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WHEREAS, Plaintiffs United States of America, on behalf of the United States Environmental Protection Agency (“EPA”), and State of Minnesota (the “State”), on behalf of the Minnesota Pollution Control Agency (“MPCA”), have filed a Complaint in this action concurrently with this Consent Decree, alleging that Defendant Mesabi Nugget Delaware, LLC (“Mesabi Nugget” or “Defendant”), violated Sections 502 through 507 of the Clean Air Act (“CAA” or “Act”), 42 U.S.C. §§ 7661a through 7661f (Title V), and the federally-enforceable State Implementation Plan (“SIP”) for Minnesota approved by EPA pursuant to Section 110 of the CAA, 42 U.S.C. § 7410, which incorporate and/or implement the Minnesota SIP and the Title V permit program;

WHEREAS, the Plaintiffs allege that at all times relevant to the Complaint, Mesabi Nugget owned and operated the Mesabi Nugget Delaware, LLC plant located at 6500 Highway 135 North, Aurora, Minnesota (the “Facility”);

WHEREAS, the Plaintiffs allege that Defendant operated the Facility in excess of emission limits specified in its Title V permit, Permit Number 13700318-003 (“Title V Permit” or “Permit”) issued by MPCA on January 8, 2010, and emitted particulate matter (“PM”), mercury, volatile organic compounds (“VOCs”), nitrogen oxide (“NO_x”), and carbon monoxide (“CO”) from one or more emission units above applicable permit limits, in violation of the CAA;

WHEREAS, Defendant disputes the Plaintiffs’ allegations and does not admit any liability to the United States or the State arising out of the transactions or occurrences alleged in the Complaint;

WHEREAS, Mesabi Nugget has idled operations at the Facility and currently anticipates the Facility remaining idled for at least two years, subject to market conditions that will affect the continuation of the idle;

WHEREAS, Plaintiffs have reviewed the Financial Information submitted by Mesabi Nugget to determine to what extent Mesabi Nugget is financially able to pay a civil penalty relating to the claims alleged in the Complaint. Based upon this Financial Information, Plaintiffs have determined that Mesabi Nugget has limited financial ability to pay a civil penalty;

WHEREAS, the Parties recognize, and this Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith, 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, 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, 1362, and 1367, and Section 113(b) of the CAA, 42 U.S.C. § 7413(b), and over the Parties. 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) and (c) and 1395(a), because the violations alleged in the Complaint are alleged to have occurred in, and Defendant conducts business in, this judicial district. For purposes of this Decree, or any action to enforce this Decree, Defendant consents to this Court's jurisdiction over this Consent Decree and any such action and consents to venue in this judicial district.

2. For purposes of this Consent Decree, Defendant agrees that the Complaint states claims upon which relief may be granted pursuant to Sections 165 and 502 of the CAA, 42 U.S.C. §§ 7475 and 7611a.

3. Notice of the commencement of this action has been given to the State of Minnesota, as required by Section 113 of the CAA, 42 U.S.C. § 7413.

II. APPLICABILITY

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

5. No transfer of ownership or operation of the Facility, whether in compliance with the procedures of this Paragraph or otherwise, shall relieve Defendant of its obligations to ensure that the terms of this Consent Decree are implemented. At least 30 days prior to such transfer, Defendant shall provide a copy of this Consent Decree to the proposed transferee and shall simultaneously provide written notice of the prospective transfer, together with a copy of the proposed written agreement, to EPA Region 5, the United States Attorney for the District of Minnesota, the United States Department of Justice, and the State of Minnesota, in accordance with Section XV of this Decree (Notices and Submissions). Any attempt to transfer ownership or operation of the Facility without complying with this Paragraph constitutes a violation of this Consent Decree.

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

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

8. Purpose. It is the express purpose of the Parties in entering this Consent Decree to further the objectives of the Act, as enunciated in Section 101 of the Act, 42 U.S.C. § 7401 *et seq.* All plans, reports, construction, maintenance and other obligations in this Consent Decree or resulting from the activities required by this Consent Decree shall have the objective of causing Defendant to come into and remain in full compliance with the terms of its applicable permits and the Act.

III. DEFINITIONS

9. Terms used in this Consent Decree that are defined in the CAA or in federal and state regulations promulgated pursuant to or authorized by the CAA shall have the meanings assigned to them in the CAA or such regulations, unless otherwise provided in this Decree. Whenever the terms set forth below are used in this Consent Decree, the following definitions shall apply:

a. “Bag Leak Detection System” or “BLDS” shall mean a device that monitors and records the relative change in particulate matter loading present downstream of a fabric filter air pollution control device.

b. “CAA” shall mean the Clean Air Act.

c. “Coal Pulverizer #1” shall mean emission unit EU004 from Defendant’s Permit. Coal Pulverizer #1 is a mechanical device for grinding and drying coal or carbon substitutes.

d. “Coal Pulverizer #2” shall mean emission unit EU005 from Defendant’s Permit. Coal Pulverizer #2 is a mechanical device for grinding and drying coal or carbon substitutes.

e. “Complaint” shall mean the complaint filed by the United States and the State in this action.

f. “Consent Decree” or “Decree” shall mean this Consent Decree, and all appendices attached hereto (listed in Section XXIII).

g. “CO” shall mean carbon monoxide.

h. “Day” shall mean a calendar day unless expressly stated to be a business day. In computing any period of time under this Consent Decree, where the last day would fall on a Saturday, Sunday, or federal or State holiday, the period shall run until the close of business of the next business day. In the context of the 30-day block period for assessing mercury emissions, as described in Paragraphs 11 and 12 and Appendices A and B, “day” shall mean the 24-hour period that begins at 7:00 a.m.

i. “Defendant” or “Mesabi Nugget” shall mean Mesabi Nugget Delaware, LLC.

j. “Effective Date” shall have the meaning given in Section XV.

k. “EPA” shall mean the United States Environmental Protection Agency and any of its successor departments or agencies.

l. “Facility” shall mean Defendant’s plant located at 6500 Highway 135 North, Aurora, Minnesota.

m. “Financial Information” shall mean federal tax returns and audited financial statements for the years 2012, 2013, and 2014.

- n. “Flux” shall mean fluxing agents and additives used in the production of iron nuggets.
- o. “Flux Pulverizer #1” shall mean emission unit EU006 from the Defendant’s Permit. Flux Pulverizer #1 is a mechanical device for grinding and drying flux.
- p. “Malfunction” shall mean any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner, which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in whole or in part by poor maintenance or careless operation are not malfunctions.
- q. “Material Transfer Operations” shall mean emission unit EU010 from the Defendant’s Permit. The Material Transfer Operations equipment is used to transport certain raw materials, slag, and/or iron nuggets in certain portions of the plant.
- r. “MPCA” shall mean the Minnesota Pollution Control Agency and any of its successor departments or agencies.
- s. “Month” shall mean calendar month.
- t. “Nugget” shall mean a nominal 96-98% pure metallic iron final product.
- u. “NO_x” shall mean nitrogen oxides.
- v. “Paragraph” shall mean a portion of this Consent Decree identified by an Arabic numeral.
- w. “Particulate matter” or “PM” shall mean any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 microns.
- x. “Parties” shall mean the United States, the State, and Defendant.

- y. “Permit” shall mean Mesabi Nugget’s Title V permit, Permit Number 13700318-003, issued by the MPCA on January 8, 2010.
- z. “PTFE” shall mean polytetrafluoroethylene. PTFE is a coating sprayed onto different materials that reduces adhesion and wear from reactive and corrosive materials.
- aa. “Rail Loadout” shall mean emission unit EU008 from Defendant’s Permit. Rail Loadout equipment is used to transport iron nuggets and slag to the rail car loading area.
- bb. “Re-Start Date” shall mean the date upon which the Facility returns to operational status from its current idled state. The Re-Start Date commences upon the placement of a cumulative total of 10,000 metric tons of dry balls in the Rotary Hearth Furnace after the Effective Date.
- cc. “Rotary Hearth Furnace” or “RHF” shall mean emission unit EU001 from Defendant’s Permit. The Rotary Hearth Furnace is used to transform the dry balls into Nuggets and slag.
- dd. “Section” shall mean a portion of this Consent Decree identified by a Roman numeral.
- ee. “Stack Testing” shall mean a compliance determination test that is conducted on a stack to measure the amount of a specific regulated pollutant, pollutants, or surrogates being emitted.
- ff. “State” shall mean the State of Minnesota.
- gg. “Title V Permit” shall mean a permit required by, or issued pursuant to, the requirements of 42 U.S.C. §§ 7661-7661f, and the implementing regulations at 40 C.F.R. Part 70.

hh. “Ton” or “Tons” shall mean short ton or short tons, unless its use is qualified by the word “metric.” One short ton equals 2000 pounds.

ii. “United States” shall mean the United States of America, acting on behalf of EPA.

jj. “VOC” shall mean any volatile organic compound of carbon -- excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate -- that participates in atmospheric photochemical reactions, except as further defined in 40 C.F.R. § 51.100(s).

kk. “Wet Scrubber” shall mean an air pollution control device that directs a polluted gas stream into contact with a scrubbing liquid to control pollutants.

IV. COMPLIANCE REQUIREMENTS

A. Mercury Emissions from the Rotary Hearth Furnace

10. Use of Mercury Sorbent Trap Monitoring System.

a. Beginning on the Re-Start Date, Defendant shall operate and maintain, in accordance with Appendices A and B, a previously installed mercury sorbent trap monitoring system capable of monitoring the mercury emissions from the Rotary Hearth Furnace at all times when dry balls are being fed to the Rotary Hearth Furnace. Beginning on the Re-Start Date, Defendant shall operate and maintain, in accordance with Appendices A and B, other previously installed required monitoring systems for flow rate and for moisture or wet oxygen at the Rotary Hearth Furnace scrubber stack. No less than 60 Days prior to the anticipated Re-Start Date, Defendant shall submit a site-specific monitoring plan in accordance with Appendices A and B subject to approval under Paragraph 42. Upon approval by EPA, Defendant shall implement all

aspects of the approved site-specific monitoring plan. Defendant shall certify the system, in accordance with Appendices A and B, no later than 120 days after the Re-Start Date.

b. Defendant shall demonstrate initial and continuous compliance with its permitted mercury limit through the use of the mercury sorbent trap monitoring system, in accordance with Appendices A and B.

c. Beginning on the Re-Start Date, the mercury sorbent trap monitoring system at the Rotary Hearth Furnace shall be in continuous operation to demonstrate compliance with the applicable mercury emission limit established in Paragraph 11 of this Consent Decree except during mercury sorbent trap monitoring system breakdowns, repairs, maintenance, or sorbent trap removal and replacement. Defendant shall take all steps reasonably necessary to avoid breakdowns and minimize downtime. These steps shall include, but are not limited to, operating and maintaining the sorbent trap monitoring system in accordance with best practices, and maintaining an adequate on-site inventory of spare parts or other supplies necessary to make rapid repairs to the equipment.

11. Compliance with Mercury Emission Limit. Beginning on the Re-Start Date, Defendant shall comply with the mercury emission limit of 0.0086 pounds per hour (lbs/hr) using a 30-day block average at the Rotary Hearth Furnace, as monitored, recorded, and analyzed by the mercury sorbent-trap monitoring system in accordance with Appendix A.

12. Initial Demonstration of Compliance with Mercury Emission Limit.

a. By no later than 60 days after initial certification of the mercury sorbent trap monitoring system, Defendant shall demonstrate initial compliance with the mercury emission limit in Paragraph 11 through the use of the mercury sorbent trap monitoring system in accordance with Paragraph 10. Initial compliance shall be demonstrated if the results of the first

30-day block period average emission rate obtained with the certified mercury sorbent trap monitoring system meet the mercury emission limit in Paragraph 11.

b. By no later than 75 days after the initial certification of the mercury sorbent trap monitoring system, Defendant shall submit the results of the initial demonstration of compliance to EPA and MPCA in accordance with Section XIV (Notices).

B. Preventive Maintenance and Operations (PMO) Plans

a. Rotary Hearth Furnace

13. Prior to the Re-Start Date, Defendant shall submit to EPA and MPCA a PMO Plan subject to approval under Paragraph 42 to implement enhanced maintenance and operation of the Rotary Hearth Furnace and all associated pollution control equipment. The PMO Plan shall be a compilation of Defendant's approaches for exercising good air pollution control practices and for minimizing excess emissions at the Rotary Hearth Furnace. The PMO Plan must include the following:

a. Annual inspections of the spray nozzles at the RHF's Wet Scrubber. Spray nozzles shall be replaced before the RHF's Wet Scrubber is put back into service following the inspection if corrosion that potentially affects the spray nozzle's performance is identified during the inspection.

b. Annual inspections of the Wet Scrubber packing. Wet Scrubber packing shall be cleaned or replaced if build-up and fouling that potentially affects the packing's performance are found during the inspection.

c. Procedures and documentation detailing the continued use of stainless steel spray nozzles for the packed bed section and schedule 80 carbon steel nozzles for the throat spray section of the Wet Scrubber.

d. Procedures and documentation detailing the operation of the adjustable venturi throat system and mist eliminators for improved performance of the RHF's Wet Scrubber.

14. Defendant shall apply to MPCA to incorporate all approved PMO Plans into Defendant's Title V Permit within 60 Days of such approval. Defendant shall comply with the most recently approved PMO Plan at all times, including periods of Startup, Shutdown, and Malfunction of the Rotary Hearth Furnace. If Defendant makes modifications to the operation and maintenance of the emission unit and associated pollution control equipment, the PMO Plan shall be modified to reflect current operation and maintenance practices. Defendant shall summarize all such modifications to PMO Plans and report them to EPA and MPCA on an annual basis. All such modifications to PMO Plans shall be subject to approval under Paragraph 42 of this Consent Decree.

b. Coal Pulverizer #1 and Flux Pulverizer #1

15. Prior to the Re-Start Date, Defendant shall submit to EPA and MPCA a PMO Plan subject to approval under Paragraph 42 to implement enhanced maintenance and operation of Coal Pulverizer #1, Flux Pulverizer #1, and all associated pollution control equipment. Each PMO Plan shall be a compilation of Defendant's approaches for exercising good air pollution control practices and for minimizing excess emissions at Coal Pulverizer #1 and Flux Pulverizer #1. The PMO Plan must include:

a. A site-specific monitoring plan for each Bag Leak Detection System in accordance with the specifications and requirements of Appendix C of this Consent Decree.

b. Procedures for recording and maintaining daily pressure drop readings of each baghouse.

c. Procedures for inspecting each emission unit's baghouse semiannually. Repairs of any deficiencies identified during the semiannual shutdown inspection must be completed before restarting the applicable emission unit.

d. Procedures and documentation detailing the continued use of PTFE-coated bags featuring double disks and six-inch wear cuffs, unless a performance test performed by Mesabi Nugget and accepted by MPCA demonstrates compliance with applicable particulate limits without their use.

e. Documentation that defines the new air-to-cloth ratio based on the use of PTFE-coated bags.

f. Procedures for annual maintenance of each emission unit's baghouse that includes the complete inspection of outlet piping and entire baghouse.

16. Defendant shall apply to MPCA to incorporate all approved PMO Plans into Defendant's Title V Permit within 60 Days of such approval. Defendant shall comply with the most recently approved PMO Plan for each unit at all times, including periods of Startup, Shutdown, and Malfunction of Coal Pulverizer #1 and Flux Pulverizer #1. If Defendant makes modifications to the operation and maintenance of an emission unit and associated pollution control equipment, the respective PMO Plan shall be modified to reflect current operation and maintenance practices. Defendant shall summarize all such modifications to PMO Plans and report them to EPA and MPCA on an annual basis. All such modifications to PMO Plans shall be subject to approval under Paragraph 42 of this Consent Decree.

c. Rail Loadout and Material Transfer Operations

17. Prior to the Re-Start Date, Defendant shall submit to EPA and MPCA a PMO Plan subject to approval under Paragraph 42 to implement enhanced maintenance and operation of the Rail Loadout, Material Transfer Operations, and all associated pollution control equipment. Each PMO Plan shall be a compilation of the Defendant's approaches for exercising good air pollution control practices and for minimizing excess emissions at the Rail Loadout and Material Transfer Operations. The PMO Plan must include the following:

- a. Site-specific monitoring plans for each Bag Leak Detection System in accordance with the specifications and requirements of Appendix C of this Consent Decree.
- b. Procedures for recording and maintaining daily pressure drop readings of each baghouse.
- c. Procedures for inspecting each emission unit's baghouse semiannually. Repairs of any deficiencies identified during any semiannual shutdown inspection must be completed before restarting the applicable emission unit.
- d. Procedures and documentation detailing the continued use of PTFE-coated bags featuring double disks and six-inch wear cuffs, unless a performance test performed by Mesabi Nugget and accepted by MPCA demonstrates compliance with applicable particulate limits without their use.
- e. Documentation that defines the new air-to-cloth ratio based on the use of PTFE-coated bags.
- f. Procedures for annual maintenance of each emission unit's baghouse that includes the complete inspection of outlet piping and entire baghouse.

g. Procedures for ensuring adequate face velocity of the pickup points of the baghouse system to collect particulate matter emissions without entraining raw materials.

h. Procedures for annual baghouse system performance evaluation that includes air flow rebalancing as necessary. Any deficiencies identified during annual baghouse system performance evaluation must be corrected before restarting the applicable emission unit.

18. Defendant shall apply to MPCA to incorporate all approved PMO Plans into Defendant's Title V Permit within 60 Days of such approval. Defendant shall comply with the most recently approved PMO Plan for each unit at all times, including periods of Startup, Shutdown, and Malfunction of the Rail Loadout, Material Transfer Operations. If Defendant makes modifications to the operation and maintenance of an emission unit and associated pollution control equipment, the respective PMO Plan shall be modified to reflect current operation and maintenance practices. Defendant shall summarize all such modifications to PMO Plans and report them to EPA and MPCA on an annual basis. All such modifications to PMO Plans shall be subject to approval under Paragraph 42 of this Consent Decree.

C. Interim Emission Limits

19. Beginning on the Effective Date of this Consent Decree, and continuing until MPCA issues, denies, or otherwise finally acts on Defendant's application for Permit modification, to be submitted pursuant to Paragraph 30 of this Consent Decree, Defendant shall comply with the following emission limits for each unit as specified in the tables below. These limits shall apply until the permit amendment contemplated under Section IV.F is completed:

Coal Pulverizer #1 -

| Pollutant | Emission Limit |
|------------------|-----------------------|
| VOC | 0.151 lbs/MMBtu |
| VOC | 1.27 lbs/hr |
| NO _x | 0.39 lbs/hr |
| NO _x | 0.044 lbs/MMBtu |
| CO | 1.22 lbs/hr |
| CO | 0.112 lbs/MMBtu |

Flux Pulverizer #1 -

| Pollutant | Emission Limit |
|------------------|-----------------------|
| VOC | 0.019 lbs/MMBtu |
| VOC | 0.068 lbs/hr |
| NO _x | 0.077 lbs/MMBtu |
| CO | 0.16 lbs/MMBtu |

Rotary Hearth Furnace -

| Pollutant | Emission Limit |
|------------------|-------------------------------------------|
| PM / PM10 | 0.0249 gr/dscf limit on p. A-27 of Permit |
| PM / PM10 | 0.0249 gr/dscf limit on p. A-28 of Permit |

Green Ball Dryer –

| Pollutant | Emission Limit |
|------------------|-----------------------------------------------------------------------------|
| PM / PM10 | 80% (Front-Half) and 76.3% (PM10) control efficiencies on p. A-33 of Permit |

D. Best Available Control Technology Analysis for PM, CO, VOC, and NO_x

Emission Limits

20. No later than 45 days prior to the Re-Start Date, Defendant shall complete and submit for approval under Paragraph 42 a Best Available Control Technology analysis for PM

and PM/PM10 control efficiency emission limits on the Rotary Hearth Furnace and for PM/PM10 control efficiency limits on the Green Ball Dryer.

21. No later than 45 days prior to the Re-Start Date, Defendant must complete and submit for approval under Paragraph 42 a Best Available Control Technology analysis for CO and VOC emission limits on the following units:

- a. Coal Pulverizer #1, EU004; and
- b. Flux Pulverizer #1, EU006.

22. No later than 45 days prior to the Re-Start Date, Defendant must complete and submit for approval under Paragraph 42 an analysis for NO_x emission limits under Minnesota Rule 7007.1600, subpart 2C, on the Coal Pulverizer #1, EU004.

E. Performance Testing of Emission Units

23. Within 90 days of the date on which the Facility has produced a total of 100,000 metric tons of iron nuggets after Re-Start, and in no event later than 270 days after Re-Start, Defendant shall conduct stack tests measuring the emission rate of NO_x, VOC, and CO at Coal Pulverizer #1 and Flux Pulverizer #1, in accordance with the applicable requirements and methods of 40 C.F.R. Part 60, Appendix A.

24. Within 90 days of the date on which the Facility has produced a total of 100,000 metric tons of iron nuggets after Re-Start, and in no event later than 270 days after Re-Start, Defendant shall conduct stack tests measuring the emission rate of PM and PM10 at the RHF in accordance with applicable requirements and methods of 40 C.F.R. Part 60, Appendix A.

25. By no later than 30 days before any stack test required by this Consent Decree is conducted, Defendant shall submit in accordance with Section XIV (Notices) of this Consent Decree a notice of its intent to conduct such test for approval. This notification must include the

scheduled date of the test, an emissions test protocol, a description of the planned operating rate and operating conditions, and the procedures that will be used to measure and record operating parameters. If EPA or MPCA require any adjustments of the testing protocol or operating conditions, Defendant shall make such adjustments and conduct the stack test in conformity with EPA's or MPCA's requirements, in accordance with Paragraph 42.

26. By no later than 45 days after conducting a stack test required by this Consent Decree, Defendant shall submit in accordance with Section XIV (Notices) of this Consent Decree a report documenting the results of the stack test.

27. By no later than 90 days after conducting a stack test required by Paragraph E, Defendant shall submit in accordance with Section XIV (Notices) testing frequency plans for NO_x, VOC, and CO for Coal Pulverizer #1 and Flux Pulverizer #1. Each plan shall specify a testing frequency based on performance test data for each emission unit and established in accordance with MPCA's *Performance Testing for Stationary Source Emissions* guidance document.

28. Defendant shall conduct stack tests measuring the emission rate of PM and PM10 at the RHF in accordance with the applicable requirements of 40 C.F.R. Part 60, Appendix A every 12 calendar months beginning on the date of the stack test conducted pursuant to Paragraph 24. Upon three consecutive stack tests performed under this Paragraph 28 showing results less than 75% of the applicable PM and PM10 limits for the RHF, Defendant may reduce the testing frequency to once every two years.

F. Permit Amendment Requirements

29. Permits Prior to Construction or Installation. Where any compliance obligation under this Section requires Defendant to obtain a federal, state, or local permit or approval,

Defendant shall submit timely and complete applications and take all other actions necessary to obtain all such permits and approvals. Defendant may seek relief under the provisions of Section IX (Force Majeure) for any delay in the performance of any such obligation resulting from a failure to obtain, or a delay in obtaining, any permit or approval required to fulfill such obligation, if Defendant has submitted timely and complete applications and has taken all other actions necessary to obtain such permit(s) or approval(s).

30. Applications for Permits. Within 45 days of EPA's and MPCA's approval of the analyses completed pursuant to Paragraphs 20 through 22, Defendant shall submit an application to MPCA for amendment of its permit for the Facility, in accordance with State rules, including applicable administrative amendment provisions of such rules, incorporating the requirements set forth below and in Paragraph 31:

- a. The limits for emissions established in Section IV.D and Appendix A;
- b. The monitoring requirements established in Section IV.A and Appendices A and B;
- c. The preventative maintenance and operation requirements set forth in Section IV.B; and
- d. The testing requirements established in Section IV.E of this Consent Decree.

The emission limits referenced in subparagraph (a) above shall not exceed the interim emission limits established in Section IV.C.

31. PM_{2.5} National Ambient Air Quality Standards (NAAQS) Compliance Modeling Demonstration. In the permit amendment application submitted pursuant to Paragraph 30, Mesabi Nugget shall include a refined modeling analysis to demonstrate compliance with the

PM_{2.5} 24-hour and annual NAAQS. Mesabi Nugget shall conduct the modeling analysis in accordance with all final and effective versions of the MPCA air dispersion modeling guidance at the time modeling is required and shall include the most recent emissions data projections provided for the planned PolyMet project (unless PolyMet has provided notice that it no longer wishes to pursue this project).

32. Removal of Emission Unit EU005. Defendant shall remove emission unit EU005, Coal Pulverizer #2 in the permit amendment application required in Paragraph 30.

33. Following submission of the application for permit amendment, Defendant shall promptly submit any supplemental information that the MPCA requests to assist in its analysis of the permit materials and its development of the permit amendment.

34. Requirements incorporated into operating permits pursuant to this Section shall survive termination of this Consent Decree. For any application for permit amendment required by this Section, Defendant shall submit to EPA in the manner set forth in Section XIV (Notices), a copy of each application, as well as a copy of any permit proposed as a result of such application, to allow for timely participation in any public comment opportunity.

V. REPORTING REQUIREMENTS

35. After the lodging of this Consent Decree, until termination of this Decree pursuant to Section XVIII (Termination), Defendant shall submit in accordance with Section XIV (Notices) a progress report at the frequency described below that shall include:

- a. Anticipated Re-Start Date;

b. Work performed and progress made toward implementing the requirements of Section IV (Compliance Requirements), including completion of any milestones;

c. Any significant modifications to previously-submitted design specifications of any pollution control system, or to monitoring equipment, required to comply with the requirements of Section IV (Compliance Requirements);

d. Any significant problems encountered or anticipated in complying with the requirements of Section IV (Compliance Requirements), including implemented or proposed solutions;

e. A summary of the emissions monitoring and testing data collected to demonstrate compliance with a requirement of this Consent Decree;

f. On and after the compliance dates for emission limits established under Section IV.C, a description of all periods of Startup, Shutdown, and Malfunction, including, to the extent known or capable of good-faith estimation, quantities of pollutant emitted during such periods and the causes of claimed Malfunctions;

g. On and after the compliance dates for emission limits established under Section IV.A, all information required to be reported in the applicable mercury sorbent trap monitoring system site-specific monitoring plan established by Appendices A and B of this Consent Decree;

h. Status of permit applications and a summary of all permitting activity required under Section IV of this Consent Decree; and

- i. Any reports to MPCA pertaining to compliance with this Consent Decree or the CAA.

During the period prior to the Re-Start Date, this report shall be submitted by February 15 of each year and cover the preceding calendar year. After the Re-Start Date and until Termination of this Decree pursuant to Section XVIII (Termination), this report shall be submitted on a semi-annual basis by February 15 and August 15 of each year and cover the preceding January through June or July through December, as applicable.

36. If Defendant violates, or has reason to believe that it may violate, any requirement of this Consent Decree, including any emission limit or standard prescribed by this Consent Decree, Defendant shall notify the United States and the State of such violation or potential violation and its likely duration, in writing, within ten business Days of the Day Defendant first becomes aware of the violation or potential violation, with 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 a violation cannot be fully explained at the time the report is due, Defendant shall so state in the report, investigate the cause of the violation, and shall then submit an amendment to the report, including a full explanation of the cause of the violation, within 30 Days of the Day Defendant becomes aware of the cause of the violation. Nothing in this Paragraph or the following Paragraph relieves Defendant of its obligation to provide the notice required by Section IX (Force Majeure).

37. Whenever any violation of this Consent Decree or of any applicable permits or any other event affecting Defendant'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, Defendant shall notify EPA and the State orally or by electronic transmission as soon as possible,

but no later than 24 hours after Defendant first obtained knowledge of the violation or event.

This procedure is in addition to the requirements set forth in the preceding Paragraph.

38. All reports shall be submitted to the persons designated in Section XIV (Notices).

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

I certify under penalty of 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.

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

40. The reporting requirements of this Consent Decree do not relieve Defendant of any reporting obligations required by the CAA or implementing regulations, or by any other federal, state, or local law, regulation, permit, or other requirement. The reporting requirements of this Section are in addition to any other reports, plans, or submissions required by other Sections of this Consent Decree.

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

42. Approval of Deliverables. After review of any plan, report, or other item that is required to be submitted pursuant to this Consent Decree, except permit amendment applications

in Section IV.F, EPA after consultation with MPCA shall 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.

43. If the submission is approved pursuant to Paragraph 42(a), Defendant shall take all actions required by the plan, report, or other document, in accordance with the schedules and requirements of the plan, report, or other document, as approved. If the submission is conditionally approved or approved only in part, pursuant to Paragraph 42(b) or (c), Defendant shall, upon written direction from EPA, after consultation with MPCA, take all actions required by the approved plan, report, or other item that EPA, after consultation with MPCA, determines are technically severable from any disapproved portions, subject to Defendant's right to dispute only the specified conditions or the disapproved portions under Section X (Dispute Resolution).

44. If the submission is disapproved in whole or in part pursuant to Paragraph 42(c) or (d), Defendant shall, within 45 Days or such other time as the Parties agree to in writing, correct all deficiencies and resubmit the plan, report, or other item, or disapproved portion thereof, for approval, in accordance with the preceding Paragraphs. If the resubmission is approved in whole or in part, Defendant shall proceed in accordance with the preceding Paragraph.

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

46. If a resubmitted plan, report, or other item, or portion thereof, is disapproved in whole or in part, EPA, after consultation with MPCA, may again require Defendant to correct any deficiencies, in accordance with the preceding Paragraphs, or may itself/themselves correct any deficiencies, subject to Defendant's right to invoke Dispute Resolution and the right of the United States and the State to seek stipulated penalties as provided in the preceding Paragraphs.

VI. ADDITIONAL INJUNCTIVE RELIEF

47. As of the Effective Date of the Consent Decree, Coal Pulverizer #2, EU005, shall be permanently shut down. Defendant's application for amendment of its Permit submitted pursuant to Paragraph 30 shall also request removal of this unit from the Permit.

VII. CIVIL PENALTY

48. Within 30 Days after the Effective Date of this Consent Decree, Defendant shall pay the sum of \$150,000 as a civil penalty, together with interest accruing from the date on which the Consent Decree is lodged with the Court, at the rate specified in 28 U.S.C. § 1961 as of the date of lodging. This penalty shall be split equally between the United States and the State.

49. Defendant shall pay the civil penalty of \$75,000 due to the United States by FedWire Electronic Funds Transfer ("EFT") to the U.S. Department of Justice account, in accordance with instructions provided to Defendant by the Financial Litigation Unit ("FLU") of the U.S. Attorney's Office for the District of Minnesota after the Effective Date. The payment instructions provided by the FLU will include a Consolidated Debt Collection System ("CDCS") number, which Defendant shall use to identify all payments required to be made in accordance with this Consent Decree. The FLU will provide the payment instructions to:

Kevin Petz
Mesabi Nugget Delaware, LLC
P.O. Box 235
Hoyt Lakes, MN 55750
(218) 225-7327
kevin.petz@steeldynamics.com

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

50. At the time of payment, Defendant shall send notice that payment has been made: (i) to EPA via email at cinwd_acctsreceivable@epa.gov or via regular mail at EPA Cincinnati Finance Office, 26 W. Martin Luther King Drive, Cincinnati, Ohio 45268 and (ii) to the United States via email or regular mail in accordance with Section XIV. Such notice shall state that the payment is for the civil penalty owed pursuant to the Consent Decree in *United States, et al. v. Mesabi Nugget Delaware, LLC.*, and shall reference the civil action number, CDCS number and DOJ case number 90-5-2-1-10952.

51. Within 30 days of the Effective Date of this Consent Decree, Defendant shall pay a civil penalty of \$75,000 to the State by check payable to the Minnesota Pollution Control Agency. Payments shall be sent by first class mail and delivered to:

MPCA Fiscal Services, 6th Floor
Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, Minnesota 55155-4194

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

53. Defendant certifies that, to the best of its knowledge and belief, after thorough inquiry, it has submitted to Plaintiffs financial information that fairly, accurately, and materially sets forth its financial circumstances, and that those circumstances have not materially changed between the time the financial information was submitted to Plaintiffs and the time Defendant executes this Consent Decree.

VIII. STIPULATED PENALTIES

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

55. Late Payment of Civil Penalty. If the Defendant fails to pay the civil penalties required to be paid under Section VII (Civil Penalty) when due, Defendant shall pay a stipulated penalty of \$5,000 per Day for each Day that the payment is late.

56. The following stipulated penalties shall accrue for each violation of any emission limit established under Section IV.A and IV.C of this Consent Decree:

| <u>Incidence of Noncompliance</u> | <u>Penalty per Violation</u> |
|---------------------------------------------|------------------------------|
| 1 st violation | \$2,000 |
| 2 nd – 5 th violation | \$5,000 |
| Additional violations | \$10,000 |

57. The following stipulated penalties shall accrue per violation per Day for each violation of any approved plan or schedule, failure to submit plans or schedules as required,

performance testing requirement, emissions monitoring requirement, permitting requirements, reporting requirements, or any other requirement imposed by this Consent Decree:

| <u>Period of Noncompliance</u> | <u>Penalty Per Violation Per Day</u> |
|----------------------------------|--------------------------------------|
| 1st - 14th day | \$500 |
| 15th - 30th day | \$1,000 |
| 31st day and each day thereafter | \$2,000 |

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

59. Defendant shall pay stipulated penalties to the United States and the State within 30 Days of receiving a written demand by either Plaintiff. Defendant shall pay 50% of the total stipulated penalty amount due to the United States and 50% to the State. The Plaintiff making a demand for payment of a stipulated penalty shall simultaneously send a copy of the demand to the other Plaintiff.

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

61. Disputes over Stipulated Penalties. Stipulated penalties shall continue to accrue as provided in Paragraph 58, during any Dispute Resolution, but need not be paid until the following:

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

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

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

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

62. Manner of Payment of Stipulated Penalties. Defendant shall pay stipulated penalties owing to the United States and the State in the manner set forth and with the confirmation notices required by Section VII (Civil Penalty), 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.

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

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

65. Non-Exclusivity of Remedy. Stipulated penalties are not the United States' exclusive remedy for violations of this Consent Decree. Subject to the provisions of Section XII

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

IX. FORCE MAJEURE

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

67. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Decree, whether or not caused by a Force Majeure event, Defendant shall provide notice orally or by electronic or facsimile transmission to EPA and MPCA within 72 hours of when Defendant first knew that the event might cause a delay. Within seven days thereafter, Defendant shall provide in writing to EPA and MPCA an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to

be taken to prevent or mitigate the delay or the effect of the delay; Defendant's rationale for attributing such delay to a Force Majeure event if it intends to assert such a claim; and a statement as to whether, in the opinion of Defendant, such event may cause or contribute to an endangerment to public health, welfare or the environment. Defendant shall include with any notice all available documentation supporting the claim that the delay was attributable to a Force Majeure. Failure to comply with the above requirements shall preclude Defendant from asserting any claim of Force Majeure for that event for the period of time of such failure to comply, and for any additional delay caused by such failure. Defendant shall be deemed to know of any circumstance of which Defendant, any entity controlled by Defendant, or Defendant's contractors knew or should have known.

68. If EPA, after a reasonable opportunity for review and comment by MPCA, 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 MPCA, for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the Force Majeure event shall not, of itself, extend the time for performance of any other obligation. EPA will notify Defendant in writing of the length of the extension, if any, for performance of the obligations affected by the Force Majeure event.

69. If EPA, after a reasonable opportunity for review and comment by MPCA, does not agree that the delay or anticipated delay has been or will be caused by a Force Majeure event, EPA will notify Defendant in writing of its decision.

70. If Defendant elects to invoke the dispute resolution procedures set forth in Section X (Dispute Resolution), it shall do so no later than 15 Days after receipt of EPA's notice.

In any such proceeding, Defendant shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and that Defendant complied with the requirements of Paragraphs 66 and 67 above. If Defendant carries this burden, the delay at issue shall be deemed not to be a violation by Defendant of the affected obligation of this Consent Decree identified to EPA and the Court.

X. DISPUTE RESOLUTION

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

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

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

74. The United States shall serve its Statement of Position within 45 Days of receipt of Defendants' 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 shall be binding on Defendant, unless Defendant files a motion for judicial review of the dispute in accordance with the following Paragraph.

75. Defendant may seek judicial review of the dispute by filing with the Court and serving on the United States, in accordance with Section XIV (Notices), a motion requesting judicial resolution of the dispute. The motion must be filed within ten Days of receipt of the United States' Statement of Position pursuant to the preceding Paragraph. The motion shall contain a written statement of Defendant'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.

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

77. Standard of Review

a. Disputes Concerning Matters Accorded Record Review. Except as otherwise provided in this Consent Decree, in any dispute brought under Paragraph 73 pertaining to the adequacy or appropriateness of plans, procedures to implement plans, schedules or any other items requiring approval by EPA and MPCA under this Consent Decree; the adequacy of the performance of work undertaken pursuant to this Consent Decree; and all other disputes that are accorded review on the administrative record under applicable principles of administrative law, Defendant shall have the burden of demonstrating, based on the administrative record, that the position of the United States is arbitrary and capricious or otherwise not in accordance with law.

b. Other Disputes. Except as otherwise provided in this Consent Decree, in any other dispute brought under Paragraph 73, Defendant shall bear the burden of demonstrating that its position complies with this Consent Decree and better furthers the objectives of this Consent Decree.

78. The invocation of dispute resolution procedures under this Section shall not, by itself, extend, postpone, or affect in any way any obligation of Defendant under this Consent Decree, unless and until final resolution of the dispute so provides. Stipulated penalties with respect to the disputed matter shall continue to accrue from the first Day of noncompliance, but payment shall be stayed pending resolution of the dispute as provided in Paragraph 61. If Defendant does not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section VIII (Stipulated Penalties).

XI. INFORMATION COLLECTION AND RETENTION

79. The United States, the State, and their representatives, including attorneys, contractors, and consultants, shall have the right of entry into the Facility, 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 the State in accordance with the terms of this Consent Decree;
- c. obtain samples and, upon request, splits of any samples taken by Defendant or its representatives, contractors, or consultants;
- d. obtain documentary evidence, including photographs and similar data; and
- e. assess Defendant's compliance with this Consent Decree.

80. Upon request, Defendant shall provide EPA and MPCA or their authorized representatives splits of any samples taken by Defendant. Upon request, EPA and MPCA shall provide Defendant splits of any samples taken by EPA or MPCA.

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

States or the State, Defendant shall provide copies of any documents, records, or other information required to be maintained under this Paragraph.

82. At the conclusion of the information-retention period provided in the preceding Paragraph, Defendant shall notify the United States and the State 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 the State, Defendant shall deliver any such documents, records, or other information to the Plaintiffs. Defendant may assert that certain documents, records, or other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Defendant asserts such a privilege, it shall provide the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of each author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the subject of the document, record, or information; and (6) the privilege asserted by Defendant. However, no documents, records, or other information created or generated pursuant to the requirements of this Consent Decree shall be withheld on grounds of privilege.

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

84. 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 the State pursuant to applicable federal or state laws, regulations, or permits, nor does it limit or affect any duty or obligation of

Defendant to maintain documents, records, or other information imposed by applicable federal or state laws, regulations, or permits.

XII. EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS

85. This Consent Decree resolves the civil claims of the United States and the State for the violations alleged in the Complaint filed in this action through the date of lodging.

86. The United States and the State 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 the State to obtain penalties or injunctive relief under the Act or implementing regulations, or under other federal or state laws, regulations, or permit conditions. The United States and the State 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, the Facility, whether related to the violations addressed in this Consent Decree or otherwise.

87. In any subsequent administrative or judicial proceeding initiated by the United States or the State for injunctive relief, civil penalties, other appropriate relief relating to the Facility or Defendant's violations, Defendant shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States or the State 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 85.

88. Notwithstanding any other provision of this Consent Decree, Plaintiffs reserve, and this Consent Decree is without prejudice to, the right to reinstitute or reopen this action, or to

commence a new action seeking relief other than as provided in this Consent Decree, if the Financial Information provided by Defendant, or the financial certification made by Defendant in Paragraph 53, is false or, in any material respect, inaccurate.

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

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

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

XIII. COSTS

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

XIV. NOTICES

93. Unless otherwise specified in this Decree, whenever notifications, submissions, or communications are required by this Consent Decree, they shall be made in writing and addressed as set forth in Appendix D.

94. Any Party may, by written notice to the other Parties, change its designated notice recipient(s) or notice address(es) provided in Appendix D. Notices submitted pursuant to this Section shall be deemed submitted upon mailing, unless otherwise provided in this Consent Decree or by mutual agreement of the Parties in writing.

XV. EFFECTIVE DATE

95. 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 is granted, whichever occurs first, as recorded on the Court's docket.

XVI. RETENTION OF JURISDICTION

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

XVII. MODIFICATION

97. The terms of this Consent Decree, including any attached appendices, may be modified only by a subsequent written agreement signed by the United States, the State and Defendant. Where the modification constitutes a material change to this Consent Decree, it shall be effective only upon approval by the Court.

98. Any disputes concerning modification of this Decree, including any attached appendices, shall be resolved pursuant to Section X (Dispute Resolution), provided, however, that, instead of the burden of proof provided by Paragraph 77, 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).

XVIII. TERMINATION

99. After (a) Defendant has completed the requirements of Section IV (Compliance Requirements) and obtained all permit modifications contemplated by this Consent Decree; has thereafter maintained continuous satisfactory compliance with this Consent Decree and those provisions of Defendant's modified permit covered by this Consent Decree for a period of 24 months (including demonstrating 24 months of compliance with the emission limits, as modified, through MPCA approved performance test results or MPCA approved emissions monitoring results); has complied with all other requirements of this Consent Decree; and has paid the civil penalty and any accrued stipulated penalties as required by this Consent Decree; or (b) Defendant permanently shuts down the Facility, has its Permit terminated, and has paid the civil penalty and any accrued stipulated penalties as required by this Consent Decree, then Defendant may serve upon the United States and the State a Request for Termination, together with all necessary supporting documentation.

100. Following receipt by the United States and the State of Defendant's Request for Termination, the Parties shall confer informally concerning the Request and any disagreement that the Parties may have as to whether Defendant has satisfactorily complied with the requirements for termination of this Consent Decree. If the United States, after consultation with

the State, agrees that the Decree may be terminated, the Parties shall submit, for the Court's approval, a joint stipulation terminating the Decree.

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

XIX. PUBLIC PARTICIPATION

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

XX. SIGNATORIES/SERVICE

103. Each undersigned representative of Defendant, the State, EPA, 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.

104. This Consent Decree may be signed in counterparts, and its validity shall not be challenged on that basis. Defendant agrees to accept service of process by mail with respect to all matters arising under or relating to this Consent Decree and to waive the formal service

requirements set forth in Rules 4 and 5 of the Federal Rules of Civil Procedure and any applicable Local Rules of this Court including, but not limited to, service of a summons.

XXI. INTEGRATION

105. 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.

XXII. FINAL JUDGMENT

106. 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, the State, and Defendant. The Court finds that there is no just reason for delay and therefore enters this judgment as a final judgment under Fed. R. Civ. P. 54 and 58.

XXIII. APPENDICES

107. The following appendices are attached to and part of the Consent Decree:

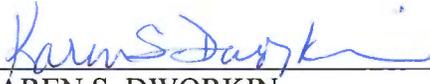
| | |
|------------|-----------------------------------------------------------------------------|
| Appendix A | RHF Mercury Permit Requirements -- Case-by-Case MACT Permit Requirements |
| Appendix B | Mercury Monitoring Provisions |
| Appendix C | Bag Leak Detection System Requirements for O&M |
| Appendix D | Party Contact Information |

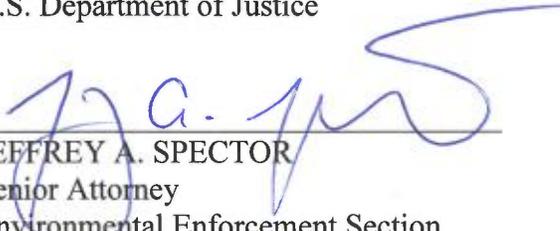
DATED and ENTERED this ____ day of _____, 2017.

UNITED STATES DISTRICT JUDGE
DISTRICT OF MINNESOTA

FOR THE UNITED STATES OF AMERICA:

5/12/17
Date


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


JEFFREY A. SPECTOR
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FOR THE UNITED STATES OF AMERICA:

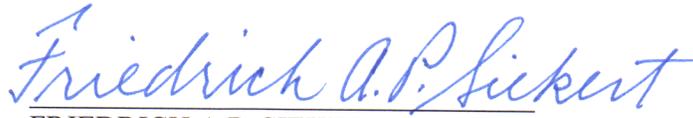
Date

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Deputy Section Chief
Environmental Enforcement Section
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U.S. Department of Justice

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5/15/2017



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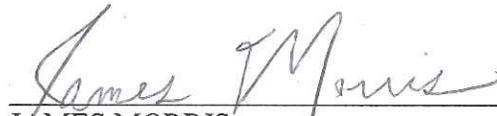
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APPENDIX A

RHF Mercury Permit Requirements – Case-by-Case MACT Permit Requirements

| Req. No. | Req. Type | Req. Text | Citation |
|----------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | LIMIT | <p>Mercury: less than or equal to 0.0086 lbs/hour using 30-day Block Average based on the hours of operation in a 30-day period. The Permittee shall determine compliance with this limit by continuously measuring mercury emissions using a mercury sorbent trap monitoring system as required by this Consent Decree and recording the number of hours of operation in each 30-day operating period.</p> <p>Compliance calculation: Mercury Emission rate = pounds of mercury emitted during 30-day block period/hours of operation during the 30-day block period</p> <p>“Hours of operation,” for the purposes of calculating a 30-day block average, is the sum of all time periods within the 30-day period when dry balls are being fed to the rotary hearth furnace (RHF).</p> <p>“30-day block period,” consists of 720-hour periods of time from 7:00 a.m. of day 1 to 6:59 a.m. on day 30.</p> <p>Three significant figures are required for all mercury measurements. All hours of operation measurements shall be to the 1/10th hour.</p> | <p>CAAA of 1990; Title I Condition: 40 CFR 63.43; Minn. State. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7; Minn. R. 7007.0800, subps. 1-2; Minn. R. 7007.3010</p> |
| 2 | CD | <p>The Permittee shall demonstrate initial and continuous compliance with the mercury limit through use of a mercury sorbent trap monitoring system, in accordance with Appendix B of this Consent Decree.</p> <p>Compliance is demonstrated by using all quality-assured sorbent trap monitoring system data and the other required monitoring systems (e.g., flow rate and moisture monitoring systems) to calculate the arithmetic average emissions rate, expressed in units of pounds/hour, over a 30-day block period, and the average emissions rate is less than or equal to the mercury limit in this Consent Decree (less than or equal to 0.0086 lb Hg/hour using a 30-day block average). Initial compliance is demonstrated if the results of the first 30-day block period average emission rate calculated meets the mercury emissions limit.</p> | <p>CAAA of 1990; Title I Condition: 40 CFR 63.43; Minn, Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7; Minn. R. 7007.0800; Minn. R. 7007.3010</p> |
| 3 | CD | <p>Except during breakdowns, repairs, maintenance, or sorbent trap removal and replacement, the Permittee shall operate the mercury sorbent trap monitoring system at all times that dry balls are being fed to the RHF. The Permittee shall take all steps reasonably necessary to avoid breakdowns and minimize downtime of the sorbent trap monitoring system. These steps</p> | <p>CAAA of 1990; Title I Condition: 40 CFR 63.43; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7; Minn. R.</p> |

| | | | |
|---|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | shall include, but are not limited to, operating and maintaining the sorbent trap monitoring system in accordance with best practices, and maintaining an adequate on-site inventory of spare parts or other supplies necessary to make rapid repairs to the equipment. | 7007.0800, subs. 1-2; Minn. R. 7007.3010 |
| 4 | CD | <p>The Permittee shall develop and maintain a site-specific monitoring plan for the Hg sorbent trap monitoring system and any other monitoring system (i.e., flow rate and moisture systems) needed for routine operation of the sorbent trap monitoring system or to convert Hg concentrations to units of pounds per hour. The monitoring plan shall contain essential information on the continuous monitoring systems as specified in Appendix B of this Consent Decree.</p> <p>The monitoring plan shall also address conditions that define a sorbent trap monitoring system that is out of control consistent with 40 CFR Section 63.8(c)(7)(i) and for responding to out of control periods consistent with 40 CFR Sections 63.8(c)(7)(ii) and (c)(8).</p> <p>The monitoring plan shall be kept in electronic and hard copy format as required by Appendix B of this Consent Decree. The monitoring plan shall also contain the information specified in section 7.1.1.2 of Appendix B of this Consent Decree. Updates to the monitoring plan shall be made according to section 7.1.1.1 of Appendix B of this Consent Decree.</p> | CAAA of 1990; Title I Condition: 40 CFR 63.43; Minn. Stat. Section 116.07, subs. 4a & 9; Minn. R. 7007.0100, subp. 7; Minn. R. 7007.0800, subs. 1-2; Minn. R. 7007.3010 |
| 5 | CD | Until the Hg sorbent trap monitoring system is installed, certified under Appendix B, and operating, the Permittee shall conduct Hg emissions testing quarterly using EPA reference method 30B or other method approved by MPCA in the performance test plan approval. | CAAA of 1990; Title I Condition: 40 CFR 63.43; Minn. Stat. Section 116.07, subs. 4a & 9; Minn. R. 7007.0100, subp. 7; Minn. R. 7007.0800, subs. 1-2; Minn. R. 7007.3010 |
| 6 | CD | The Permittee shall collect quality-assured Hg sorbent trap monitoring system data for all unit operating conditions, except startup and shutdown periods as defined in Appendix B of this Consent Decree. Emission rates determined during startup periods and shutdown periods are not to be included in the compliance determinations. | CAAA of 1990; Title I Condition: 40 CFR 63.43; Minn. Stat. Section 116.07, subs. 4a & 9; Minn. R. 7007.0100, subp. 7; Minn. R. 7007.0800, subs. 1-2; Minn. R. 7007.3010 |
| 7 | CD | The Permittee shall calculate the pollutant mass emission rate in units of lb/hour using Equation 2 and Equation 3 in Appendix B of this Consent Decree as an interim step. The Permittee shall calculate the average mercury emission rate over the 30-day block averaging period using Equation 4 in Appendix B of this Consent Decree. | CAAA of 1990; Title I Condition: 40 CFR 63.43; Minn. Stat. Section 116.07, subs. 4a & 9; Minn. R. 7007.0100, subp. 7; Minn. R. 7007.0800, subs. 1-2; Minn. R. 7007.3010 |
| 8 | CD | Install the sorbent trap monitoring system in the stack or at a location in the ductwork downstream of all emissions control devices, where the pollutant and diluents concentrations are representative of the emissions that exit to the atmosphere. | CAAA of 1990; Title I Condition: 40 CFR 63.43; Minn. Stat. Section 116.07, subs. 4a & 9; Minn. R. 7007.0100, subp. 7; Minn. R. |

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|----|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | 7007.0800, subps. 1-2; Minn. R. 7007.3010 |
| 9 | CD | The Permittee shall quality-assure the data from the monitoring system in accordance with Appendix B of this Consent Decree. The Permittee shall calculate and record a 30-day block average Hg emission rate in lb/hour, updated within 30 days after the end of the 30-day block period. Each 30-day block average Hg emission rate shall be calculated using Equation 4 according to Section 6.2 of Appendix B to this Consent Decree. Section 7.1.3.3 of Appendix B of this Consent Decree explains how to reduce sorbent trap monitoring system data to an hourly basis (as an interim step, using Equations 2 and 3 in Sections 6.1 and 6.2 of Appendix B of this Consent Decree). | CAAA of 1990; Title I Condition: 40 CFR 63.43; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7; Minn. R. 7007.0800, subps. 1-2; Minn. R. 7007.3010 |
| 10 | CD | The Permittee shall install, certify, operate and maintain the sorbent trap monitoring system according to Appendix B of this Consent Decree. | CAAA of 1990; Title I Condition: 40 CFR 63.43; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7; Minn. R. 7007.0800, subps. 1-2; Minn. R. 7007.3010 |
| 11 | CD | The Permittee shall install, operate, and maintain the flow rate and moisture monitoring systems at a location in the ductwork downstream of all emissions control devices, where the pollutant concentrations are representative of the emissions that exit to the atmosphere. | CAAA of 1990; Title I Condition: 40 CFR 63.43; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7; Minn. R. 7007.0800, subps. 1-2; Minn. R. 7007.3010 |
| 12 | CD | Submit the following notifications as applicable: <ul style="list-style-type: none"> • 40 CFR Section 63.8(e)(2) – Notification of performance evaluation • 40 CFR Section 63.8(f)(4) – Request to use alternative monitoring procedure • 40 CFR Section 63.9(c) – Request for extension of compliance • 40 CFR Section 63.9(h) – Notification of Compliance Status | CAAA of 1990; Title I Condition: 40 CFR 63.43; 40 CFR 63.8; 40 CFR 63.9; Minn. Stat. Section 116.07, subds. 4a & 9; Min. R. 7007.0100, subp. 7; Minn. R. 7007.0800, subps. 1-2; Minn. R. 7007.3010; Minn. R. 7017.2015; Minn. R. 7019.0100; and Minn. R. 7017.1010 |

APPENDIX B

Mercury Monitoring Provisions

1. GENERAL PROVISIONS

- 1.1 *Applicability.* These monitoring provisions apply to the measurement of total vapor phase mercury (Hg) in emissions from the rotary hearth furnace (RHF) using a mercury sorbent trap monitoring system. The Hg sorbent trap monitoring system shall be capable of measuring the total vapor phase mercury in units of mass per time period, regardless of speciation.
- 1.2 *Initial Certification and Recertification Procedures.* The Permittee shall comply with the initial certification and recertification procedures in section 4 of this appendix.
- 1.3 *Quality Assurance and Quality Control Requirements.* The Permittee shall meet the applicable quality assurance requirements in section 5 of this appendix.
- 1.4 *Missing Data Procedures.* The Permittee is not required to substitute for missing data from Hg sorbent trap monitoring systems. Any process operating hour for which quality-assured Hg concentration data are not obtained is counted as an hour of monitoring system downtime.

2. MONITORING OF HG EMISSIONS

- 2.1 *Monitoring System Installation Requirements.* Install the Hg sorbent trap monitoring system in the stack or at a location in the ductwork downstream of all emissions control devices, where the mercury concentrations are representative of the emissions that exit to the atmosphere.
- 2.2 *Primary and Backup Monitoring Systems.* The electronic monitoring plan described in section 7.1.1.2.1 of this appendix requires the Permittee to install, operate, maintain, and calibrate a Hg sorbent trap monitoring system. The primary system shall be used to monitor Hg emissions when the system is able to provide quality-assured data, i.e., when the system is “in control”. The Permittee is also allowed, but not required, to install, operate, maintain, and calibrate a backup monitoring system, as follows:
 - 2.2.1 *Redundant Backup Systems.* A redundant backup monitoring system may be a separate Hg sorbent trap monitoring system. A redundant backup system is one that is permanently installed at the unit or stack location in the ductwork downstream of all emission control devices, and is kept on “hot standby” in case the primary monitoring system is unable to provide quality-assured data. A redundant backup system shall be represented as a unique monitoring system in the electronic monitoring plan. Each redundant backup monitoring system shall be certified according to the applicable provisions in section 4 of this appendix and shall meet the applicable on-going QA requirements in section 5 of this appendix.
 - 2.2.2 *Non-redundant Backup Monitoring Systems.* A non-redundant backup monitoring system is a separate Hg sorbent trap system that has been certified at a particular unit or stack location, but is not permanently installed at that location. Rather, the system is kept on “cold standby” and may be reinstalled in the ductwork downstream of all emission control devices in the event of a primary monitoring system outage. Except as otherwise provided in section 2.2.4.5

of this appendix, a non-redundant backup monitoring system may only be used for 720 hours per year at a particular stack or unit location.

2.2.3 *Quality Assurance Requirements for Non-redundant Backup Monitoring Systems and Temporary Like-kind Replacement Analyzers.* To quality-assure the data from non-redundant backup Hg monitoring systems and temporary like-kind replacement Hg analyzers, the following provisions apply:

2.2.3.1 When a certified non-redundant backup Hg sorbent trap monitoring system is brought into service, the Permittee shall follow the procedures for routine day-to-day operation of the system, in accordance with Performance Specification 12B in 40 CFR pt. 60, appendix B.

2.2.3.2 When a certified non-redundant backup Hg sorbent trap monitoring system or a temporary like-kind replacement Hg analyzer is brought into service, a calibration error test and linearity check shall be performed and passed. A single point system integrity check is also required, unless a NIST-traceable source of oxidized Hg was used for the calibration error test.

2.2.3.3 Each non-redundant backup Hg sorbent trap monitoring system or temporary like-kind replacement Hg analyzer shall comply with all required daily, weekly, and quarterly quality-assurance test requirements in section 5 of this appendix, for as long as the system or analyzer remains in service.

2.2.3.4 For the routine, on-going quality-assurance of non-redundant backup Hg monitoring system, a relative accuracy test audit (RATA) shall be performed and passed at least once every 8 calendar quarters.

2.2.3.5 To use a non-redundant backup Hg monitoring system or a temporary like-kind replacement analyzer for more than 720 hours per year, a RATA shall first be performed and passed.

2.3 Except during breakdowns, repairs, or sorbent trap removal and replacement, the Hg sorbent trap monitoring system shall be initiated when the input material feeder readings register the initiation of dry balls being fed to the RHF. Sampling shall continue at a proportional rate as defined in Performance Specification 12B Section 8.2.2 in 40 CFR pt. 60, appendix B, until the feeder readings register that dry balls are no longer being fed to the RHF or until the Hg sorbent trap monitoring system is manually disabled for periodic trap replacement or maintenance.

3. MERCURY EMISSIONS MEASUREMENT METHODS

The following definitions, equipment specifications, procedures, and performance criteria are applicable to the measurement of vapor-phase Hg emissions, under relatively low-dust conditions (i.e., sampling in the stack or duct after all pollution control devices). The analyte measured by these procedures and specifications is total vapor-phase Hg in the flue gas, which represents the sum of elemental Hg and oxidized forms of Hg. The Hg monitoring system must be capable of measuring the total concentration of vapor phase Hg (regardless of speciation), in units of micrograms per dry standard cubic meter ($\mu\text{g}/\text{dscm}$).

3.1 Definitions.

- 3.1.1 *Sorbent Trap Monitoring System* means the equipment required to monitor Hg emissions continuously by using paired sorbent traps containing iodated charcoal (IC) or other suitable sorbent medium. The monitoring system consists of a probe, paired sorbent traps, an umbilical line, moisture removal components, an airtight sample pump, a gas flow meter, and an automated data acquisition and handling system. The system samples the stack gas at a constant proportional rate relative to the stack gas volumetric flow rate. The sampling is a batch process. The average Hg concentration in the stack gas for the sampling period is determined, in units of $\mu\text{g}/\text{dscm}$, based on the sample volume measured by the gas flow meter and the mass of Hg collected in the sorbent traps.
- 3.1.2 *Startup of the RHF* means periods when only natural gas is being fired in the furnace and no dry balls are being fed to the furnace.
- 3.1.3 *Shutdown of the RHF* means periods when only natural gas is being fired in the furnace and dry balls are no longer being fed to the furnace.
- 3.1.4 *Relative Accuracy Test Audit or RATA* means a series of nine or more test runs, directly comparing readings from the Hg sorbent trap monitoring system to measurements made with a reference stack test method. The relative accuracy (RA) of the monitoring system is expressed as the absolute mean difference between the monitoring system and reference method measurements plus the absolute value of the 2.5 percent error confidence coefficient, divided by the mean value of the reference method measurements.
- 3.1.5 *Hour of operation or operating hour* means any time when dry balls are being fed to the rotary hearth furnace (RHF). All hours of operation shall be measured to the $1/10^{\text{th}}$ hour. Periods of startup and shutdown are not counted as hours of operation.
- 3.1.6 *Quality Assurance (QA) Operating Quarter* means a calendar quarter in which there are at least 168 hours of operation (as defined in this section).
- 3.1.7 *Grace Period* means a specified number of hours of operation after the deadline for a required quality-assurance test of a continuous monitor has passed, in which the test may be performed and passed without loss of data.
- 3.1.8 *Data Collection Period* means the time period in which a single set of paired sorbent traps are in use in the Hg monitoring system.
- 3.2 *Sorbent Trap Monitoring System.* A sorbent trap monitoring system (as defined in paragraph 3.1.1 of this appendix) shall be installed, maintained, and operated in accordance with Performance Specification 12B in 40 CFR pt. 60, appendix B. The system shall be certified in accordance with the provisions of section 4.1 of this appendix.
- 3.2.1 *Installation and Measurement Location.* For any additional monitoring systems needed to convert Hg concentrations to the desired units of measure (i.e., a flow monitoring system and a moisture monitor), install each monitoring system at a location that represents the emissions exiting to the atmosphere.

3.3 *Other Necessary Data Collection.* To convert the collected mercury mass to the units of the emissions standard (i.e., lbs/hour over a 30-day block average), additional data shall be collected, as described in paragraphs 3.3.1 - 3.3.3 of this section.

3.3.1 *Stack Gas Moisture Determination.* The stack gas moisture content shall be determined using a continuous moisture monitoring system or other means acceptable to the Administrator certified in accordance with the applicable provisions of 40 CFR pt. 75, appendix A. The following continuous moisture monitoring systems are acceptable: a continuous moisture sensor; or an oxygen analyzer (or analyzers) capable of measuring O₂ both on a wet basis and on a dry basis. The moisture monitoring system shall include as a component the automated data acquisition and handling system for recording and reporting both the raw data (e.g., hourly average wet-and dry-basis O₂ values) and the hourly average values of the stack gas moisture content derived from those data.

3.3.2 *Stack Gas Flow Rate Determination.* The stack gas flow rate shall be determined using a continuous gas flow rate monitoring system or other means acceptable to the Administrator certified in accordance with the applicable provisions of 40 CFR pt. 75, appendix A. The stack gas flow rate data shall be reduced to hourly data.

3.3.3 *Operating Hours Determination.* The hours of operation shall be determined using a device to indicate when raw materials are being fed to the rotary hearth furnace.

3.4 *Sorbent Trap Monitoring System Operation.* Routine operation of a sorbent trap monitoring system requires the use of a certified stack gas flow rate monitor, to maintain an established ratio of stack gas flow rate to sample flow rate, in accordance with section 8.2.2 Performance Specification 12B in 40 CFR pt. 60, appendix B.

4. CERTIFICATION AND RECERTIFICATION REQUIREMENTS

4.1 *Certification Requirements.* All Hg sorbent trap monitoring systems and the additional monitoring systems used to continuously measure Hg emissions in accordance with this appendix shall be certified in a timely manner, such that the initial compliance demonstration is completed in accordance with the schedule outlined in Consent Decree.

4.1.1 *Sorbent Trap Monitoring Systems.* For the initial certification of a sorbent trap monitoring system, only a RATA is required.

4.1.1.1 *Relative Accuracy Test Audit (RATA).* Perform the RATA of the Hg sorbent trap monitoring system at normal load. Acceptable Hg reference methods for the RATA include ASTM D6784-02 (Reapproved 2008), "Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method)" (incorporated by reference, see 40 CFR §63.14) and Methods 29, 30A, and 30B in appendix A-8 to 40 CFR pt. 60. When Method 29 or ASTM D6784-02 is used, paired sampling trains are required. To validate a Method 29 or ASTM D6784-02 test run, calculate the relative deviation (RD) using equation 1 of this appendix, and assess the results as follows to validate the run. The RD shall not exceed 10 percent, when the average Hg concentration is greater than 1.0 µg/dscm. If the average concentration is ≤ 1.0 µg/dscm, the RD shall not exceed 20 percent. The RD results are also acceptable if the absolute

difference between the two Hg concentrations does not exceed 0.2 µg/dscm. If the RD specification is met, the results of the two samples shall be averaged arithmetically.

$$RD = \frac{|C_a - C_b|}{C_a + C_b} * 100 \quad (\text{Equation 1})$$

Where:

RD = Relative deviation between the Hg concentrations of samples a and b (percent)

C_a = Hg concentration of Hg sample "a" (µg/dscm)

C_b = Hg concentration of Hg sample "b" (µg/dscm)

- 4.1.1.1.1 *Special Considerations.* A minimum of nine valid test runs shall be performed, directly comparing the sorbent trap monitoring system measurements to the reference method. More than nine test runs may be performed. If more than nine test runs are performed, the results from a maximum of three test runs may be rejected so long as the total number of test results used to determine the relative accuracy is greater than or equal to nine; however, all data shall be reported including the rejected data. The minimum time per run is 21 minutes if Method 30A is used. If Method 29, Method 30B or ASTM D6784-02 (Reapproved 2008), "Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method)" (incorporated by reference, see 40 CFR §63.14) is used, the time per run shall be long enough to collect a sufficient mass of Hg to analyze. Complete the RATA within 168 unit operating hours, except when Method 29 or ASTM D6784-02 is used, in which case up to 336 operating hours may be taken to finish the test.
- 4.1.1.1.2 During the RATA, the monitoring system must be operated and quality-assured in accordance with Performance Specification 12B in 40 CFR pt. 60, appendix B, with the following exceptions for sorbent trap section 2 breakthrough:
- 4.1.1.1.2.1 For stack Hg concentrations >1 µg/dscm, ≤ 10% of section 1 Hg mass;
- 4.1.1.1.2.2 For stack Hg concentrations ≤1 µg/dscm and >0.5 µg/dscm, ≤20% of section 1 Hg mass;
- 4.1.1.1.2.3 For stack Hg concentrations ≤0.5 µg/dscm and >0.1 µg/dscm, ≤50% of section 1 Hg mass; and
- 4.1.1.1.2.4 For stack Hg concentrations ≤0.1 µg/dscm, no breakthrough criterion assuming all other QA/QC specifications are met.
- 4.1.1.1.3 The type of sorbent material used by the traps during the RATA shall be the same as for daily operation of the monitoring system; however, the size of the traps used for the RATA may be smaller than the traps used for daily operation of the system.
- 4.1.1.1.4 *Calculation of RATA Results.* Calculate the relative accuracy (RA) of the sorbent trap monitoring system, on a µg/scm basis, as described in section 12 of Performance Specification 2 in appendix B to 40 CFR pt. 60 (see equations 2-3 through 2-6 of

PS2). For purposes of calculating the relative accuracy, ensure that the reference method and monitoring system data are on a consistent moisture basis, either wet or dry. The main and alternative RATA performance specifications in Table A-1 apply to the sorbent trap monitoring system.

Table A-1 – Required Certification Tests and Performance Specifications for Hg Sorbent Trap Monitoring Systems

| For this required certification test... | The main performance specification is... | The alternate performance specification is... | And the conditions of the alternate specification are... |
|-----------------------------------------|------------------------------------------|---------------------------------------------------------------|----------------------------------------------------------|
| RATA | 20.0% RA | $ RM_{avg} - C_{avg} + CC \leq 0.5 \mu\text{g}/\text{scm}$ | $RM_{avg} < 2.5 \mu\text{g}/\text{scm}$ |

4.1.1.1.5 *Bias Adjustment.* Measurement or adjustment of Hg sorbent trap monitoring system data for bias is not required.

4.2 *Recertification.* Whenever the Permittee makes a replacement, modification, or change to a certified Hg sorbent trap monitoring system that may significantly affect the ability of the system to accurately measure or record pollutant concentrations, stack gas flow rates, or stack gas moisture content, the Permittee shall recertify the monitoring system. Furthermore, whenever the Permittee makes a replacement, modification, or change to the flue gas handling system or the unit operation that may significantly change the concentration or flow profile, the Permittee shall recertify the monitoring system. The same test performed for the initial certification of the monitoring system shall be repeated for recertification, unless otherwise specified by the Administrator. Examples of changes that require recertification include: replacement of a gas analyzer; complete monitoring system replacement, and changing the location or orientation of the sampling probe.

5. ONGOING QUALITY ASSURANCE (QA) AND DATA VALIDATION

5.1 Sorbent Trap Monitoring Systems.

5.1.1 Each sorbent trap monitoring system shall be continuously operated and maintained in accordance with Performance Specification (PS) 12B in 40 CFR pt. 60, appendix B. The QA/QC criteria for routine operation of the system are summarized in Table 12B-1 of PS 12B. Each pair of sorbent traps may be used to sample the stack gas for up to 360 operating hours.

5.1.2 For ongoing QA, periodic RATAs of the system are required.

5.1.2.1 The RATA frequency shall be annual, i.e., once every four QA operating quarters. The Permittee may use the provisions in section 5.1.2.4 of this appendix for RATA deadline extensions.

5.1.2.2 The RATA performance criteria specified in Table A-2 apply to the annual RATAs of the sorbent trap monitoring system.

Table A-2 – On-Going QA Test Requirements for Hg Sorbent Trap Monitoring Systems

| Perform this type of QA test... | At this frequency... | With these qualifications and exceptions... | Acceptance criteria... |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| RATA | Once every four QA operating quarters | Test deadline may be extended for “non-QA operating quarters” up to a maximum of 8 quarters from the quarter of the previous test | $\leq 20.0\% \text{ RA when } C_{\text{avg}} \geq 2.5 \mu\text{g}/\text{scm}$ Or $ RM_{\text{avg}} - C_{\text{avg}} + CC $ |
| | | 720 operating hour grace period available | $\leq 0.5 \mu\text{g}/\text{scm}$, if $RM_{\text{avg}} < 2.5 \mu\text{g}/\text{scm}$. |

5.1.2.3 A 720 unit or stack operating hour grace period is available for RATAs of the monitoring system.

5.1.2.4 The test frequency for the RATAs of the Hg sorbent trap monitoring system shall be annual, i.e., once every four QA operating quarters. For units that operate infrequently, extensions of RATA deadlines are allowed for non-QA operating quarters. Following a RATA, if there is a subsequent non-QA quarter, it extends the deadline for the next test by one calendar quarter. However, there is a limit to these extensions; the deadline may not be extended beyond the end of the eighth calendar quarter or in a 720 hours of operation grace period following that quarter. When a required annual RATA is done within a grace period, the deadline for the next RATA is three QA operating quarters after the quarter in which the grace period test is performed.

5.1.3 Data validation for sorbent trap monitoring systems shall be done in accordance with Table 12B-1 in Performance Specification 12B in 40 CFR pt. 60, appendix B. All periods of invalid data shall be counted as hours of monitoring system downtime.

5.2 *Flow Rate, and Moisture Monitoring Systems.* The on-going QA test requirements for these monitoring systems are specified in 40 CFR pt. 75, appendix B.

5.3 *QA/QC Program Requirements.* The Permittee shall develop and implement a quality assurance/quality control (QA/QC) program for the sorbent trap monitoring system that is used to provide data as required by this Consent Decree. At a minimum, the program shall include a written plan that describes in detail (or that refers to separate documents containing) complete, step-by-step procedures and operations for the most important QA/QC activities. Electronic storage of the QA/QC plan is permissible, provided that the information can be made available in hard copy to auditors and inspectors. The QA/QC program requirements for the flow rate and moisture monitoring systems described in section 3.3 of this appendix are specified in 40 CFR pt. 75, appendix B, section 1.

5.3.1 *General Requirements.*

5.3.1.1 *Preventive Maintenance.* Keep a written record of procedures needed to maintain the Hg sorbent trap monitoring system in proper operating condition and a schedule for those procedures. Include, at a minimum, all procedures specified by the manufacturers of the equipment and, if applicable, additional or alternate procedures developed for the equipment.

5.3.1.2 *Recordkeeping and Reporting.* Keep a written record describing procedures that will be used to implement the recordkeeping and reporting requirements of this appendix.

5.3.1.3 *Maintenance Records.* Keep a record of all testing, maintenance, or repair activities performed on any Hg sorbent trap monitoring system in a location and format suitable for inspection. A maintenance log may be used for this purpose. The following records shall be maintained: date, time, and description of any testing, adjustment, repair, replacement, or preventive maintenance action performed on any monitoring system and records of any corrective actions associated with a monitor outage period. Additionally, any adjustment that may significantly affect a system's ability to accurately measure emissions data shall be recorded and a written explanation of the procedures used to make the adjustment(s) shall be kept.

5.3.2 *Specific Requirements for Sorbent Trap Monitoring Systems.*

5.3.2.1 *Sorbent Trap Identification and Tracking.* Include procedures for inscribing or otherwise permanently marking a unique identification number on each sorbent trap, for chain of custody purposes. Keep records of the ID of the monitoring system in which each sorbent trap is used, and the dates and hours of each Hg collection period.

5.3.2.2 *Monitoring System Integrity and Data Quality.* Document the procedures used to perform the leak checks when a sorbent trap is placed in service and removed from service. Also document the other QA procedures used to ensure system integrity and data quality, including, but not limited to, gas flow meter calibrations, verification of moisture removal, and ensuring air-tight pump operation. In addition, the QA plan shall include the data acceptance and quality control criteria in Table 12B-1 in section 9.0 of Performance Specification 12B in 40 CFR pt. 60, appendix B. All reference meters used to calibrate the gas flow meters (e.g., wet test meters) shall be periodically recalibrated. Annual, or more frequent, recalibration is recommended. If a NIST-traceable calibration device is used as a reference flow meter, the QA plan shall include a protocol for ongoing maintenance and periodic recalibration to maintain the accuracy and NIST –traceability of the calibrator.

5.3.2.3 *Hg Analysis.* Explain the chain of custody employed in packing, transporting, and analyzing the sorbent traps. Keep records of all Hg analyses. The analyses shall be performed in accordance with the procedures described in section 11.0 of Performance Specification 12 B in 40 CFR pt. 60, appendix B.

5.3.2.4 *Data Collection Period.* State, and provide the rationale for, the minimum acceptable data collection period (e.g., one day, one week, etc.) for the size of sorbent trap selected for the monitoring. Address such factors as the Hg concentration in the stack gas, the capacity of the sorbent trap, and the minimum mass of Hg required for the analysis. Each pair of sorbent traps may be used to sample the stack gas for up to 360 hours of operation.

5.3.2.5 *Relative Accuracy Test Audit Procedures.* Keep records of the procedures and details peculiar to the sorbent trap monitoring systems that are to be followed for relative accuracy test audits, such as sampling and analysis methods.

6. DATA REDUCTION AND CALCULATIONS

6.1 Data Reduction.

- 6.1.1 For sorbent trap monitoring systems, determine the Hg concentration for each of the two sorbent traps for each data collection period using Equation 2, below:

$$C_{Hg} = \frac{M^*}{V_t} \quad (\text{Equation 2})$$

Where:

C_{Hg} = Concentration of Hg for the collection period (ug/dscm)

M^* = Total mass of Hg recovered from sections 1 and 2 of the sorbent trap (ug)

V_t = Total volume of dry gas metered during the collection period (dscm). For the purposes of this calculation, standard temperature and pressure are defined as 20 °C and 760 mm Hg, respectively.

When both sorbent traps meet the QC specifications of Performance Specification 12B in 40 CFR pt. 60, appendix B, the two measured Hg concentrations must be averaged arithmetically and the average value (defined as C_{Hg} and used in Equation 3) must be applied to each hour of the data collection period. Should one of the two sorbent trap samples or sampling systems either: (a) fail the post-monitoring leak check; or (b) have excessive section 2 breakthrough; or (c) fail to maintain the proper stack flow-to-sample flow ratio; or (d) fail to achieve the required section 3 spike recovery; or (e) is lost, broken, or damaged, provided that the other trap meets the acceptance criteria for all four of these QC specifications, the Hg concentration measured by the valid trap may be multiplied by a factor of 1.111 and then used as C_{Hg} . Further, if both traps meet the acceptance criteria for all four of these QC specifications, but the acceptance criterion for paired trap agreement is not met, the higher of the two Hg concentrations measured by the traps may be used as C_{Hg} , in lieu of invalidating the data from the paired traps.

- 6.1.2 For any operating hour in which valid data are not obtained for Hg concentration do not calculate the Hg emission rate for that hour. For the purposes of this appendix, 40 CFR pt. 75, appendix C substitute data values are not considered to be valid data.
- 6.1.3 For any operating hour in which valid data are not obtained for a parameter, other than Hg concentration, used in the emissions calculations (i.e., flow rate, moisture content), the last valid data value measured shall be substituted for that hour. Substitute data values shall only be used for no more than 10 consecutive operating hours.
- 6.1.4 Operating hours in which valid data are not obtained for Hg concentration are considered to be hours of monitor downtime.

6.2 Calculation of Hg Emission Rates. Use the calculation methods in this section to convert Hg concentration values to the units of the emission standard.

- 6.2.1 Calculate the Hg concentration for each operating hour in which valid data are obtained for all parameters, using Equation 3 of this section.

6.2.2 Use Equation 4 of this section to calculate the average Hg emission rate over the 30-day block period. The pound per hour Hg emission rate limit in this Consent Decree shall be met on a 30-day block average basis.

$$M_{Hg} = K * C_{Hg} * Q_s * (1 - B_w) \quad (\text{Equation 3})$$

Where:

M_{Hg} = Hg mass emission rate for the hour (lb/hr).

K = Units conversion constant: $6.24 * 10^{-11}$ lb-scm/ μ g-scf.

C_{Hg} = Hg concentration for the collection period, dry basis (μ g/dscm), determined according to section 6.1.1 of this appendix.

Q_s = Stack gas volumetric flow rate for the hour (scf/hr), measured according to section 7.1.4 of this appendix

(NOTE: Use unadjusted flow rate values; bias adjustment is not required).

B_w = Moisture fraction of the stack gas, expressed as a decimal (equal to % H₂O/100), measured according to section 7.1.5 of this appendix.

$$E_{Hg} = \frac{\sum_{h=1}^n M_{Hg}}{n} \quad (\text{Equation 4})$$

Where:

E_{Hg} = Average Hg emission rate over the 30-day block averaging period

M_{Hg} = Hourly Hg emission rate for unit or stack operating hour “h” in the averaging period, from Equation 2 or Equation 3 of this section.

n = Number of operating hours for the RHF in the 30-day block averaging period

(NOTE: Do not include in the average non-operating hours with zero emission rates or hours where there was invalid data for Hg or a necessary parameter (as per Sections 6.1.2 and 6.1.3)).

7. RECORDKEEPING AND REPORTING

7.1 *Recordkeeping Provisions.* For the Hg sorbent trap monitoring systems and any related monitoring systems (i.e., flow rate and moisture systems) installed at the RHF, the Permittee shall maintain a file of all measurements, data, reports, and other information required by this appendix in a form

suitable for inspection, for 5 years from the date of each record. The file shall contain the information in paragraphs 7.1.1 through 7.1.7 of this section.

- 7.1.1 *Monitoring Plan Records.* For the RHF, the Permittee shall prepare and maintain a monitoring plan for the Hg sorbent trap monitoring system and any related monitoring system (i.e., flow rate and moisture systems) needed for routine operation of a sorbent trap monitoring system or to convert Hg concentrations to units of pounds per hour as required by this Consent Decree.
- 7.1.1.1 *Updates.* Whenever the Permittee makes a replacement, modification, or change in a certified continuous monitoring system that is used to provide data as required by this Consent Decree (including a change in the automated data acquisition and handling system or the flue gas handling system) which affects information reported in the monitoring plan (e.g., a change to a serial number for a component of a monitoring system), the Permittee shall update the monitoring plan.
- 7.1.1.2 *Contents of the Monitoring Plan.* For the Hg sorbent trap monitoring system, the monitoring plan shall contain the information in sections 7.1.1.2.1 and 7.1.1.2.2, as applicable. For stack gas flow rate and moisture monitoring systems, the monitoring plan shall include the information in section 7.1.1.2.3, as applicable.
- 7.1.1.2.1 *Electronic.* The electronic monitoring plan records shall include the following: unit and stack ID numbers; monitoring location; the Hg monitoring methodologies used, Hg monitoring system information, including, but not limited to: Unique system and component ID numbers; the make, model and serial number of the monitoring equipment; the sample acquisition method; formulas used to calculate Hg emissions. The electronic monitoring plan shall be evaluated and submitted to the Administrator at R5enforcement@epa.gov and the Commissioner at AQRoutineReport.PCA@state.mn.us.
- 7.1.1.2.2 *Hard Copy.* Keep records of the following: schematics and/or blueprints showing the location of the Hg monitoring system and test ports; data flow diagrams; test protocols; monitor span and range calculations; miscellaneous technical justifications.
- 7.1.1.2.3 *Stack gas flow rate and moisture monitoring systems.* The monitoring plan records shall include electronic copies of the following: unit and stack ID numbers; monitoring location; the monitoring methodologies used, monitoring system information, including, but not limited to: Unique system and component ID numbers; the make, model and serial number of the monitoring equipment; the sample acquisition method; and formulas used to calculate flow rate and/or moisture content as applicable. Keep hard copy records of the following: schematics and/or blueprints showing the location of these monitoring systems and test ports; data flow diagrams; test protocols; and miscellaneous technical justifications.
- 7.1.2 *Operating Parameter Records.* The Permittee shall record the following information on operation of the RHF for each 30-day block period:

7.1.2.1 The RHF operating time rounded up to the nearest tenth of an hour.

7.1.3 *Hg Emissions Records.* The Permittee shall record the following information for the RHF in each 30-day block period:

7.1.3.1 The dates for each collection period;

7.1.3.2 Monitoring system and component identification codes, as provided in the monitoring plan;

7.1.3.3 The hourly Hg concentration (calculated according to Equation 3 in section 6.2 of this appendix), if quality-assured hourly values are obtained for moisture and stack flow ($\mu\text{g}/\text{scm}$, rounded to three significant figures). Note that when a quality-assured Hg concentration value is obtained for a particular data collection period, that single concentration value is applied to each operating hour of the data collection period.

7.1.3.4 A special code, indicating whether or not a quality-assured Hg concentration is obtained for the hour;

7.1.3.5 A special code, indicating that the Hg emission rate was not calculated for the hour or any of the other necessary parameters are not obtained for the hour. For the purposes of this appendix, substitute data values for stack gas flow rate and moisture content are not considered to be valid data.

7.1.3.6 The average flow rate of stack gas through each sorbent trap (in appropriate units, e.g. liters/min, cc/min, dscm/min);

7.1.3.7 The gas flow meter reading (in dscm, rounded to the nearest hundredth), at the beginning and end of the collection period;

7.1.3.8 The ratio of the stack gas flow rate to the sample flow rate, as described in section 12.2 of Performance Specification 12B in 40 CFR pt. 60, appendix B; and

7.1.3.9 The measured Hg emissions rate in lbs/hr using a 30-day block average period (calculated according to Equation 4 in Section 6.2 of this appendix, rounded to three significant figures), if valid values of Hg concentration and all other required parameters (stack gas volumetric flow rate and moisture data) are obtained for the data collection periods.

7.1.4 *Stack Gas Volumetric Flow Rate Records.*

7.1.4.1 The Permittee shall keep hourly flow rate records as follows:

7.1.4.1.1 Component system identification code;

7.1.4.1.2 Dates for each collection period;

7.1.4.1.3 Hourly volumetric flow for the data collection period (in scf, rounded to the nearest thousand).

7.1.5 *Records of Stack Gas Moisture Content.*

7.1.5.1 Correction of hourly Hg concentration data for moisture is required when converting Hg concentrations to the units of the Hg emissions limit.

7.1.5.2 The Permittee shall keep hourly records of the stack gas moisture content, as follows:

7.1.5.2.1 Component system identification code;

7.1.5.2.2 Dates for each collection period;

7.1.5.2.3 Moisture content of flue gas (percent, rounded to the nearest tenth).

7.1.6 *Certification and Quality Assurance Test Records.* For any Hg sorbent trap monitoring systems used to provide data as required by this Consent Decree, record the following certification and quality-assurance information:

7.1.6.1 The reference method readings for each test run and the calculated relative accuracy results for all RATAs of the Hg sorbent trap monitoring system;

7.1.6.2 Supporting information for all required RATAs of the Hg monitoring system, including records of the test dates, the raw reference method and monitoring system data, the results of sample analyses to substantiate the reported test results, and records of sampling equipment calibrations;

7.1.6.3 Records of the results of all analyses of the sorbent traps used for routine daily operation of the system, and information documenting the results of all leak checks and the other applicable quality control procedures described in Table 12B-1 of Performance Specification (PS) 12B in 40 CFR pt. 60, appendix B.

7.1.6.4 For stack gas flow rate and moisture monitoring systems, the Permittee shall keep records of all certification, recertification, diagnostic, and on-going quality-assurance tests of these systems.

7.2 *Reporting Requirements.*

7.2.1 *General Reporting Provisions.* The Permittee shall comply with the following requirements for reporting Hg emissions from the RHF:

7.2.1.1 Notifications, in accordance with paragraph 7.2.2 of this section;

7.2.1.2 Monitoring plan reporting, in accordance with paragraph 7.2.3 of this section;

7.2.1.3 Certification, recertification, and QA test submittals, in accordance with paragraph 7.2.4 of this section; and

7.2.1.4 Electronic quarterly report submittals, in accordance with paragraph 7.2.5 of this section.

7.2.2 *Notifications.* The Permittee shall provide the Administrator and Commissioner the following notifications:

7.2.2.1 Notification of the actual date of initial startup of the monitor: the Permittee shall notify the Administrator and the Commissioner of the actual date of initial startup of the Hg monitoring system no later than 15 days after initial startup of the Hg monitoring system.

7.2.3 *Monitoring Plan Reporting.* The Permittee shall make electronic and hard copy monitoring plan submittals as follows:

7.2.3.1 Submit the electronic and hard copy information in section 7.1.1.2 of this appendix pertaining to the Hg, flow rate, and moisture monitoring systems at least 21 days prior to initial startup of the Hg sorbent trap monitoring system.

7.2.3.2 Whenever an update of the monitoring plan is required, as provided in section 7.1.1.1 of this appendix, an electronic monitoring plan information update shall be submitted either prior to or concurrent with the quarterly report for the calendar quarter in which the update is required.

7.2.3.3 All electronic monitoring plan submittals and updates shall be made to the Administrator and the Commissioner. Hard copy portions of the monitoring plan shall be kept on record according to section 7.1 of this appendix.

7.2.4 *Certification, Recertification, and Quality-Assurance Test Reporting.* Except for daily QA tests of the required monitoring systems (i.e., calibration error tests and flow monitor interference checks), the results of all required certification, recertification, and quality-assurance test described in section 7.1.7 of this appendix (except for test results previously submitted) shall be submitted electronically, either prior to or concurrent with the relevant quarterly electronic emissions report.

7.2.5 *Quarterly Reports.*

7.2.5.1 Beginning with the report for the calendar quarter in which the initial compliance demonstration is completed, the Permittee shall submit electronic quarterly reports to the Administrator and the Commissioner.

7.2.5.2 The electronic reports shall be submitted within 30 days following the end of each calendar quarter. If the RHF does not operate, the Permittee shall submit the report indicating the RHF did not operate and provide the beginning and end date of the time when the RHF was not operating.

7.2.5.3 Each electronic quarterly report shall include the following information:

7.2.5.3.1 The date of report generation;

7.2.5.3.2 Facility identification information;

7.2.5.3.3 The information in sections 7.1.2 and 7.1.3.9 of this appendix; and

7.2.5.3.4 The results of all daily flow monitor interference checks.

7.2.5.4 *Compliance Certification.* Based on reasonable inquiry of those persons with primary responsibility for ensuring that all Hg emissions from the RHF have been correctly and fully monitored, the Permittee shall submit a compliance certification in support of each electronic quarterly emissions monitoring report. The compliance certification shall include a statement by a responsible official with that official's name, title, and signature, certifying that, to the best of his or her knowledge, the report is true, accurate, and complete.

APPENDIX C

Bag Leak Detection System Requirements for Operation and Maintenance

Defendant must operate and maintain the bag leak detection systems identified in this Consent Decree according to the paragraphs below.

1. Specifications:

- a. The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per dry standard cubic meter (0.00044 grains per actual cubic foot) or less.
- b. The bag leak detection system sensor must provide output of relative PM loadings. The Defendant shall continuously record the output from the bag leak detection system using electronic or other means (e.g., using a strip chart recorder or a data logger).
- c. The bag leak detection system must be equipped with an alarm system that will be activated when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (d) of this section, and the alarm must be located such that it can be noticed by the appropriate plant personnel.
- d. In the initial adjustment of the bag leak detection system, the Defendant shall establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.
- e. Following initial adjustment, the Defendant shall not adjust the averaging period, alarm set point, or alarm delay time without approval from the EPA and MPCA, except as provided in paragraph (f) of this section.

- f. Once per quarter, the Defendant may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by paragraph (2) of this section.
 - g. The Defendant shall install the bag leak detection sensor downstream of the fabric filter.
 - h. Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.
2. The Defendant shall develop and submit to EPA and MPCA in accordance with Section V for approval of a site-specific monitoring plan for each bag leak detection system. The Defendant shall operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. Each monitoring plan must describe:
- a. Installation of the bag leak detection system;
 - b. Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established;
 - c. Operation of the bag leak detection system, including quality assurance procedures;
 - d. How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;
 - e. How the bag leak detection system output will be recorded and stored; and
 - f. Corrective action or response step procedures as specified in paragraph (g) of this section.
 - g. For each bag leak detection system, the Defendant shall initiate procedures to determine the cause of every alarm within 1 hour of the alarm. Except as provided for

under paragraph (h) of this section, the cause of the alarm must be alleviated within 3 hours of the time the alarm occurred by taking response steps as necessary. Corrective actions/response steps may include, but are not limited to the following:

- i. Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions;
 - ii. Sealing off defective bags or filter media;
 - iii. Replacing defective bags or filter media or otherwise repairing the control device;
 - iv. Sealing off a defective fabric filter compartment;
 - v. Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; or
 - vi. Shutting down the process producing the PM emissions.
- h. In approving the site-specific monitoring plan required in paragraph (g) of this section, the EPA and MPCA may allow more than 3 hours to alleviate specific conditions that cause an alarm if the Defendant identifies the condition that could lead to an alarm in the monitoring plan, adequately explains why it is not feasible to alleviate the condition within 3 hours of the time the alarm occurred, and demonstrates that the requested additional time will ensure alleviation of the condition as expeditiously as practicable.

APPENDIX D

Contact Information for the Parties to
United States and State of Minnesota v. Mesabi Nugget Delaware, LLC

Notice or submission to the United States:

Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
Box 7611 Ben Franklin Station
Washington, DC 20044-7611
Re: DOJ No. 90-5-2-1-06944/1
eescasemanagement.enrd@usdoj.gov

Notice or submission to EPA:

Air Enforcement Division Director
U.S. Environmental Protection Agency
Office of Civil Enforcement
Air Enforcement Division
U.S. Environmental Protection Agency
1200 Pennsylvania Ave, NW
Mail Code: 2242A
Washington, DC 20460

and

Molly Smith
U.S. Environmental Protection Agency
Region 5
AE-17J
77 West Jackson Blvd.
Chicago, IL 60604

Including an electronic copy to:
Smith.Molly@epa.gov

and

Patrick Miller
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Including an electronic copy to:

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and

James Morris
U.S. Environmental Protection Agency
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C-14J
77 West Jackson Blvd.
Chicago, IL 60604

Including an electronic copy to:

Morris.James@epa.gov

Notice or submission to the State:

Steve Palzkill
Air Quality Compliance & Enforcement
Minnesota Pollution Control Agency
525 Lake Avenue South, Suite 400
Duluth, MN 55802

Including an electronic copy to:

Steven.Palzkill@state.mn.us