan

1.4 Plan Maintenance, Record Keeping and Reporting

1.1 Description of System During Production

The BOP Scrubber Venturi collects the primary emissions from the "F" and "R" vessel respectively via a close coupled hood located above the mouth of each vessel during O_2 blowing operations. These primary emissions are directed toward the quencher by means of a water cooled duct. Large particulates and agglomerated fines from the quencher are separated from the gas stream by means of the scupper and grizzly located upstream of the venturi Kinpactor. The remaining fine particles are separated from the gas stream at the venturi and entrained in the quench water sprays. From the venturi, the gas stream is conveyed through a gas cooling tower to the ID fans. From the ID fans, the cleaned gas stream is conveyed through a stack to the atmosphere.

1.2 Operation and Maintenance Plan

1.2.1 Scope

The following particulate emission capture systems and particulate emission control devices are covered by this plan:

- Particulate emission capture systems
  - "F" BOP Vessel Emissions Capture System
  - "R" BOP Vessel Emissions Capture System

- Particulate emission control devices
  - "F" BOP Vessel venturi scrubber
  - "R" BOP Vessel venturi scrubber

1.2.2 Equipment inspection of capture systems for "F" and "R" Vessel emission capture systems (63.7800(b)(1))

(a.) The following equipment is to be inspected (all equipment except scrubber venturi and scrubber venturi pump) for the BOP Primary Emission Control Capture System are not enforceable requirements under 40 CFR 63 Subpart FFFFF and are also not required to demonstrate compliance with applicable operation and maintenance requirements under 40 CFR 63.7826(a) and 40 CFR 63.7834(a).

Equipment	Inspecting Frequency	Inspecting Department	Regulatory Citation
Vessel Hoods	Monthly	BOP Maintenance	63.7800(b)(1)
Ductwork from Quencher to Damper	Monthly	BOP Maintenance	63.7800(b)(1)
Vessel Isolation Dampers	Monthly	BOP Maintenance	N/A
E-Stack and Seal	Monthly	BOP Maintenance	63.7800(b)(1)
Hood Sprays System	Monthly	Utilities	63.7800(b)(1)
Quencher Water System	Monthly	Utilities	63.7800(b)(1)
Recycle Water System	Monthly	Utilities	63.7800(b)(1)
Thickener and Drum System	Monthly	Utilities	63.7800(b)(1)
Gas Cooling Water System	Monthly	Utilities	63.7800(b)(1)
Scrubber Venturi	Daily	Utilities	63.7800(b)(1)
Scrubber Venturi Pump	Daily	Utilities	63.7800(b)(1)
Ductwork from Cooling Tower to ID Fans	Monthly	Utilities	63.7800(b)(1)
Hood Closed Loop Cooling Water System	Monthly	Utilities	63.7800(b)(1)
Hood Open Loop Cooling Water System	Monthly	Utilities	63.7800(b)(1)
A&B ID Fan System	Monthly	Utilities	63.7800(b)(1)

(c.) All deficiencies found during inspections listed in the above table such as holes, corrosion, deformation, broken drives or belts or any other conditions affecting performance will be recorded on existing inspection forms.

(d.) Corrective action will be completed before the next scheduled inspection.

1.2.3 Preventative Maintenance of Control Devices for “F” and “R” Venturi Scrubber (63.7800.(b)(2))

Task to Be Performed	Performed By:	Frequency
Back Flush Hood System Strainers	BOP GC Operator	As Needed
Clean Kinpactor Spray Nozzles	BOP GC Operator	As Needed
Clean out the Classifier	BOP GC Operator	As Needed
Dump cooling tower cone	BOP GC Operator	Daily
Blowdown the high and low level probes at the cooling tower	BOP GC Operator	As Needed
Inspect hood spray system	BOP GC	Monthly
Inspect quencher water system	BOP GC	Monthly
Inspect recycle water system	BOP GC	Monthly
Inspect gas cooling water system	BOP GC	Monthly
Inspect ductwork from cooling tower to ID fans	BOP GC	Monthly
Inspect ductwork from BOP dampers to Kinpactor	BOP GC	Monthly
Inspect closed loop cooling water system	BOP GC	Monthly
Inspect open loop cooling water system	BOP GC	Monthly
Inspect A & B ID fan system	BOP GC	Monthly

Note: Any deficiencies found during inspections will be noted and corrective action completed before the next scheduled inspection. If corrective action cannot be completed, the Environmental engineer will be notified and appropriate additional actions will be taken.

1.2.4 Operating Limits for "F" and "R" BOP vessel venturi scrubber *(63.7824(b))*

Measuring System	Monitoring Method	Averaging Frequency	Parameter Values	Regulatory Citation
Scrubber Water Flow Rate	Flow Meter with Orifice Plate	Hourly (Process)	≥3203 GPM	63.7824(b)
Venturi Differential Pressure	Differential Pressure Transmitter	Hourly (Process)	≥75.96" of Water	63.7824(b)

(a.) Primary emissions generated from "F" and "R" BOP vessels are conveyed to venturi type scrubbers located at the end of the capture systems. A description of the system will be maintained in Appendix A.

~~(b.) Rationale for why the parameters were chosen will be maintained in the Monitoring Plan. (63.7800(b)(3)(iii))~~ *Not Applicable To Primary Venturi Scrubbers*

(c.) Description of each selected operating limit parameter is shown in the above table in 1.2.4. *(63.7824(b))*

(d.) Description of the method used to monitor parameters is listed in the above Table in 1.2.4. *(63.7824(b))*

(e.) Data used to set the value or settings for the parameters of each process configuration will be maintained in the Environmental Control Department files. *(63.7824(b))*.

1.3 Site-Specific Monitoring Plans

1.3.1 Scope

The following continuous parametric monitoring systems (CPMS) are covered by this plan:

- "F" and "R" BOP vessel venturi scrubber water flow
- "F" and "R" BOP vessel venturi scrubber differential pressure

1.3.2 Plan Elements

(a.) For each CPMS, a site-specific monitoring plan must be incorporated and made available to the permitting authorities for each of the items prescribed as follows:

Operating Parameter	Monitoring Method	Averaging Frequency	Regulatory Citation
Scrubber Water Flow Rate	Flow Meter with Orifice Plate	Hourly (Process)	63.7831
Venturi Differential Pressure	Differential Pressure Transmitter	Hourly (Process)	63.7831

(b.) Documentation that each CPMS that sample probes and other interfaces are installed and located such that measurements are representative is maintained in the Engineering and/or Utilities Department files. (63.7831(a)(1))

(c.) Documentation for each CPMS will be maintained in the Engineering and/or Utilities Department files. (63.7831(a)(2))

(d.) Documentation of performance evaluation procedures and calibrations will be maintained in the Engineering and/or Utilities Department files. (63.7831(a)(3)).

(e.) Documentation of ongoing operation and maintenance procedures in accordance with the general requirements of 63.8(c)(1),(c)(3),(c)(4)(ii), (c)(7) and (c)(8) will be maintained in the Environmental Control and/or Utilities Department. (63.7831(a)(4)).

(f.) Documentation for each CPMS that ongoing data QA procedures consistent with 40 CFR 63.8(d) will be maintained in the Utilities Department files. (63.7831(a)(5))

(g.) Documentation for each CPMS that ongoing record keeping and reporting procedures consistent with the general requirements of 40 CFR 63.10(c), (e)(1) and (e)(2)(i) will be maintained in the PI monitoring system Environmental Control Department and appropriate operating department files. (63.7831(a)(6))

(h.) Documentation that flow meters and pressure transmitters are installed, operated and maintained in accordance with manufacturer's specifications will be maintained in the Utilities Department files consistent with the requirements set forth in 63.7831(g).

1.3.3 Rationale for Measuring System Selection

(a.) Scrubber water flow rate provides an indication that the capture system is functional.

(b.) Pressure drop across the venturi indicates that the fan is providing flow from the capture system to the capture device.

(c.) Vessel isolation damper position indicates that the gas stream is moving from the correct vessel capture system to the capture device.

1.4 Plan Maintenance, Recordkeeping and Reporting

1.4.1 Initial plan requirements

- The Operation and Maintenance Plan and Site-Specific Monitoring Plan must be developed and implemented by May 22, 2006.

- Failure to meet any condition in a plan is a deviation and must be reported as such in the periodic deviation report.

1.4.2 Plan revisions

- Plans may be revised at any time provided you notify your permitting agency that you have done so in the next periodic Title V compliance certification.

1.4.3 Recordkeeping

- You must keep all current plans, superseded plans and all information necessary to demonstrate that you have complied with each plan requirement on-site for a period of at least 5 years. The first three years the information must be kept and the last two years information can be stored off-site.

Appendix A:

Operational Description of BOPFs Primary Emission Control System

1.0 INTRODUCTION

The intent of this document is to describe the equipment and operation of the Primary Gas Cleaning System for the BOP Shop at USS's Edgar Thomson Plant.

2.0 SYSTEM OVERVIEW

The primary emissions system is an open hood type system that is designed to capture and clean emissions generated during the steel production process. The capture system for each vessel includes separate water cooled hoods, hood sprays, isolation dampers, emergency stacks, and quenchers. The capture system combines in the collector main, and includes a common scupper, preconditioning sprays, and ductwork that are all located prior to the collection device. After the collecting device the capture system includes a gas cooler, mist eliminator, interconnecting ductwork, and two fans (one operating, one stand-by).
Only one vessel is blowing oxygen at a time so emissions are captured from one gas cleaning system at a time. Therefore, the gas cleaning system is operator selected to capture emissions from the appropriate vessel.

The capture system consists of a multi throat venturi scrubber or Kinpactor that removes particulate by the impacting of the particles with water droplets which removes the particulate from the gas stream. The pressure drop across the throats is controlled via throat dampers which are in turn are position controlled via a PLC. The pressure drop is monitored via two (2) redundant pressure transmitters, which provide the input for controlling the venturi throat damper position. Different scrubber pressure drop setpoints are utilized based on the percentage of the blow competed. Furnace draft is controlled via the fan setpoint.

3.0 DAMPER CONTROL

Isolation dampers are either open or closed depending upon the damper selected. Scrubber throat dampers are controlled dependent upon pressure drop.

4.0 MACT ALARMS

The following alarms are considered MACT alarms and require the reaction of the appropriate personnel.

Low Scrubber Water Flow
Low Scrubber Pressure Drop

These alarms will be annunciated in the Gas Cleaning Pulpit and at the Caster Water Quality Control Room.

Only the personnel in the Caster Water Quality Control Room can acknowledge the alarm. This person is also responsible for initiating the appropriate procedure to determine the cause of the alarm and initiate corrective action. The alarm in the other area is to ensure that the presence of an alarm condition is known and to ensure that the personnel in these areas notify the Caster Water personnel of an unacknowledged alarm.

5.0 MONITORING

The following parameters will be monitored by the local instrumentation coupled to the local PLC and the instantaneous readings will be electronically transferred to the PI monitoring system.

Scrubber pressure drop
Scrubber water flow
Isolation damper positions

Local instrumentation for measuring pressure drops and static pressures are pressure transmitters and flow is determined by measuring pressure loss with a transmitter across a known orifice plate. Vessel damper positions are measured using limit switches. All of the local instrumentation is connected to a PLC which is in turn networked into the PI system.

All MACT alarms and their time of acknowledgement will be on the PI monitoring system.

Pressure drops and flows will be averaged on an hourly basis with the hour being an hour of operation, not necessarily a clock hour.

Appendix B:

CPMS Documentation

Venturi Scrubber Differential Pressure Transmitter (Rosemount)
Venturi Scrubber Water Flow Transmitter (Orifice Plate w/ Rosemount Transmitter)

See Utilities Department files for additional information.

Appendix C:

Definitions

Control Device: A mechanical device with integral venturi and water sprays located at the end of the Capture System that entraps or entrains the fumes, dust and other non-gaseous pollutants generated by the BOP vessel under normal operating conditions.

Capture System: That equipment or devices including but not limited to hoods, air curtains, fans, ductwork and dampers used to capture and convey emissions generated by the BOP vessel to the Capture Device. The physical limits of the Capture System extend from the BOP vessel hood to the inlet flange of the Capture Device.

ESS: *Environmental Software System utilized to track, report and document environmental requirements.*

PI A computer based process parameter monitoring system.

Primary Emissions Particulate matter emissions from the basic oxygen process furnace generated during the steel production cycle which are captured and treated in the furnace's primary emission control system.

Secondary Emissions Particulate matter emissions that are not controlled by a primary emission control system, including emissions that escape from open and closed hoods, lance hole openings and gaps or tears in ductwork to the primary emission control system.

Shutdown: The standard operational procedure (SOP) for removing a BOP Vessel from operation for reasons of inspection, maintenance or repair.

Startup: The standard operational procedure (SOP) for bringing a BOP Vessel back into operation after inspection, maintenance or repair.

D. BOPF Fugitive Emissions System

1.1 Description of System During Production

1.2 Operation and Maintenance Plan

1.3 Site-Specific Monitoring Plan

1.4 Plan Maintenance, Record Keeping and Reporting

1.1 Description of Capture System During Production

The BOP Vessel Fugitive Emissions Baghouse collects the fugitive emissions from the "F" BOP and "R" BOP vessels by means of roof mounted ventilation dampers. In addition, hot metal charge emissions are collected via hoods located just above each vessel. These fugitive and charge emissions are directed toward the ductwork mounted to the outside roof of the building by the negative pressure from the baghouse ID fans. From the hood and ductwork, the induced draft fans convey the emissions to a ten (10) module Wheelabrator positive pressure pulse jet type baghouse. The gas stream is cleaned by impinging particulate matter on the outside of the filter media.

The bags in each module are periodically cleaned by means of high pressure air directed through a venturi mounted at the top of each individual bag. The dust, after being loosened from the bag exterior, falls into the module hopper.

1.2 Operation and Maintenance Plans

1.2.1 Scope

The following particulate emission capture systems and particulate emission control devices are covered by this plan:

- Fugitive emission capture systems
  - "F" BOP Vessel Fugitive Emissions Capture System
  - "R" BOP Vessel Fugitive Emissions Capture System

- Particulate emission control devices
  - "F" and "R" BOP Vessels Fugitive Emissions Baghouse

1.2.2 Equipment inspection of capture systems for "F" and "R" Fugitive Emissions Baghouse (63.7800(b)(1))

(a.) Equipment to be inspected:

Equipment	Inspecting Frequency	Inspecting Department	Regulatory Citation
Ductwork from roof to Isolation Dampers	Monthly	BOP Maintenance	63.7800(b)(1)
Ductwork from Isolation Dampers to Fan Inlets	Monthly	Utilities	63.7800(b)(1)
Isolation Dampers and Actuators	Monthly	BOP Maintenance	63.7800(b)(1)
Baghouse Fan Integrity	Monthly	Utilities	63.7800(b)(1)
Charge Hood	Monthly	BOP Maintenance	63.7800(b)(1)
Ductwork from Charge Hood to Charge Dampers	Monthly	BOP Maintenance	63.7800(b)(1)
Charge Isolation Dampers, seals and Actuators	Monthly	BOP Maintenance	63.7800(b)(1)

(b) All deficiencies found during inspections listed in the above table such as holes, corrosion, deformation, broken drives or any other conditions affecting performance will be recorded on existing inspection forms. Corrective action will be completed before the next scheduled inspection.

1.2.3 Preventative Maintenance of Control Devices for "F" and "R" BOP Vessel Fugitive Emissions Baghouse (63.7800.(b)(2))

(a) This preventative maintenance schedule below is consistent with good operating practice for routine or long term maintenance.

Task to be performed	Performed By:	Frequency
Confirm proper operation of automatic fan bearing lubrication system	Gas Cleaning Operator	Monthly
Lubricate motor bearings	Gas Cleaning Operator	Semi-annually

Lubricate hopper conveyor motors	Gas Cleaning Operator	Semi-annually
Lubricate conveyors	Gas Cleaning Operator	Monthly
Vibration testing	Vibration analyst	Monthly
Thermography readings	Utilities Mtce or designee	Semi-annual
Calibrate key environmental instruments		Per Manufacturer's recommendation

1.2.4 Operating Limits for "F" and "R" Fugitive Emissions Baghouse (63.7800(b)(3))

Operating Parameter	Monitoring Method	Averaging Frequency	Parameter Values	Regulatory Citation
Fan amps	Current Transducer	Hourly	≥305 for compartments in operations	63.7800(b)(3)
Damper Position	Position Feedback Transmitter	N/A	Appendix A	63.7800(b)(3)

(a.) Description of capture system design and capture system in operation during production will be maintained in Appendix A. (63.7800(b)(3)(iii))

(b.) Rationale for why the parameter was chosen will be maintained in the Monitoring Plan. (63.7800(b)(3)(iii))

(c.) Description of each selected operating limit parameter will be maintained in the Monitoring Plan. (63.7800(b)(3)(iii))

(d.) Description of the method used to monitor parameters in the above table. (63.7800(b)(3)(iii))

(e.) Data used to set the value or settings for the parameters of each process configuration will be maintained in the Environmental Control Department files. (63.7800(b)(3)(iii))

1.2.5 Bag Leak Detectors (63.7800(b)(4))

The Wheelabrator baghouse used for the capture of Casthouse emissions is a positive pressure type baghouse and is not required by this legislation to have bag leak detectors. (63.7830(b)(3)(i) and (ii))

1.3 Process Specific Monitoring Plans

1.3.1 Scope

The following continuous parametric monitoring systems (CPMS) are covered by this plan:

- "F" and "R" BOP Vessel Fugitive Emissions Baghouse fan amp
- "F" and "R" BOP Vessel Fugitive Emissions Baghouse damper actuator position

1.3.2 Plan Elements

(a.) For each CPMS, a site-specific monitoring plan must be incorporated and made available to the permitting authorities for each of the items prescribed as follows:

Measuring System	**Monitoring Method**	**Averaging Frequency**	**Regulatory Citation**
Fan amps	Current Transducer	Hourly	63.7831(a)
Damper Position	Position Feedback Transmitter	N/A	63.7831(a)

(b.) Documentation that each CPMS that sample probes and other interfaces are installed and located such that measurements are representative is maintained in *Engineering and/or Utilities Department files*. (63.7831(a)(1))

(c.) Documentation for each CPMS that the performance and equipment specifications for the sample interface, the parametric signal analyzer and the data collection and reduction system will be maintained in Appendix B. (63.7831.(a)(2))

(d.) Documentation of performance evaluation procedures and calibrations will be maintained in *Environmental and/or Utilities Department files*. (63.7831(a)(3))

(e.) Documentation of ongoing operation and maintenance procedures in accordance with the general requirements of 63.8(c)(1),(c)(3),(c)(4)(ii), (c)(7) and (c)(8) will be maintained in the *Utilities* Department. (63.7831(a)(4))

(f.) Documentation for each CPMS that ongoing data QA procedures consistent with 40 CFR 63.8(d). (Not applicable to this process) (63.7831(a)(5)).

(g.) Documentation for each CPMS that ongoing record keeping and reporting procedures consistent with the general requirements of 40

CFR 63.10(c), (e)(1) and (e)(2)(i) will be maintained in the PI monitoring system Environmental Control Department and appropriate operating department files. (63.7831(a)(6))

1.3.3 Rationale for Measuring System Selection

(a.) Monitoring of fan amperage provides an indication of flow rate, volume and pressure in the capture system.

(b.) Monitoring damper position provides an indication of flow from the capture system to the capture device

1.3.4 Inspections specific to baghouses

Baghouse Equipment	**Inspection Frequency**	**Monitoring Method**	**Regulatory Citation**
Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range of 3.0 – 25.0 in WC. If outside of the range, initiate corrective.	Daily	Visual	63.7830(b)*(4)*
Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.	Weekly	Visual	63.7830(b)*(4)*
Check the compressed air supply for pulse-jet baghouses.	Daily	Visual	63.7830(b)*(4)*
Monitor cleaning cycles to ensure proper operation using an appropriate methodology.	Daily	Visual	63.7830(b)*(4)*
Check bag cleaning mechanisms for proper functioning using an appropriate methodology.	Monthly	Visual	63.7830(b)*(4)*

Confirm the physical integrity of the baghouse through visual inspections of the baghouse interior for air leaks.	Quarterly	Visual	63.7830(b)*(4)*
Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors or equivalent means.	Quarterly	Vibration Analysis	63.7830(b)*(4)*

1.4 Plan Maintenance, Recordkeeping and Reporting

1.4.1 Initial plan requirements

- The Operation and Maintenance Plan and Site-Specific Monitoring Plan must be developed and implemented by May 22, 2006.
- Failure to meet any condition in a plan is a deviation and must be reported as such in the periodic deviation report.

1.4.2 Plan revisions

- Plans may be revised at any time provided you notify your permitting agency that you have done so in the next periodic Title V compliance certification.

1.4.3 Recordkeeping

- You must keep all current plans, superseded plans and all information necessary to demonstrate that you have complied with each plan requirement on-site for a period of at least 5 years. The first three years the information must be kept and the last two years information can be stored off-site.

Appendix A:

Operational Description of BOP Fugitive Emissions System

1.0 INTRODUCTION

This document is intended to describe the fugitive emission system equipment and operation for the BOP Fugitive Emission System at the Edgar Thomson Plant.

2.0 SYSTEM OVERVIEW

The system is divided into the collection system and the control system. The collection system consists of sixteen (16) hood off-takes located in the furnace and charging isles of the BOP shop. The off-takes are arranged in two rows of eight (8) hoods. Each hood is connected directly to the main duct with a short piece of ductwork and is equipped with individual isolation dampers. In addition, there is a Hood located just above each vessel to collect hot metal charge emissions. The F Vessel Hood is connected to the main duct via two (2) ducts, and the R Vessel Hood is connected to the main duct via one (1) duct. Each Charge duct has an individual isolation damper located just before the main duct. The main duct is connected directly to the fan inlets via an inlet plenum.

The control system consists of a baghouse that collects and cleans emissions captured in the hood system. The baghouse consists of ten (10) positive pressure compartments, each with its own separate fan and 250 HP motor.

Each compartment fan is equipped with an inlet and outlet isolation damper. The inlet damper is a simple mechanical blank off plate. The outlet damper is electrically operated to control fan motor current under normal operating conditions.

The main fans channel the *secondary and charge* emissions through the compartment filter bags and the cleaned air is passed out into the atmosphere. The dust and debris that accumulates on the outside of the bags are cleared by periodic cleaning to maintain adequate air flow.

There are five modes of operation for compartment cleaning. They are: **Differential Pressure, Continuous**, **Manual**, **High Differential Pressure**, and **Off**. The method of cleaning each module is accomplished by pulsing the filter bags with compressed air through solenoid-operated valves. Each module contains 30 solenoids, which will be energized in alternating pairs.

For the cleaning of the modules the baghouse uses a dedicated air compressor system with a dryer. The introduction of the compressed air into the filter bag dislodges the accumulated dust so it can fall into a hopper at the bottom of each compartment. Once the dust is at the bottom of the hopper, a continuously operated screw conveyor and rotary valve system discharges the dust to individual dust bins.

3.0 DAMPER CONTROL

The fugitive or roof emission system is used to capture charging emissions, fugitive blowing emissions, and any other emissions generated in the shop that would reach the roof in the shop charging or furnace isles. The BOP shop roof monitors are sealed and a duct with nineteen (19) dampered off-takes have been installed in the charge and furnace isles. Two (2) off-takes are connected to the F Vessel Charge Hood, and one (1) off-take is connected to the R Vessel Charge Hood. Damper position is based on shop operation and is controlled with digital outputs from a PLC. Damper position feedback is returned to the PLC.

A general description of the damper operation is as follows: The 16 fugitive roof dampers and 3 charging dampers are cycled to provide proper ventilation based on the different stages of the steel production cycle. During each stage the equivalent of 6 dampers are open providing the necessary flow to the baghouse which is determined by fan amps. However during the charging of hot metal, the total flow of the baghouse is applied to the operating vessel by having the charging damper(s) opened and all other system dampers closed. This operational sequence may vary based on seasonal fluctuations.

The fan outlet dampers are controlled by digital outputs from the control processor to open or close each damper. The process controller will control module fan amps by positioning the modules damper. The modules final amps will be with in 20 amps of the setpoint provided that the module can achieve the setpoint without the damper being opened a hundred percent. The control processor also controls the damper for cleaning a module. When the module goes into a cleaning cycle the processor will close the damper to allow for maximum cleaning of the bags.

4.0 MACT ALARMS

The following alarms are considered MACT alarms and require the reaction of the appropriate personnel.

Total Baghouse Low Amps
F Isolation Damper Open Position Failure
F Isolation Damper Closed Position Failure
R Isolation Damper Open Position Failure
R Isolation Damper Closed Position Failure
Damper 101 Open Position Failure
Damper 101Closed Position Failure
Damper 102 Open Position Failure
Damper 102 Closed Position Failure
Damper 103 Open Position Failure
Damper 103 Closed Position Failure
Damper 104 Open Position Failure
Damper 104 Closed Position Failure

Damper 105 Open Position Failure
Damper 105 Closed Position Failure
Damper 106 Open Position Failure
Damper 106 Closed Position Failure
Damper 107 Open Position Failure
Damper 107 Closed Position Failure
Damper 108 Open Position Failure
Damper 108 Closed Position Failure
Damper 109 Open Position Failure
Damper 109Closed Position Failure
Damper 110 Open Position Failure
Damper 110 Closed Position Failure
Damper 111 Open Position Failure
Damper 111 Closed Position Failure
Damper 112 Open Position Failure
Damper 112 Closed Position Failure
Damper 113 Open Position Failure
Damper 113 Closed Position Failure
Damper 114 Open Position Failure
Damper 114 Closed Position Failure
Damper 115 Open Position Failure
Damper 115 Closed Position Failure
Damper 116 Open Position Failure
Damper 116 Closed Position Failure

These alarms will be annunciated in both the Gas Cleaning Pulpit and the Caster Water Quality Control Room .

The trigger point for the Low Amperage Alarm is currently set at 305 amps for the entire Baghouse, as an hourly average.

Only the personnel in the Caster Water Quality Control Room can acknowledge the alarms. This person is also responsible for initiating the appropriate procedure to determine the cause of the alarm and initiate corrective action.

During a Charge, the Isolation (Charge) Damper/s for the Vessel being charged must be open, and all other system dampers must be closed. The BOP Melter's Pulpit is responsible for monitoring of these conditions and ensuring the proper operation of the dampers is achieved during a hot metal charge.

5.0 MONITORING

The following parameters will be monitored by the local instrumentation coupled to the local PLC and the instantaneous readings will be electronically transferred to the PI monitoring system. Alarms will be provided when a parameter is out of a preset range or minimum setpoint.

Individual compartment pressure drop
Total baghouse fan amperage
Hood damper positions
Cleaning air pressure

Local instrumentation for measuring pressures are typically pressure transmitters while fan amps are measured by current transducers. Damper positions are measured using potentiometers. All of the local instrumentation is connected to a PLC which is in turn networked into the PI system.

All MACT alarms and their time of acknowledgement will be on the PI monitoring system.

Pressure drop and fan amperage will be averaged on an hourly basis with the hour being an hour of operation, not necessarily a clock hour.

The BOP Melter's Pulpit is responsible for monitoring the system dampers to ensure proper operation during a hot metal charge, i.e. vessel charge damper open and all other system dampers closed.

Appendix B:

CPMS Documentation:

- Ohio Semitronics, Inc. Single-Phase AC Current Transducer Installation and Operating Instructions.

SINGLE PHASE AC CURRENT TRANSDUCER Model MCT5-

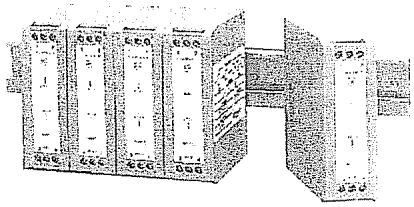
DIN RAIL MOUNTED AC CURRENT TRANSDUCER
0.25% ACCURACY

FEATURES

- Ruggedized Polyamide DIN mount case.
- Slim profile allows maximum use of available space.
- Field selectable analog outputs.
- Recessed terminals provide increased safety.

APPLICATIONS

- Ideal for use in enclosures with dimensional constraints.
- Designed for industrial environments.
- OEM measurement systems.
- Designed for use with **OSI** current transformers.
- Easily integrated into control systems.



Transducer output is derived from the average absolute value of the input and calibrated as the RMS value of a sine wave input.

*Models are self-powered from measured AC input line with **DIP switch selectable 0-1mA, 0-5Vdc, or 0-10Vdc output.**
**Denotes 4-20mA loop-powered unit, (15-40Vdc).
All other units require 85-135 Vac instrument power.

INPUT	STANDARD OUTPUTS MODEL MCT5-		
AC AMPS	0-1mAdc*	4-20mAdc	4-20mAdc**
0 to 1.0	001A	001E	001E2
0 to 5.0	005A	005E	005E2

ORDERING INFORMATION

Example: 0-5A Input with 4-20mA Output.
MCT5 - 005E

5 YEAR WARRANTY

c UL us LISTED

Measuring Equipment 7N93

SPECIFICATIONS

INPUT
Current ..... See Table
Frequency Range ..... 48 to 65Hz.;60Hz. Nom.
Burden ..... 1 Amp models 0.05VA
5 Amp models 0.175VA
Current Overload
2 X F.S. rating ..... (continuous)
10 X F.S. rating ..... (10Sec./Hr.)
Dielectric Test...(Input/Output) 1500Vac

OUTPUT
Ripple ..... < 1.0% F.S.
Response ..... (99%) ..... 400 milliseconds
Field Adjustable Span ..... ± 5%

OUTPUT LOADING (Ohms)
4-20mA 0-500
4-20mA ..... (24V Loop Power) 0-600
0-1mA 0-10k
0-5Vdc ..... > 5M
0-10Vdc ..... > 10M
ACCURACY ..... ±0.25% F.S.@ 60Hz
Includes effects of linearity and setpoint.
Temperature Effect ..... (-20°C to +65°C) ..... ± 1.0%
E Output ..... (-20°C to +40°C) ..... ± 1.0%
Instrument Power ..... 85-135Vac, 50-60Hz. ,3VA
Loop Powered 15-40Vdc
Termination ..... Wire size 22 to 12 AWG
Net Weight ..... 0.4 Lb.

CONNECTION DIAGRAMS AND DIMENSIONS SHOWN ON NEXT PAGE

(Consult factory for availability of DIN rail)

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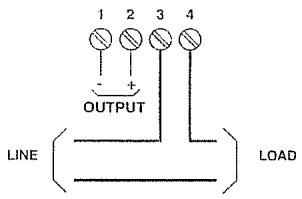
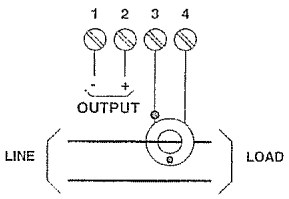
CONNECTION DIAGRAMS — MODEL MCT5-

Direct Connection



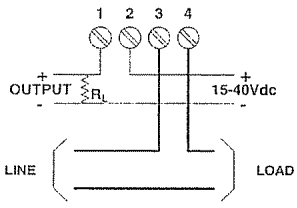
Self-Powered Models, MCT5-***A

External Current Transformers



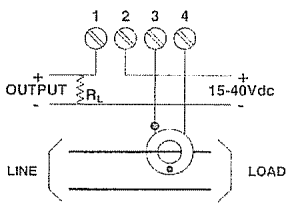
Self-Powered Models, MCT5-***A

Direct Connection



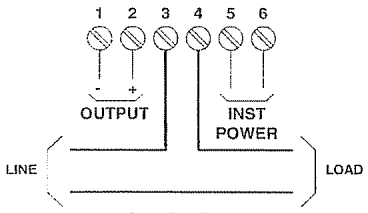
Loop-Powered Models, MCT5-***E2

External Current Transformers



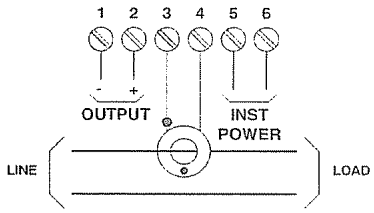
Loop-Powered Models, MCT5-***E2

Direct Connection



4-20mA Output Models, MCT5-***E

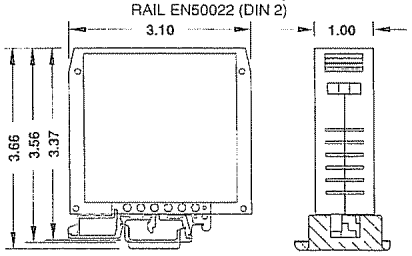
External Current Transformers



4-20mA Output Models, MCT5-***E

CASE DIMENSIONS

UNIT CAN BE MOUNTED ON:
RAIL EN50035 (DIN 1)
RAIL EN50022 (DIN 2)

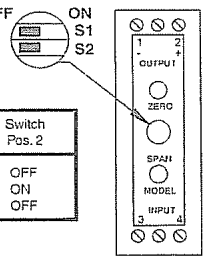


All Dimensions in Inches

OUTPUT SELECTION MCT5-***A

UNITS ARE SHIPPED WITH 0-1mA SETTING

REMOVE SNAP BUTTON FOR ACCESS TO DIP SWITCHES



Output Required	Switch Pos. 1	Switch Pos. 2
0-1mA	OFF	OFF
0-5V	ON	ON
0-10V	ON	OFF

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IND SINGLE-PHASE AC CURRENT TRANSDUCER model MCT4

INSTALLATION INSTRUCTIONS

1. Installation should be performed by qualified electricians only!
2. Make sure electrical service is disconnected before making any electrical connections.
3. Branch circuit protection is required to be provided in accordance with the National and Local codes of the inspection authority.
4. Route wires as required and secure to terminals per connection diagram on this sheet and on the unit.

OPERATING INSTRUCTIONS

1. This unit is intended for indoor use at altitudes up to 2000 meters.
2. Transient overvoltages according to Installation Category (overvoltage category)II, pollution Degree 2.
3. The output signal is intended to be "Not accessible to the user." To prevent contact with live circuits, the transducer is required to be mounted in an enclosure that requires the use of a tool for access.
4. If cleaning of the exterior surface is necessary, de-energize all services of supply (both measuring and instrument power circuits) and brush with a soft brush or blow off with low pressure air. Use appropriate eye protection. Not suitable for hose-down cleaning.
5. Maximum relative humidity 80 percent for temperatures up to 31°C decreasing linearly to 50 percent relative humidity at 40°C.
6. Maximum operating temperature range is -20°C to 65°C (-20°C to 40°C for "E" suffix models).

WARRANTY STATEMENT

Ohio Semitronics, warrants this unit to be free of defects in material and workmanship for a period of five years from date of shipment. This unit must not be used in any manner other than as specified in this document.

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Appendix C:

Definitions

Control Device:	A mechanical device with integral filter media located at the end of the Capture System that entraps or entrains the fumes, dust and other non-gaseous pollutants generated by the BOP vessel(s) under normal operating conditions.
Capture System:	That equipment or devices including but not limited to hoods, fans, ductwork and dampers used to capture and convey emissions generated by the BOP vessels to the Capture Device. The physical limits of the Capture System extend from the BOP Charging Hoods to the inlet flange of the Capture Device.
ESS:	*Environmental Software System utilized to track, report and document environmental requirements.*
Malfunction:	Any sudden, infrequent, and not reasonably prevented deviation in the process or a mechanical anomaly causing an upset condition where the maximum allowable emission levels of the Capture Device are exceeded or the Capture System fails to provide valid data to the monitoring system within the prescribed measurement ranges. Examples may include but are not limited to alarm conditions caused by: filter cleaning system failure (including insufficient air pressure), damper actuator failure, fan motor failure and breaking of a fan belt or fan belt slippage. Although not alarmed conditions, baghouse filter media leakage and conveyor failure are also considered to be *malfunctions.*
PI	A computer based process parameter monitoring system.
Primary Emissions	Particulate matter emissions from the basic oxygen process furnace generated during the steel production cycle which are captured and treated in the furnace's primary emission control system.
Secondary Emissions	Particulate matter emissions that are not controlled by a primary emission control system, including emissions that escape from open and closed hoods, lance hole openings and gaps or tears in ductwork to the primary emission control system.
Shutdown:	The standard operational procedure (SOP) for removing a BOP vessel from operation for reasons of inspection, maintenance or repair.

Startup: The standard operational procedure (SOP) for bringing a BOP vessel back into operation after inspection, maintenance or repair.

E. LMF Emissions System

1.1 Description of System During Production

1.2 Operation and Maintenance Plan

1.3 Site-Specific Monitoring Plan

1.4 Plan Maintenance, Record Keeping and Reporting

1.1 Description of Capture System During Production

The LMF Emissions Baghouse collects the emissions from the LMF vessel by means of a hood that is located at the LMF vessel *and emissions from the LMF flux handling system via a series of ductwork*. The emissions are directed toward the ductwork by the negative pressure from the baghouse ID fans. From the hood and ductwork, the induced draft fans convey the emissions to a spark arrestor and then on to a *six (6)* module Amerex negative pressure pulse jet type baghouse. The gas stream is cleaned by impinging particulate matter on the outside of the filter media. After cleaning, the gas stream is released to the atmosphere by means of a dedicated ID fan located at the outlet of each baghouse module.

The bags in each module are periodically cleaned by means of high pressure air directed through a venturi mounted at the top of each individual bag. The dust, after being loosened from the bag exterior, falls into the module hopper.

An operational description is maintained in Appendix A. A description of the CPMS is in Appendix B and definitions are contained in Appendix C.

1.2 Operation and Maintenance Plans

1.2.1 Scope

The LMF does not require an O&M Plan for the capture system in accordance with 63.7800(b).

1.3 Site-Specific Monitoring Plan

1.3.1 Scope

The following continuous parametric monitoring systems (CPMS) are covered by this plan:

- LMF Emissions Baghouse bag leak detector

1.3.2 Plan Elements

(a.) Documentation that the bag leak detection system has been installed, operates and is maintained according to the requirements of paragraphs (f)(1) through (f)(7) of 40 CFR 63.7831 is maintained in the Engineering, Utilities and/or Environmental Control Departments. (63.7831(f)(1)-(7)).

(a.) Documentation that the bag leak detector is capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less will be maintained in Appendix B. (63.7831(f)(1)).

(c.) The bag leak detection system is installed operated and maintained in accordance with "Fabric Filter Bag Leak Detection Guidance" EPA-454/R-98-015, September 1997 or and/or in accordance with manufacturer's instructions. This documentation will be kept in the Engineering and/or Utilities Department files. (63.7831(f)(4)).

(d) The alarm set points and delay time documentation will be kept in the Engineering Department files. (63.7831(f)(5)).

(e.) All documentation pertaining to the adjustment of the bag leak detection system will be kept in the Environmental Control Department files. (63.7831(f)(6)).

1.3.3 Inspection specific to baghouses

Baghouse Equipment	**Inspection Frequency**	**Monitoring Method**	**Regulatory Citation**
Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range of 1.5 – 25 in WC. If outside the range, initiate corrective action.	Daily	Visual	63.7830(b)*(4)*
Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.	Weekly	Visual	63.7830(b)*(4)*
Check the compressed air supply for pulse-jet baghouses.	Daily	Visual	63.7830(b)*(4)*
Monitor cleaning cycles to ensure proper operation using an appropriate methodology.	Daily	Visual	63.7830(b)(4)
Check bag cleaning mechanisms for proper functioning using an appropriate methodology.	Monthly	Visual	63.7830(b)*(4)*

Confirm the physical integrity of the baghouse through visual inspections of the baghouse interior for air leaks.	Quarterly	Visual	63.7830(b)*(4)*
Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors or equivalent means.	Quarterly	Vibration Analysis	63.7830(b)*(4)*

1.4. Plan Maintenance, Recordkeeping and Reporting

1.4.1 Initial plan requirements

- The Operation and Maintenance Plan and Site-Specific Monitoring Plan must be developed and implemented by May 22, 2006.
- Failure to meet any condition in a plan is a deviation and must be reported as such in the periodic deviation report.

1.4.2 Plan revisions

- Plans may be revised at any time provided you notify your permitting agency that you have done so in the next periodic Title V compliance certification.

1.4.3 Recordkeeping

- You must keep all current plans, superseded plans and all information necessary to demonstrate that you have complied with each plan requirement on-site for a period of at least 5 years. The first three years the information must be kept and the last two years information can be stored off-site.

Appendix A:

Operational Description of the LMF Emissions System

1.0 INTRODUCTION

This document is intended to describe the emission system equipment and operation for the Ladle Metallurgy Facility (LMF) at the Edgar Thomson Plant.

2.0 SYSTEM OVERVIEW

The system is divided into the capture system and the control system. The collection system consists of a close coupled hood at the LMF, ductwork, isolation damper, and spark box. The system also provides ventilation for the flux handling system.

The control system consists of a *six (6)* module baghouse that controls emissions generated at the LMF. Each module is equipped with an individual fan and motor located on the clean (suction) side of the baghouse. Each fan discharges the clean gases directly to the atmosphere via an individual stack. *The LMF Baghouse and capture system was upgraded in 2010. Two (2) additional modules were installed, and, a portion of the inlet duct from the hood to the Baghouse, including the spark box, was increased in size. In addition, the 4 existing belt drive motors were replaced with direct drive motors. The 2 new modules and belt drive motors are identical to the current modules and motors.*

Each compartment is equipped with an inlet isolation damper that isolates the compartment for cleaning. Cleaning is either based on time or module pressure drop. Cleaning is by reverse pulse jet with one module at a time being taken off line by automatically closing the module inlet damper. For the cleaning of the modules the baghouse uses the plant air supply. The introduction of the compressed air into the filter bag dislodges the accumulated dust so it can fall into a hopper at the bottom of each compartment. Once the dust is at the bottom of the hopper, a continuously operated rotary valve that feeds a screw conveyor system that discharges in a dust box. The dust boxes are visually checked periodically and emptied upon operator discretion.

3.0 DAMPER CONTROL

The damper control for this operation is straight forward. The isolation damper at the LMF is opened when the LMF is in operation and is closed when the system is not in operation.

4.0 MACT ALARMS

The following alarms are considered MACT alarms and require the reaction of the appropriate personnel.

Compartment No. 1 Bag Leak Detector Alarm

Compartment No. 2 Bag Leak Detector Alarm
Compartment No. 3 Bag Leak Detector Alarm
Compartment No. 4 Bag Leak Detector Alarm
Compartment No. 5 Bag Leak Detector Alarm
Compartment No. 6 Bag Leak Detector Alarm

These alarms will be annunciated in the Gas Cleaning Pulpit Room, the LMF Pulpit and at the Caster Water Quality Control Room.

Only the personnel in the Caster Water Quality Control Room can acknowledge the alarm. This person is also responsible for initiating the appropriate procedure to determine the cause of the alarm and initiate corrective action. The alarm in the other areas is to ensure that the presence of an alarm condition is known and to ensure that the personnel in these areas notify the Caster Water personnel of an unacknowledged alarm.

5.0 MONITORING

Broken bag detectors are provided for each module. Detectors are loop powered units connected directly to the baghouse PLC. PLC programming records the signals and determines the alarm outputs. All alarms are transmitted electronically to the PI system and are time stamped. The detectors have been installed and operated in accordance with the manufacturer recommendations.

Additionally, the following parameters will be monitored by the local instrumentation and instantaneous readings will be electronically transferred to the PI system via the Baghouse PLC. Alarms will be provided when a parameter is out of a preset range or minimum setpoint.

Individual compartment pressure drop
Isolation damper positions
Cleaning air pressure

All MACT alarms and their time of acknowledgement will be on the PI monitoring system.

Pressure drop will be averaged on an hourly basis with the hour being an hour of operation, not necessarily a clock hour.

Appendix B:

CPMS Documentation:

- Ohio Semitronics, Inc. Single-Phase AC Current Transducer Installation and Operating Instructions.
- *Certificate of Compliance for Auburn TRIBO.d^2, Model 3400 Bag Leak Detector*
- Bag Leak Detection System Operation and Maintenance Manual

MCT5 SINGLE PHASE AC CURRENT TRANSDUCER

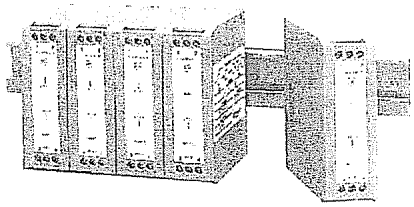
DIN RAIL MOUNTED AC CURRENT TRANSDUCER
0.25% ACCURACY

FEATURES

- Ruggedized Polyamide DIN mount case.
- Slim profile allows maximum use of available space.
- Field selectable analog outputs.
- Recessed terminals provide increased safety.

APPLICATIONS

- Ideal for use in enclosures with dimensional constraints.
- Designed for industrial environments.
- OEM measurement systems.
- Designed for use with **OSI** current transformers.
- Easily integrated into control systems.



Transducer output is derived from the average absolute value of the input and calibrated as the RMS value of a sine wave input.

*Models are self-powered from measured AC input line with **DIP switch selectable 0-1mA, 0-5Vdc, or 0-10Vdc output.**
**Denotes 4-20mA loop-powered unit, (15-40Vdc).
All other units require 85-135 Vac instrument power.

INPUT	STANDARD OUTPUTS MODEL MCT5-		
AC AMPS	0-1mAdc*	4-20mAdc	4-20mAdc**
0 to 1.0	001A	001E	001E2
0 to 5.0	005A	005E	005E2

ORDERING INFORMATION

Example: 0-5A Input with 4-20mA Output.
MCT5 - 005E

5 YEAR WARRANTY

c UL us LISTED

Measuring Equipment 7N93

SPECIFICATIONS

INPUT
- Current ..... See Table
- Frequency Range ..... 48 to 65Hz.;60Hz. Nom.
- Burden ..... 1 Amp models 0.05VA
  5 Amp models 0.175VA
- Current Overload
  - 2 X F.S. rating ..... (continuous)
  - 10 X F.S. rating ..... (10Sec./Hr.)
- Dielectric Test...(Input/Output) 1500Vac

OUTPUT
- Ripple ..... < 1.0% F.S.
- Response ..... (99%) ..... 400 milliseconds
- Field Adjustable Span ..... ± 5%

OUTPUT LOADING (Ohms)
- 4-20mA 0-500
- 4-20mA ..... (24V Loop Power) 0-600
- 0-1mA 0-10k
- 0-5Vdc ..... > 5M
- 0-10Vdc ..... > 10M

ACCURACY ..... ±0.25% F.S.@ 60Hz
Includes effects of linearity and setpoint.
- Temperature Effect ..... (-20°C to +65°C) ..... ± 1.0%
- E Output ..... (-20°C to +40°C) ..... ± 1.0%
- Instrument Power ..... 85-135Vac, 50-60Hz. ,3VA
  Loop Powered 15-40Vdc
- Termination ..... Wire size 22 to 12 AWG
- Net Weight ..... 0.4 Lb.

CONNECTION DIAGRAMS AND DIMENSIONS SHOWN ON NEXT PAGE

(Consult factory for availability of DIN rail)

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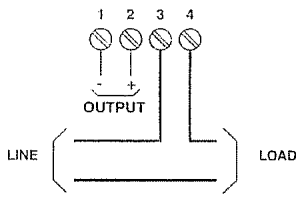
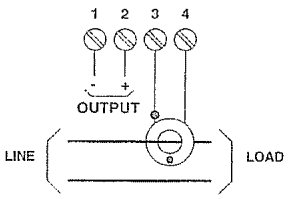
CONNECTION DIAGRAMS — MODEL MCT5-

Direct Connection



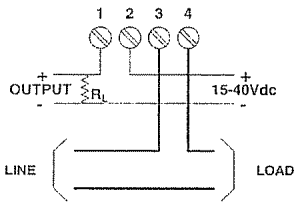
Self-Powered Models, MCT5-***A

External Current Transformers



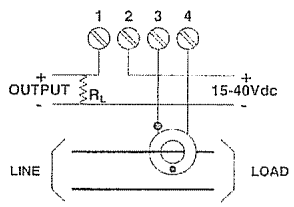
Self-Powered Models, MCT5-***A

Direct Connection



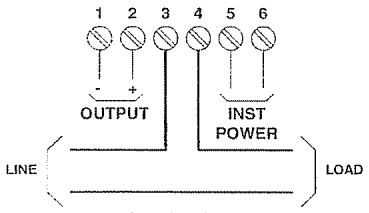
Loop-Powered Models, MCT5-***E2

External Current Transformers



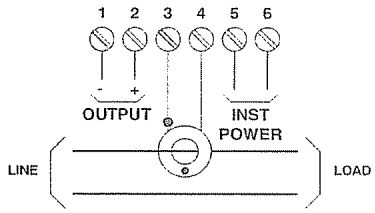
Loop-Powered Models, MCT5-***E2

Direct Connection



4-20mA Output Models, MCT5-***E

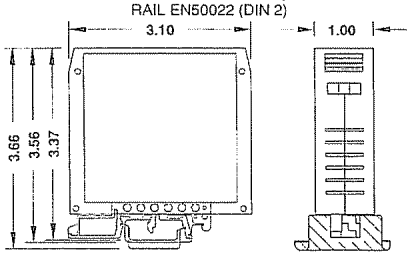
External Current Transformers



4-20mA Output Models, MCT5-***E

CASE DIMENSIONS

UNIT CAN BE MOUNTED ON:
RAIL EN50035 (DIN 1)
RAIL EN50022 (DIN 2)

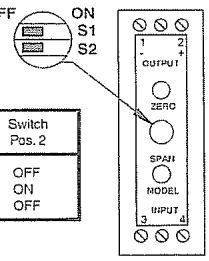


All Dimensions in Inches

OUTPUT SELECTION MCT5-***A

UNITS ARE SHIPPED WITH 0-1mA SETTING

REMOVE SNAP BUTTON FOR ACCESS TO DIP SWITCHES



Output Required	Switch Pos. 1	Switch Pos. 2
0-1mA	OFF	OFF
0-5V	ON	ON
0-10V	ON	OFF

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WWW.OHIOSEMITRONICS.COM * 1-800-537-6732

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auburn SYSTEMS
8 Electronics Ave. Danvers, MA 01923 Tel: (978) 777-2460 Fax: (978) 777-8820 e-mail: sales@auburnsys.com

CERTIFICATE OF COMPLIANCE

CUSTOMER: US Steel – ET Plant

PRODUCT: TRIBO.d^2 , Model 3400

This certifies that the TRIBO.d^2 , Model 3400, has been tested and found to be in conformance with federal regulation 40 CFR 63, section 63.1350, paragraph (m) which states: The BLDS must 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.

Robert E. Newton

Auburn Systems
Product Development Manager,
Triboelectric Systems

Appendix C:

Definitions

Control Device: A mechanical device with integral filter media with ID fans located at the end of the Capture System that entraps or entrains the fumes, dust and other non-gaseous pollutants generated by the LMF vessel under normal operating conditions.

Capture System: That equipment or devices including but not limited to hoods, fans, ductwork and dampers used to capture and convey emissions generated by the LMF vessel to the Capture Device. The physical limits of the Capture System extend from the LMF Hood to the inlet flange of the Capture Device.

ESS: *Environmental Software System utilized to track, report and document environmental requirements.*

Malfunction: Any sudden, infrequent, and not reasonably prevented deviation in the process or a mechanical anomaly causing an upset condition where the maximum allowable emission levels of the Capture Device are exceeded or the Capture System fails to provide valid data to the monitoring system within the prescribed measurement ranges. Examples may include but are not limited to alarm conditions caused by: baghouse filter media leakage, filter cleaning system failure (including insufficient air pressure), damper actuator failure, fan motor failure and breaking of a fan belt or fan belt slippage. Although not an alarmed condition, conveyor failure is also considered to be a *malfunction.*

Primary Emissions Particulate matter emissions from the basic oxygen process furnace generated during the steel production cycle which are captured and treated in the furnace's primary emission control system.

Secondary Emissions Particulate matter emissions that are not controlled by a primary emission control system, including emissions that escape from open and closed hoods, lance hole openings and gaps or tears in ductwork to the primary emission control system.

Shutdown: The standard operational procedure (SOP) for removing a LMF vessel from operation for reasons of inspection, maintenance or repair.

Startup: The standard operational procedure (SOP) for bringing a LMF vessel back into operation after inspection, maintenance or repair.

F. Mixer Emissions System

1.1 Description of System During Production

1.2 Operation and Maintenance Plan

1.3 Site-Specific Monitoring Plan

1.4 Plan Maintenance, Record Keeping and Reporting

1.1 Description of Capture System During Production

The Mixer Baghouse collects the emissions from the torpedo car when it discharges molten metal into the mixer or directly into a ladle at the wild mouse by means of a local hood. A moveable hood captures emissions generated during pouring from the mixer to the ladle and desulfurization in the ladle. The emissions are directed toward the ductwork by the negative pressure from the baghouse ID fans. From the hood and ductwork, the induced draft fans convey the emissions to a spark arrestor and then on to a twelve (12) module Merrick negative pressure pulse jet type baghouse. The gas stream is cleaned by impinging particulate matter on the outside of the filter media. After cleaning, the gas stream is released to the atmosphere by means of a dedicated ID fan located at the outlet of each baghouse module.

The bags in each module are periodically cleaned by means of high pressure air directed through a venturi mounted at the top of each individual bag. The dust, after being loosened from the bag exterior, falls into the module hopper.

An operational description is maintained in Appendix A. A description of the CPMS is in Appendix B and definitions are contained in Appendix C.

1.2 Operation and Maintenance Plans

1.2.1 Scope

The Mixer does not require an O&M Plan in accordance with 63.7800(b).

1.3 Process Specific Monitoring Plans

1.3.1 Scope

The following continuous parametric monitoring systems (CPMS) are covered by this plan:

- Mixer Emissions Baghouse bag leak detector

1.3.2 Plan Elements

(a.) Documentation that the bag leak detection system has been installed, operates and is maintained according to the requirements of paragraphs (f)(1) through (f)(7) of 40 CFR 63.7831 is maintained in the Engineering, Utilities and/or Environmental Control Departments. (63.7831(f)(1)-(7)).

(b.) Documentation that the bag leak detector is capable of detecting emissions of particulate matter at concentrations of 10 milligrams

per actual cubic meter (0.0044 grains per actual cubic foot) or less will be maintained in Appendix B. (63.7831(f)(1)).

(c.) The bag leak detection system is installed operated and maintained in accordance with "Fabric Filter Bag Leak Detection Guidance" EPA-454/R-98-015, September 1997 or and/or in accordance with manufacturer's instructions. This documentation will be kept in the Engineering and/or Utilities Department files. (63.7831(f)(4)).

(d) The alarm set points and delay time documentation will be kept in the Engineering Department files. (63.7831(f)(5)).

(e.) All documentation pertaining to the adjustment of the bag leak detection system will be kept in the Environmental Control Department files. (63.7831(f)(6)).

1.3.3 Inspections specific to baghouses

Baghouse Equipment	**Inspection Frequency**	**Monitoring Method**	**Regulatory Citation**
Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range of 1.5 - 12.0 in WC. If outside the range, initiate corrective action.	Daily	Visual	63.7830(b)(4)
Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.	Weekly	Visual	63.7830(b)(4)
Check the compressed air supply for pulse-jet baghouses.	Daily	Visual	63.7830(b)(4)

Monitor cleaning cycles to ensure proper operation using an appropriate methodology.	Daily	Visual	63.7830(b)(4)
Check bag cleaning mechanisms for proper functioning using an appropriate methodology.	Monthly	Visual	63.7830(b)(4)
Confirm the physical integrity of the baghouse through visual inspections of the baghouse interior for air leaks.	Quarterly	Visual	63.7830(b)(4)
Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors or equivalent means.	Quarterly	Vibration Analysis	63.7830(b)(4)

1.4 Plan Maintenance, Recordkeeping and Reporting

1.4.1 Initial plan requirements

- The Operation and Maintenance Plan and Site-Specific Monitoring Plan must be developed and implemented by May 22, 2006.
- Failure to meet any condition in a plan is a deviation and must be reported as such in the periodic deviation report.

1.4.2 Plan revisions

- Plans may be revised at any time provided you notify your permitting agency that you have done so in the next periodic Title V compliance certification.

1.4.3 Recordkeeping

- You must keep all current plans, superseded plans and all information necessary to demonstrate that you have complied with each plan requirement on-site for a period of at least 5 years. The first three years

the information must be kept and the last two years information can be stored off-site.

Appendix A:

Operational Description of Mixer Emissions System

1.0 INTRODUCTION

This document is intended to describe the emission system equipment and operation for the BOP Mixer Area at the Edgar Thomson Plant. The Mixer area encompasses the transfer of hot metal to the mixer from the torpedo car, the transfer of hot metal from the mixer to the charging ladle and the desulfurization of the hot metal in the charging ladle. Additionally, also included is the direct pour station that allows the transfer of hot metal directly from the torpedo car into the charging ladle.

2.0 SYSTEM OVERVIEW

The system is divided into the capture system and the control system. The capture system consists of fixed hoods to capture emissions at the torpedo car to mixer pour station and the direct pour station (wild mouse). A movable hood is utilized to capture emissions generated during the transfer of hot metal from the mixer to the ladle and during the desulfurization process. Volume is directed to the appropriate process via control dampers in the ductwork.

Interconnecting ductwork connects the hoods to a cyclonic separator to remove incendiary particles prior to the baghouse.

The control system consists of a 12 module baghouse that controls emissions from all sources listed above. Each module is equipped with an individual fan and motor located on the clean (suction) side of the baghouse. Each fan discharges the clean gases directly to the atmosphere via an individual stack.

Each compartment is equipped with an inlet isolation damper that isolates the compartment for cleaning. Cleaning is either based on time or module pressure drop. Cleaning is by reverse pulse jet with one module at a time being taken off line by automatically closing the module inlet damper. For the cleaning of the modules the baghouse uses the plant air supply. The introduction of the compressed air into the filter bag dislodges the accumulated dust so it can fall into a hopper at the bottom of each compartment. Once the dust is at the bottom of the hopper, a continuously operated rotary valve directs the dust and debris into dustbins located directly below each hopper. The individual dustbins are visually checked periodically and emptied upon operator discretion.

3.0 DAMPER CONTROL

The positions of the dampers at the mixer will be monitored to determine that they are in the right position for the current operation. The damper controls are on the Hood Damper Control Panel. The required damper position for each operation is show below.

HOOD DAMPER CONTROL PANEL

Operation	**Required Damper Position**			
	SOUTH MOVEABLE HOOD	TORPEDO LADLE TO WILD MOUSE	NORTH MOVEABLE HOOD	TORPEDO LADLE TO MIXER
Pour from torpedo ladle to mixer	CLOSED	CLOSED	CLOSED	OPEN
Pour from torpedo ladle to wild mouse	CLOSED	OPEN	CLOSED	CLOSED
Pour from mixer to ladle	CLOSED	CLOSED	OPEN	CLOSED
Desulfurization (north pit)	CLOSED	CLOSED	OPEN	CLOSED
Desulfurization (south pit)	OPEN	CLOSED	CLOSED	CLOSED

Local alarming is provided to alert the operator that the appropriate damper is not in the correct position for the operation being performed.

4.0 MACT ALARMS

The following alarms are considered MACT alarms and require the reaction of the appropriate personnel.

Compartment No. 1 Bag Leak Detector Alarm
Compartment No. 2 Bag Leak Detector Alarm
Compartment No. 3 Bag Leak Detector Alarm
Compartment No. 4 Bag Leak Detector Alarm
Compartment No. 5 Bag Leak Detector Alarm
Compartment No. 6 Bag Leak Detector Alarm
Compartment No. 7 Bag Leak Detector Alarm
Compartment No. 8 Bag Leak Detector Alarm
Compartment No. 9 Bag Leak Detector Alarm
Compartment No. 10 Bag Leak Detector Alarm
Compartment No. 11 Bag Leak Detector Alarm
Compartment No. 12 Bag Leak Detector Alarm

These alarms will be annunciated in the Gas Cleaning Pulpit Room and at the Caster Water Quality Control Room.

Only the personnel in the Caster Water Quality Control Room can acknowledge the alarm. This person is also responsible for initiating the appropriate procedure to determine the cause of the alarm and initiate corrective action. The alarm in the other area is to ensure that the presence of an alarm condition is known and to ensure that the personnel in these areas notify the Caster Water personnel of an unacknowledged alarm.

5.0 MONITORING

Broken bag detectors are provided for each module. Detectors are loop powered units connected directly to the baghouse PLC. PLC programming records the signals and determines the alarm outputs. All alarms are transmitted electronically to the PI system and are time stamped. The detectors have been installed and operated in accordance with the manufacturer recommendations.

Additionally, the following parameters will be monitored by the local instrumentation and instantaneous readings will be electronically transferred to the PI system via the baghouse PLC. Alarms will be provided when a parameter is out of a preset range or minimum setpoint.

Individual compartment pressure drop
Isolation damper positions
Cleaning air pressure

All MACT alarms and their time of acknowledgement will be on the PI monitoring system.

Pressure drop will be averaged on an hourly basis with the hour being an hour of operation, not necessarily a clock hour.

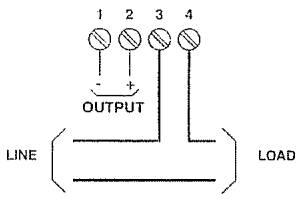
Appendix B:

CPMS Documentation:

- Ohio Semitronics, Inc. Single-Phase AC Current Transducer Installation and Operating Instructions.
- *Certificate of Compliance for Auburn TRIBO.d^2, Model 3400 Bag Leak Detector*
- Bag Leak Detection System Operation and Maintenance Manual

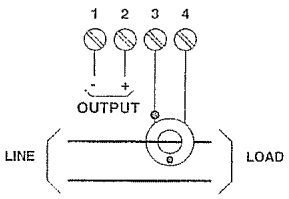
CONNECTION DIAGRAMS — MODEL MCT5-

Direct Connection



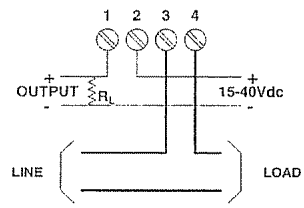
Self-Powered Models, MCT5-***A

External Current Transformers



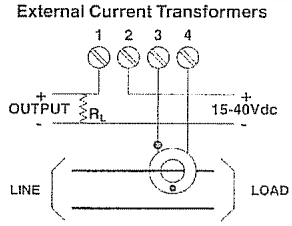
Self-Powered Models, MCT5-***A

Direct Connection



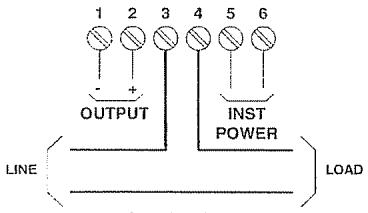
Loop-Powered Models, MCT5-***E2

External Current Transformers



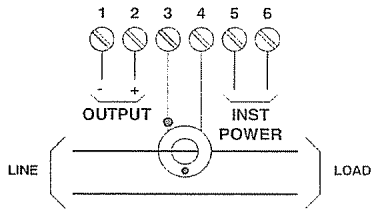
Loop-Powered Models, MCT5-***E2

Direct Connection



4-20mA Output Models, MCT5-***E

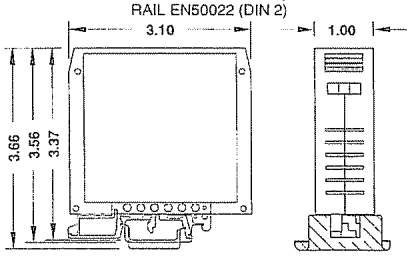
External Current Transformers



4-20mA Output Models, MCT5-***E

CASE DIMENSIONS

UNIT CAN BE MOUNTED ON:
RAIL EN50035 (DIN 1)
RAIL EN50022 (DIN 2)

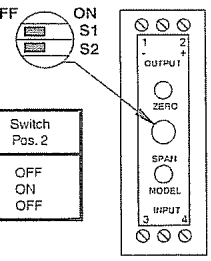


All Dimensions in Inches

OUTPUT SELECTION MCT5-***A

UNITS ARE SHIPPED WITH 0-1mA SETTING

REMOVE SNAP BUTTON FOR ACCESS TO DIP SWITCHES



Output Required	Switch Pos. 1	Switch Pos. 2
0-1mA	OFF	OFF
0-5V	ON	ON
0-10V	ON	OFF

OHIO SEMITRONICS, INC.
4242 REYNOLDS DRIVE * HILLIARD, OHIO * 43026-1264
PHONE: (614) 777-1005 * FAX: (614) 777-4511
WWW.OHIOSEMITRONICS.COM * 1-800-537-6732

040404

auburn SYSTEMS
8 Electronics Ave. Danvers, MA 01923 Tel: (978) 777-2460 Fax: (978) 777-8820 e-mail: sales@auburnsys.com

CERTIFICATE OF COMPLIANCE

CUSTOMER: US Steel – ET Plant

PRODUCT: TRIBO.d^2 , Model 3400

This certifies that the TRIBO.d^2 , Model 3400, has been tested and found to be in conformance with federal regulation 40 CFR 63, section 63.1350, paragraph (m) which states: The BLDS must 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.

Robert E. Newton

Auburn Systems
Product Development Manager,
Triboelectric Systems

Appendix C:

Definitions

Capture Device:	A mechanical device with integral filter media and ID fans located at the end of the Capture System that entraps or entrains the fumes, dust and other non-gaseous pollutants generated by the Mixer Station under normal operating conditions.
Capture System:	That equipment or devices including but not limited to hoods, fans, ductwork and dampers used to capture and convey emissions generated by the Mixer Station to the Capture Device. The physical limits of the Capture System extend from the South Discharge Hood to the inlet flange of the Capture Device.
ESS:	*Environmental Software System utilized to track, report and document environmental requirements.*
PI	A computer based process parameter monitoring system.
Primary Emissions	Particulate matter emissions from the basic oxygen process furnace generated during the steel production cycle which are captured and treated in the furnace's primary emission control system.
Secondary Emissions	Particulate matter emissions that are not controlled by a primary emission control system, including emissions that escape from open and closed hoods, lance hole openings and gaps or tears in ductwork to the primary emission control system.
Shutdown:	The standard operational procedure (SOP) for removing the Mixer Station from operation for reasons of inspection, maintenance or repair.
Startup:	The standard operational procedure (SOP) for bringing the Mixer Station back into operation after inspection, maintenance or repair.

APPENDIX C

DELIVERABLES TEMPLATE

Field	Instructions
Deliverable/Obligation	This should contain a description of the specific deliverable or obligation (a single line of succinct text for plans, reports, data, penalty payments and any other item due under the consent decree). In the case of repeating or ongoing deliverables/obligations (e.g., annually recurring deliverables), enter each repeating or ongoing deliverable/obligation as a distinct line item. For consent decrees that cover multiple facilities, a separate deliverable/obligation line should be included for each item (e.g., a plan, a report) that must be submitted individually for each facility and the deliverable/obligation name should be provided in the following format: "Facility Name – Deliverable/Obligation Name". If a single item (e.g., a plan, a report) is required for all facilities, a single, aggregated deliverable/obligation line should be included for this one item and a note should be included in the "Comments" field indicating that this item addresses all of the facilities.
Due Date	Enter the due date for the deliverable in MM/DD/YYYY format.
Comments	Enter any comments or details specific to the deliverable/obligation. If the exact deliverable/obligation due date is not known (e.g., it is contingent upon the completion of another deliverable), enter a description for the deliverable/obligation due date.
Approval Required?	Enter "Yes" or "No" to indicate whether the deliverable/obligation requires written approval by EPA.
Facility Name	Enter the facility name associated with the deliverable/obligation. The facility name will be consistent across all deliverables/obligations for single-facility consent decrees. For multi-facility consent decrees, each deliverable/obligation for each facility must be entered as a separate line and the facility name associated with each deliverable/obligation will be entered accordingly. If the deliverable line pertains to all facilities, leave the Facility Name field blank.
Facility State	Select the two-letter acronym (e.g., PA, WV) for the state in which the facility is located If the deliverable line pertains to all facilities, leave the Facility State field blank.

Deliverable/Obligation	Due Date	Comments	Approval Required?	Facility Name	Facility State
[Type Input]	*[MM/DD/YYYY]*	*[Type Input]*	*[Select "Yes/No"Input]*	*[Type Input]*	*[State Abbreviation]*