

**MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
AIR QUALITY DIVISION**

EFFECTIVE DATE: January 7, 2021

ISSUED TO

Empire Iron Mining Partnership

State Registration Number (SRN): B1827

LOCATED AT

101 Empire Mine Road, Palmer, Marquette County, Michigan 49871

RENEWABLE OPERATING PERMIT

Permit Number: MI-ROP-B1827-2021

Expiration Date: January 7, 2026

Administratively Complete ROP Renewal Application Due Between
July 7, 2024 to July 7, 2025

This Renewable Operating Permit (ROP) is issued in accordance with and subject to Section 5506(3) of Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451). Pursuant to Rule 210(1) of the administrative rules promulgated under Act 451, this ROP constitutes the permittee's authority to operate the stationary source identified above in accordance with the general conditions, special conditions and attachments contained herein. Operation of the stationary source and all emission units listed in the permit are subject to all applicable future or amended rules and regulations pursuant to Act 451 and the federal Clean Air Act.

SOURCE-WIDE PERMIT TO INSTALL

Permit Number: MI-PTI-B1827-2021

This Permit to Install (PTI) is issued in accordance with and subject to Section 5505(1) of Act 451. Pursuant to Rule 214a of the administrative rules promulgated under Act 451, the terms and conditions herein, identified by the underlying applicable requirement citation of Rule 201(1)(a), constitute a federally enforceable PTI. The PTI terms and conditions do not expire and remain in effect unless the criteria of Rule 201(6) are met. Operation of all emission units identified in the PTI is subject to all applicable future or amended rules and regulations pursuant to Act 451 and the federal Clean Air Act.

Michigan Department of Environment, Great Lakes, and Energy

Ed Lancaster, Marquette District Supervisor

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AUTHORITY AND ENFORCEABILITY

For the purpose of this permit, the **permittee** is defined as any person who owns or operates an emission unit at a stationary source for which this permit has been issued. The **department** is defined in Rule 104(d) as the Director of the Michigan Department of Environment, Great Lakes, and Energy (EGLE) or his or her designee.

The permittee shall comply with all specific details in the permit terms and conditions and the cited underlying applicable requirements. All terms and conditions in this ROP are both federally enforceable and state enforceable unless otherwise footnoted. Certain terms and conditions are applicable to most stationary sources for which an ROP has been issued. These general conditions are included in Part A of this ROP. Other terms and conditions may apply to a specific emission unit, several emission units which are represented as a flexible group, or the entire stationary source which is represented as a Source-Wide group. Special conditions are identified in Parts B, C, D and/or the appendices.

In accordance with Rule 213(2)(a), all underlying applicable requirements are identified for each ROP term or condition. All terms and conditions that are included in a PTI are streamlined, subsumed and/or is state-only enforceable will be noted as such.

In accordance with Section 5507 of Act 451, the permittee has included in the ROP application a compliance certification, a schedule of compliance, and a compliance plan. For applicable requirements with which the source is in compliance, the source will continue to comply with these requirements. For applicable requirements with which the source is not in compliance, the source will comply with the detailed schedule of compliance requirements that are incorporated as an appendix in this ROP. Furthermore, for any applicable requirements effective after the date of issuance of this ROP, the stationary source will meet the requirements on a timely basis, unless the underlying applicable requirement requires a more detailed schedule of compliance.

Issuance of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

This permit does not relieve the permittee from any responsibilities or obligations imposed on the permittee, at the source under Consent Decree U.S. V EMPIRE IRON MINING PARTNERSHIP, CIVIL ACTION 2:19-cv-096, 2019, entered in 2019 between the USEPA and the permittee.

(Consent Decree: VI. Compliance Requirements, Case 2:19-cv-00096-GJQ-MV ECF No. 8 filed 09/04/19)

A. GENERAL CONDITIONS

Permit Enforceability

- All conditions in this permit are both federally enforceable and state enforceable unless otherwise noted. **(R 336.1213(5))**
- Those conditions that are hereby incorporated in a state-only enforceable Source-Wide PTI pursuant to Rule 201(2)(d) are designated by footnote one. **(R 336.1213(5)(a), R 336.1214a(5))**
- Those conditions that are hereby incorporated in a federally enforceable Source-Wide PTI pursuant to Rule 201(2)(c) are designated by footnote two. **(R 336.1213(5)(b), R 336.1214a(3))**

General Provisions

1. The permittee shall comply with all conditions of this ROP. Any ROP noncompliance constitutes a violation of Act 451, and is grounds for enforcement action, for ROP revocation or revision, or for denial of the renewal of the ROP. All terms and conditions of this ROP that are designated as federally enforceable are enforceable by the Administrator of the United States Environmental Protection Agency (USEPA) and by citizens under the provisions of the federal Clean Air Act (CAA). Any terms and conditions based on applicable requirements which are designated as "state-only" are not enforceable by the USEPA or citizens pursuant to the CAA. **(R 336.1213(1)(a))**
2. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this ROP. **(R 336.1213(1)(b))**
3. This ROP may be modified, revised, or revoked for cause. The filing of a request by the permittee for a permit modification, revision, or termination, or a notification of planned changes or anticipated noncompliance does not stay any ROP term or condition. This does not supersede or affect the ability of the permittee to make changes, at the permittee's own risk, pursuant to Rule 215 and Rule 216. **(R 336.1213(1)(c))**
4. The permittee shall allow the department, or an authorized representative of the department, upon presentation of credentials and other documents as may be required by law and upon stating the authority for and purpose of the investigation, to perform any of the following activities: **(R 336.1213(1)(d))**
 - a. Enter, at reasonable times, a stationary source or other premises where emissions-related activity is conducted or where records must be kept under the conditions of the ROP.
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the ROP.
 - c. Inspect, at reasonable times, any of the following:
 - i. Any stationary source.
 - ii. Any emission unit.
 - iii. Any equipment, including monitoring and air pollution control equipment.
 - iv. Any work practices or operations regulated or required under the ROP.
 - d. As authorized by Section 5526 of Act 451, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the ROP or applicable requirements.
5. The permittee shall furnish to the department, within a reasonable time, any information the department may request, in writing, to determine whether cause exists for modifying, revising, or revoking the ROP or to determine compliance with this ROP. Upon request, the permittee shall also furnish to the department copies of any records that are required to be kept as a term or condition of this ROP. For information which is claimed by the permittee to be confidential, consistent with the requirements of the 1976 PA 442, MCL §15.231 et seq., and known as the Freedom of Information Act, the person may also be required to furnish the records directly to the USEPA together with a claim of confidentiality. **(R 336.1213(1)(e))**

6. A challenge by any person, the Administrator of the USEPA, or the department to a particular condition or a part of this ROP shall not set aside, delay, stay, or in any way affect the applicability or enforceability of any other condition or part of this ROP. **(R 336.1213(1)(f))**
7. The permittee shall pay fees consistent with the fee schedule and requirements pursuant to Section 5522 of Act 451. **(R 336.1213(1)(g))**
8. This ROP does not convey any property rights or any exclusive privilege. **(R 336.1213(1)(h))**

Equipment & Design

9. Any collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2).² **(R 336.1370)**
10. Any air cleaning device shall be installed, maintained, and operated in a satisfactory manner and in accordance with the Michigan Air Pollution Control rules and existing law. **(R 336.1910)**

Emission Limits

11. Unless otherwise specified in this ROP, the permittee shall comply with Rule 301, which states, in part, "Except as provided in Subrules 2, 3, and 4 of this rule, a person shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of a density greater than the most stringent of the following:"² **(R 336.1301(1))**
 - a. A 6-minute average of 20% opacity, except for one 6-minute average per hour of not more than 27% opacity.
 - b. A limit specified by an applicable federal new source performance standard.

The grading of visible emissions shall be determined in accordance with Rule 303.

12. The permittee shall not cause or permit the emission of an air contaminant or water vapor in quantities that cause, alone or in reaction with other air contaminants, either of the following:
 - a. Injurious effects to human health or safety, animal life, plant life of significant economic value, or property.¹ **(R 336.1901(a))**
 - b. Unreasonable interference with the comfortable enjoyment of life and property.¹ **(R 336.1901(b))**

Testing/Sampling

13. The department may require the owner or operator of any source of an air contaminant to conduct acceptable performance tests, at the owner's or operator's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001(1).² **(R 336.2001)**
14. Any required performance testing shall be conducted in accordance with Rule 1001(2), Rule 1001(3) and Rule 1003. **(R 336.2001(2), R 336.2001(3), R 336.2003(1))**
15. Any required test results shall be submitted to the Air Quality Division (AQD) in the format prescribed by the applicable reference test method within 60 days following the last date of the test. **(R 336.2001(5))**

Monitoring/Recordkeeping

16. Records of any periodic emission or parametric monitoring required in this ROP shall include the following information specified in Rule 213(3)(b)(i), where appropriate. **(R 336.1213(3)(b))**
 - a. The date, location, time, and method of sampling or measurements.
 - b. The dates the analyses of the samples were performed.
 - c. The company or entity that performed the analyses of the samples.
 - d. The analytical techniques or methods used.
 - e. The results of the analyses.
 - f. The related process operating conditions or parameters that existed at the time of sampling or measurement.
17. All required monitoring data, support information and all reports, including reports of all instances of deviation from permit requirements, shall be kept and furnished to the department upon request for a period of not less than 5 years from the date of the monitoring sample, measurement, report or application. Support information includes all calibration and maintenance records and all original strip-chart recordings, or other original data records, for continuous monitoring instrumentation and copies of all reports required by the ROP. **(R 336.1213(1)(e), R 336.1213(3)(b)(ii))**

Certification & Reporting

18. Except for the alternate certification schedule provided in Rule 213(3)(c)(iii)(B), any document required to be submitted to the department as a term or condition of this ROP shall contain an original certification by a Responsible Official which state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. **(R 336.1213(3)(c))**
19. A Responsible Official shall certify to the appropriate AQD District Office and to the USEPA that the stationary source is and has been in compliance with all terms and conditions contained in the ROP except for deviations that have been or are being reported to the appropriate AQD District Office pursuant to Rule 213(3)(c). This certification shall include all the information specified in Rule 213(4)(c)(i) through (v) and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the certification are true, accurate, and complete. The USEPA address is: USEPA, Air Compliance Data - Michigan, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604-3507. **(R 336.1213(4)(c))**
20. The certification of compliance shall be submitted annually for the term of this ROP as detailed in the special conditions, or more frequently if specified in an applicable requirement or in this ROP. **(R 336.1213(4)(c))**
21. The permittee shall promptly report any deviations from ROP requirements and certify the reports. The prompt reporting of deviations from ROP requirements is defined in Rule 213(3)(c)(ii) as follows, unless otherwise described in this ROP. **(R 336.1213(3)(c))**
 - a. For deviations that exceed the emissions allowed under the ROP, prompt reporting means reporting consistent with the requirements of Rule 912 as detailed in Condition 25. All reports submitted pursuant to this paragraph shall be promptly certified as specified in Rule 213(3)(c)(iii).
 - b. For deviations which exceed the emissions allowed under the ROP and which are not reported pursuant to Rule 912 due to the duration of the deviation, prompt reporting means the reporting of all deviations in the semiannual reports required by Rule 213(3)(c)(i). The report shall describe reasons for each deviation and the actions taken to minimize or correct each deviation.
 - c. For deviations that do not exceed the emissions allowed under the ROP, prompt reporting means the reporting of all deviations in the semiannual reports required by Rule 213(3)(c)(i). The report shall describe the reasons for each deviation and the actions taken to minimize or correct each deviation.

22. For reports required pursuant to Rule 213(3)(c)(ii), prompt certification of the reports is described in Rule 213(3)(c)(iii) as either of the following: **(R 336.1213(3)(c))**
 - a. Submitting a certification by a Responsible Official with each report which states that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
 - b. Submitting, within 30 days following the end of a calendar month during which one or more prompt reports of deviations from the emissions allowed under the ROP were submitted to the department pursuant to Rule 213(3)(c)(ii), a certification by a Responsible Official which states that; “based on information and belief formed after reasonable inquiry, the statements and information contained in each of the reports submitted during the previous month were true, accurate, and complete.” The certification shall include a listing of the reports that are being certified. Any report submitted pursuant to Rule 213(3)(c)(ii) that will be certified on a monthly basis pursuant to this paragraph shall include a statement that certification of the report will be provided within 30 days following the end of the calendar month.
23. Semiannually for the term of the ROP as detailed in the special conditions, or more frequently if specified, the permittee shall submit certified reports of any required monitoring to the appropriate AQD District Office. All instances of deviations from ROP requirements during the reporting period shall be clearly identified in the reports. **(R 336.1213(3)(c)(i))**
24. On an annual basis, the permittee shall report the actual emissions, or the information necessary to determine the actual emissions, of each regulated air pollutant as defined in Rule 212(6) for each emission unit utilizing the emissions inventory forms provided by the department. **(R 336.1212(6))**
25. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the appropriate AQD District Office. The notice shall be provided not later than two business days after the start-up, shutdown, or discovery of the abnormal conditions or malfunction. Notice shall be by any reasonable means, including electronic, telephonic, or oral communication. Written reports, if required under Rule 912, must be submitted to the appropriate AQD District Supervisor within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal conditions or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5) and shall be certified by a Responsible Official in a manner consistent with the CAA.² **(R 336.1912)**

Permit Shield

26. Compliance with the conditions of the ROP shall be considered compliance with any applicable requirements as of the date of ROP issuance if either of the following provisions is satisfied. **(R 336.1213(6)(a)(i), R 336.1213(6)(a)(ii))**
 - a. The applicable requirements are included and are specifically identified in the ROP.
 - b. The permit includes a determination or concise summary of the determination by the department that other specifically identified requirements are not applicable to the stationary source.

Any requirements identified in Part E of this ROP have been identified as non-applicable to this ROP and are included in the permit shield.

27. Nothing in this ROP shall alter or affect any of the following:
 - a. The provisions of Section 303 of the CAA, emergency orders, including the authority of the USEPA under Section 303 of the CAA. **(R 336.1213(6)(b)(i))**
 - b. The liability of the owner or operator of this source for any violation of applicable requirements prior to or at the time of this ROP issuance. **(R 336.1213(6)(b)(ii))**
 - c. The applicable requirements of the acid rain program, consistent with Section 408(a) of the CAA. **(R 336.1213(6)(b)(iii))**

- d. The ability of the USEPA to obtain information from a source pursuant to Section 114 of the CAA. **(R 336.1213(6)(b)(iv))**
28. The permit shield shall not apply to provisions incorporated into this ROP through procedures for any of the following:
- a. Operational flexibility changes made pursuant to Rule 215. **(R 336.1215(5))**
 - b. Administrative Amendments made pursuant to Rule 216(1)(a)(i)-(iv). **(R 336.1216(1)(b)(iii))**
 - c. Administrative Amendments made pursuant to Rule 216(1)(a)(v) until the amendment has been approved by the department. **(R 336.1216(1)(c)(iii))**
 - d. Minor Permit Modifications made pursuant to Rule 216(2). **(R 336.1216(2)(f))**
 - e. State-Only Modifications made pursuant to Rule 216(4) until the changes have been approved by the department. **(R 336.1216(4)(e))**
29. Expiration of this ROP results in the loss of the permit shield. If a timely and administratively complete application for renewal is submitted not more than 18 months, but not less than 6 months, before the expiration date of the ROP, but the department fails to take final action before the end of the ROP term, the existing ROP does not expire until the renewal is issued or denied, and the permit shield shall extend beyond the original ROP term until the department takes final action. **(R 336.1217(1)(c), R 336.1217(1)(a))**

Revisions

30. For changes to any process or process equipment covered by this ROP that do not require a revision of the ROP pursuant to Rule 216, the permittee must comply with Rule 215. **(R 336.1215, R 336.1216)**
31. A change in ownership or operational control of a stationary source covered by this ROP shall be made pursuant to Rule 216(1). **(R 336.1219(2))**
32. For revisions to this ROP, an administratively complete application shall be considered timely if it is received by the department in accordance with the time frames specified in Rule 216. **(R 336.1210(10))**
33. Pursuant to Rule 216(1)(b)(iii), Rule 216(2)(d) and Rule 216(4)(d), after a change has been made, and until the department takes final action, the permittee shall comply with both the applicable requirements governing the change and the ROP terms and conditions proposed in the application for the modification. During this time period, the permittee may choose to not comply with the existing ROP terms and conditions that the application seeks to change. However, if the permittee fails to comply with the ROP terms and conditions proposed in the application during this time period, the terms and conditions in the ROP are enforceable. **(R 336.1216(1)(c)(iii), R 336.1216(2)(d), R 336.1216(4)(d))**

Reopenings

34. A ROP shall be reopened by the department prior to the expiration date and revised by the department under any of the following circumstances:
- a. If additional requirements become applicable to this stationary source with three or more years remaining in the term of the ROP, but not if the effective date of the new applicable requirement is later than the ROP expiration date. **(R 336.1217(2)(a)(i))**
 - b. If additional requirements pursuant to Title IV of the CAA become applicable to this stationary source. **(R 336.1217(2)(a)(ii))**
 - c. If the department determines that the ROP contains a material mistake, information required by any applicable requirement was omitted, or inaccurate statements were made in establishing emission limits or the terms or conditions of the ROP. **(R 336.1217(2)(a)(iii))**
 - d. If the department determines that the ROP must be revised to ensure compliance with the applicable requirements. **(R 336.1217(2)(a)(iv))**

Renewals

35. For renewal of this ROP, an administratively complete application shall be considered timely if it is received by the department not more than 18 months, but not less than 6 months, before the expiration date of the ROP. **(R 336.1210(9))**

Stratospheric Ozone Protection

36. If the permittee is subject to Title 40 of the Code of Federal Regulations (CFR), Part 82 and services, maintains, or repairs appliances except for motor vehicle air conditioners (MVAC), or disposes of appliances containing refrigerant, including MVAC and small appliances, or if the permittee is a refrigerant reclaimer, appliance owner or a manufacturer of appliances or recycling and recovery equipment, the permittee shall comply with all applicable standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F.
37. If the permittee is subject to 40 CFR Part 82 and performs a service on motor (fleet) vehicles when this service involves refrigerant in the MVAC, the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed by the original equipment manufacturer. The term MVAC as used in Subpart B does not include the air-tight sealed refrigeration system used for refrigerated cargo or an air conditioning system on passenger buses using Hydrochlorofluorocarbon-22 refrigerant.

Risk Management Plan

38. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall register and submit to the USEPA the required data related to the risk management plan for reducing the probability of accidental releases of any regulated substances listed pursuant to Section 112(r)(3) of the CAA as amended in 40 CFR 68.130. The list of substances, threshold quantities, and accident prevention regulations promulgated under 40 CFR Part 68, do not limit in any way the general duty provisions under Section 112(r)(1).
39. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall comply with the requirements of 40 CFR Part 68, no later than the latest of the following dates as provided in 40 CFR 68.10(a):
- June 21, 1999,
 - Three years after the date on which a regulated substance is first listed under 40 CFR 68.130, or
 - The date on which a regulated substance is first present above a threshold quantity in a process.
40. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall submit any additional relevant information requested by any regulatory agency necessary to ensure compliance with the requirements of 40 CFR Part 68.
41. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall annually certify compliance with all applicable requirements of Section 112(r) as detailed in Rule 213(4)(c). **(40 CFR Part 68)**

Emission Trading

42. Emission averaging and emission reduction credit trading are allowed pursuant to any applicable interstate or regional emission trading program that has been approved by the Administrator of the USEPA as a part of Michigan's State Implementation Plan. Such activities must comply with Rule 215 and Rule 216. **(R 336.1213(12))**

Permit to Install (PTI)

43. The process or process equipment included in this permit shall not be reconstructed, relocated, or modified unless a PTI authorizing such action is issued by the department, except to the extent such action is exempt from the PTI requirements by any applicable rule.² **(R 336.1201(1))**
44. The department may, after notice and opportunity for a hearing, revoke PTI terms or conditions if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of the PTI or is violating the department's rules or the CAA.² **(R 336.1201(8), Section 5510 of Act 451)**
45. The terms and conditions of a PTI shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by the PTI. If a new owner or operator submits a written request to the department pursuant to Rule 219 and the department approves the request, this PTI will be amended to reflect the change of ownership or operational control. The request must include all of the information required by Subrules (1)(a), (b) and (c) of Rule 219. The written request shall be sent to the appropriate AQD District Supervisor, EGLE.² **(R 336.1219)**
46. If the installation, reconstruction, relocation, or modification of the equipment for which PTI terms and conditions have been approved has not commenced within 18 months of the original PTI issuance date, or has been interrupted for 18 months, the applicable terms and conditions from that PTI, as incorporated into the ROP, shall become void unless otherwise authorized by the department. Furthermore, the person to whom that PTI was issued, or the designated authorized agent, shall notify the department via the Supervisor, Permit Section, EGLE, AQD, P. O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, reconstruction, relocation, or modification of the equipment allowed by the terms and conditions from that PTI.² **(R 336.1201(4))**

Footnotes:

¹This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

B. SOURCE-WIDE CONDITIONS

Part B outlines the Source-Wide Terms and Conditions that apply to this stationary source. The permittee is subject to these special conditions for the stationary source in addition to the general conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply to this source, NA (not applicable) has been used in the table. If there are no Source-Wide Conditions, this section will be left blank.

SOURCE-WIDE CONDITIONS

DESCRIPTION

This process group contains various small emission units and dust collectors throughout the facility including Bentonite Bins, the Unit 4 Bentonite Blenders, and Coal Bins, all with baghouse collectors. Also, control of fugitive dust emissions from stockpiles (includes, but is not limited to, stockpiles of uncrushed ore, crushed ore, or finished pellets), material transfer points, plant roadways, tailings basin, pellet loading areas, and yard areas. Empire Mine only processes magnetite.

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. You must prepare, and at all times operate according to, a Fugitive Dust Emissions Control Plan that describes in detail the measures that will be put in place to control fugitive dust emissions from:² **(R 336.1201(3))**
 - a. Stockpiles (includes, but is not limited to, stockpiles of uncrushed ore, crushed ore, or finished pellets)
 - b. Material transfer points
 - c. Plant roadways
 - d. Tailings basin
 - e. Pellet loading areas
 - f. Yard areas

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall keep records of fugitive dust control activities and dates carried out pursuant to the Fugitive Dust Emissions Control Plan.² **(R 336.1201(3))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall carry out an Inspection and Maintenance Program for all air-cleaning devices to assure that the air cleaning devices are installed, maintained, and operated in a satisfactory manner and in accordance with the Michigan Air Pollution Control Rules and existing law.¹ **(R 336.1910)**

Footnotes:

¹This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

C. EMISSION UNIT SPECIAL CONDITIONS

Part C outlines terms and conditions that are specific to individual emission units listed in the Emission Unit Summary Table. The permittee is subject to the special conditions for each emission unit in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply, NA (not applicable) has been used in the table. If there are no conditions specific to individual emission units, this section will be left blank.

EMISSION UNIT SUMMARY TABLE

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

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-CRUSHER1	Ore Crusher 1 located in the crusher building, fugitive emissions are controlled with wet scrubber SV-CRUSHER1.	1963 1980	FG-MATERIAL HANDLING FG-TACONITEMACT
EU-CONVEYOR1	Ore Conveyor 1 receives crushed iron ore from crusher 1, fugitive emissions are controlled with wet scrubber SV-CONVEYOR1.	1963 1980	FG-MATERIAL HANDLING FG-TACONITEMACT
EU-CRUSHER1B	Ore Crusher 1B located in the crusher building, fugitive emissions are controlled with wet scrubber SV-CRUSHER1B.	1963 1980	FG-MATERIAL HANDLING FG-TACONITEMACT
EU-CONVEYOR1B	Ore Conveyor 1B receives crushed iron ore from crusher 1B, fugitive emissions are controlled with wet scrubber SV-ABTRANSFER.	1963 1980	FG-MATERIAL HANDLING FG-TACONITEMACT
EU-OREFEED-LN5	Ore Grinding Lines 5 and 6 Apron Feeder (Conveyor) located in the concentrator building, fugitive emissions are controlled with wet scrubber SV-LINES5&6FEED.	1963 1980	FG-MATERIAL HANDLING FG-TACONITEMACT
EU-OREFEED-LN9	Ore Grinding Lines 9 and 10 Apron Feeder (Conveyor) located in the concentrator building, fugitive emissions are controlled with wet scrubber SV-LINES9&10FEED.	1963 1980	FG-MATERIAL HANDLING FG-TACONITEMACT
EU-OREFEED-LN17	Ore Grinding Lines 17 and 18 Apron Feeder (Conveyor) located in the concentrator building, fugitive emissions are controlled with wet scrubber SV-LINE17&18FEED.	1963 1980	FG-MATERIAL HANDLING FG-TACONITEMACT
EU-OREFEED-LN19	Ore Grinding Lines 19 and 20 Apron Feeder (Conveyor) located in the concentrator building, fugitive emissions are controlled with wet scrubber SV-LINES19&20FEED.	1963 1980	FG-MATERIAL HANDLING FG-TACONITEMACT
EU-OREFEED-LN21	Ore Grinding Line 21 Apron Feeder (Conveyor) located in the concentrator building, fugitive emissions are controlled with wet scrubber SV-LINE21FEED.	1963 1980	FG-MATERIAL HANDLING FG-TACONITEMACT

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-OREFEED-LN22	Ore Grinding Line 22 Apron Feeder (Conveyor) located in the concentrator building, fugitive emissions are controlled with wet scrubber SV-LINE22FEED.	1963 1980	FG-MATERIAL HANDLING FG-TACONITEMACT
EU-OREFEED-LN23	Ore Grinding Line 23 Apron Feeder (Conveyor) located in the concentrator building, fugitive emissions are controlled with wet scrubber SV-LINE23FEED.	1963 1980	FG-MATERIAL HANDLING FG-TACONITEMACT
EU-OREFEED-LN24	Ore Grinding Line 24 Apron Feeder (Conveyor) located in the concentrator building, fugitive emissions are controlled with wet scrubber SV-LINE24FEED.	1963 1980	FG-MATERIAL HANDLING FG-TACONITEMACT
EU-LIME-FEEDERS	Limestone Apron Feeders (Conveyors) located in the concentrator building, fugitive emissions are controlled with a multi cyclone collector.	1963 1980	FG-MATERIAL HANDLING
EU-UNIT1-BENT-BL	The Unit 1 bentonite blenders are in the pellet plant. This process is controlled with a wet scrubber.	1966	FG-MATERIAL HANDLING
EU-UNIT2-FURNACE	Unit 2 Grate Kiln Indurating Furnace dries and preheats pellets on a traveling grate and then heats the pellets in a rotary kiln for final induration. Unit 2 is fired with natural gas, fuel oil, coal, and/or coal/petroleum coke blend. Unit 2 has a maximum total heat input of 250 million British Thermal Unit (BTU) per hour. The unit has a dry electrostatic precipitator dust collector. (Permits to Install Nos. 494-87B, 199-02, 199-02A, 155-04)	1966 1989	FG-FURNACES FG-TACONITEMACT
EU-UNIT2-GRATE	The Unit 2 Grate Pellet Stripping removes pellets from the grate. Fugitive emissions are controlled with wet scrubber SV-UNIT2GRATESTR.	1975 1976	FG-MATERIAL HANDLING FG-TACONITEMACT
EU-UNIT2-BENT-BL	The Unit 2 bentonite blenders are controlled with wet scrubbers.	1975 1976	FG-MATERIAL HANDLING
EU-UNIT2-DIS#6	Unit 1 Conveyor 32 Feed End; Unit 2 pellet cooler discharge and conveyor 31-2 Discharge End are all located in the pellet building, fugitive emissions are controlled with wet scrubber SV-UNIT2COOLER.	1966 1976	FG-MATERIAL HANDLING FG-TACONITEMACT
EU-UNIT3-FURNACE	Unit 3 Grate Kiln Indurating Furnace dries and preheats pellets on a traveling grate and then heats the pellets in a rotary kiln for final induration. Unit 3 is fired with natural gas, fuel oil, coal, and/or coal/petroleum coke blend. Unit 3 has a maximum total heat input of 250 million BTU per hour. The unit has a dry electrostatic precipitator dust collector. (Permits to Install Nos. 494-87B, 199-02, 199-02A, 155-04)	1975 1989 1996	FG-FURNACES FG-TACONITEMACT

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-UNIT3-GRATE	The Unit 3 Pellet Grate Stripping is located in the pellet plant. This unit removes pellets from the grate. Fugitive emissions are controlled with wet scrubber SV-UNIT3GRATESTR.	1975 1976	FG-MATERIAL HANDLING FG-TACONITEMACT
EU-UNIT3-31-4DIS	Unit 3 Conveyor 31-4 Discharge End is in the pellet plant. Fugitive emissions are controlled with wet scrubber SV-31-4CONVDISCH.	1975 1976	FG-MATERIAL HANDLING FG-TACONITEMACT
EU-UNIT3-BENT-BL	The Unit 3 & 4 Bentonite Blenders are located in the pellet plant, fugitive emissions are controlled with wet scrubber.	1975 1976	FG-MATERIAL HANDLING
EU-UNIT3-COOLER	The Unit 3 Pellet Cooler Discharge is located in the pellet plant, fugitive emissions are controlled with wet scrubber SV-UNIT3COOLER.	1975 1976	FG-MATERIAL HANDLING FG-TACONITEMACT
EU-UNIT3-31-4CON	The Unit 3 Conveyor 31-4 Feed End is located in the pellet plant, fugitive emissions are controlled with wet scrubber SV-31-4CONVFEED.	1975 1976	FG-MATERIAL HANDLING FG-TACONITEMACT
EU-UNIT4-FURNACE	Unit 4 Grate Kiln Indurating Furnace dries and preheats pellets on a traveling grate and then heats the pellets in a rotary kiln for final induration. Unit 4 is fired with natural gas, fuel oil, coal, and/or coal/petroleum coke blend. Unit 4 has a maximum total heat input of approximately 330 million BTU per hour. The unit has a dry electrostatic precipitator dust collector. (Permits to Install Nos. 494-87B, 155-04)	1980 1989	FG-FURNACES FG-TACONITEMACT
EU-UNIT4-GRATEST	Unit 4 Grate Stripping is located in the pellet plant, fugitive emissions are controlled with wet scrubber SV-UNIT4GRATESTR.	1980 1981	FG-MATERIAL HANDLING FG-TACONITEMACT
EU-UNIT4-PAN-CON	The Unit 4 Pan Conveyor is located in the pellet plant, fugitive emissions are controlled with wet scrubber SV-UNIT4PANCONV.	1980 1981	FG-MATERIAL HANDLING FG-TACONITEMACT
EU-UNIT4-GRATE-F	The Unit 4 Grate Feed End is located in the pellet plant, fugitive emissions are controlled with wet scrubber SV-UNIT4GRATEFD.	1980 1981	FG-MATERIAL HANDLING FG-TACONITEMACT
EU-UNIT4-COOLER	The Unit 4 Pellet Cooler Discharge is located in the pellet plant, fugitive emissions are controlled with wet scrubber SV-UNIT4COOLER.	1980 1981	FG-MATERIAL HANDLING FG-TACONITEMACT
EU-UNIT4-31-5FD	The Unit 4 Conveyor 31-5 Feed End is located in the pellet plant, fugitive emissions are controlled with wet scrubber SV-31-5CONVFEED.	1980 1981	FG-MATERIAL HANDLING FG-TACONITEMACT
EU-UNIT4-31-5DIS	The Unit 4 Conveyor 31-5 Discharge End is located in the pellet plant, fugitive emissions are controlled with wet scrubber SV-31-5CONVDISCH.	1980 1981	FG-MATERIAL HANDLING FG-TACONITEMACT

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-UNIT4-32-1DIS	The Unit 4 Conveyor 32-1 Discharge End is located in the pellet plant, fugitive emissions are controlled with wet scrubber SV-32-1CONVDISCH.	1980 1981	FG-MATERIAL HANDLING FG-TACONITEMACT
EU-BOILER1	Wickes Boiler 1 rated at 30 million BTU per hour and burns natural gas or fuel oil. (Permit to Install No. 494-87B)	1963 1966	FG- BOILERS1-3 FG-BOILERMACT
EU-BOILER2	Wickes Boiler 2 rated at 30 million BTU per hour and burns natural gas or fuel oil. (Permit to Install No. 494-87B)	1963 1966	FG-BOILERS1-3 FG-BOILERMACT
EU-BOILER3	Wickes Boiler 3 rated at 30 million BTU per hour and burns natural gas or fuel oil. (Permit to Install No. 494-87B)	1963 1966	FG-BOILERS1-3 FG-BOILERMACT
EU-BOILER4	Johnston Boiler 4 rated at 30 million BTU per hour and burns natural gas or fuel oil. (Permit to Install No. 494-87B)	1980	FG-BOILERS4-5 FG-BOILERMACT
EU-BOILER5	Johnston Boiler 5 rated at 30 million BTU per hour and burns natural gas or fuel oil. (Permit to Install No. 494-87B)	1980	FG-BOILERS4-5 FG-BOILERMACT

**EU-UNIT2-FURNACE
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Unit 2 Grate Kiln Indurating Furnace dries and preheats pellets on a traveling grate and then heats the pellets in a rotary kiln for final induration. Unit 2 is fired with natural gas, fuel oil, coal, and/or coal/petroleum coke blend. Unit 2 has a maximum total heat input of 250 million BTU per hour. The unit has a dry electrostatic precipitator dust collector.

Flexible Group ID: FG-FURNACES, FG-TACONITEMACT

POLLUTION CONTROL EQUIPMENT

Dry Electrostatic Precipitator

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Particulate Matter (PM)	0.15 pounds per 1000 pounds of exhaust gases. ²	Hourly	EU-UNIT2-FURNACE	SC V. 1	R 336.1331 R 336.1213(3) R 336.2001 R 336.2003 R 336.2004

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not exceed a total heat input rate to EU-UNIT2-FURNACE of 250 million BTU per hour.² (R 336.1201(3))

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

1. The permittee shall verify PM emission rates from EU-UNIT2-FURNACE by testing at the owner's expense, in accordance with the Department requirements. Testing shall be performed using an approved USEPA Method listed in 40 CFR 63.9621. An alternate method, or a modification to the approved USEPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.² (R 336.1213(3), R 336.2001, R 336.2003, R 336.2004,

2. The permittee shall verify the PM emission rates from EU-UNIT2-FURNACE within 180 days of start up, and a minimum, every five years from the date of the last test thereafter.² **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**
3. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor not less than 30 days of the time and place before performance tests are conducted.² **(R 336.1213(3))**

See Appendix 5

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall utilize Continuous Opacity Monitoring (COM)-recorded opacity as an indicator of the proper operation of the electrostatic precipitator. The indicator range of opacity defining proper function of the ESP is 0-20%. Six-minute average values shall be based on 36 or more equally spaced instantaneous opacity measurements per six-minute period. The COM shall be calibrated in accordance with 40 CFR Part 60, Subpart A. **(40 CFR 64.6(c)(1)(i) and (ii))**
2. The opacity monitor shall continuously monitor opacity, the indicator range is 0-20% opacity, the averaging period is 6 minutes. The monitor shall be calibrated daily. **(40 CFR 64.6(c)(1)(iii))**
3. An excursion is a departure from the indicator range of 0-20% for greater than two 6-minute block averages per hour. **(40 CFR 64.6(c)(2))**
4. Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). **(40 CFR 64.7(d))**
5. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. **(40 CFR 64.6(c)(3), 40 CFR 64.7(c))**
6. The permittee shall properly maintain the monitoring system, including keeping necessary parts for routine repair of the monitoring equipment. **(40 CFR 64.7(b))**
7. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan and any activities undertaken to implement a quality improvement plan, and other information such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions. **(40 CFR 64.9(b)(1))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(I))**
4. Each semiannual report of monitoring and deviations shall include summary information on monitor downtime. If there were no periods of monitor downtime in the reporting period, then this report shall include a statement that there were no periods of monitor downtime. **(40 CFR 64.9(a)(2)(ii))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-UNIT2-FURNACE	NA	134 ²	R 336.1201(3)

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable requirements of 40 CFR Part 64. **(40 CFR Part 64)**
2. If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the AQD and if necessary, submit a proposed modification of the ROP and Compliance Assurance Monitoring (CAM) Plan to address the necessary monitoring changes. Such a modification may include but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. **(40 CFR 64.7(e))**

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).
² This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**EU-UNIT3-FURNACE
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Unit 3 Grate Kiln Indurating Furnace dries and preheats pellets on a traveling grate and then heats the pellets in a rotary kiln for final induration. Unit 3 is fired with natural gas, fuel oil, coal, and/or coal/petroleum coke blend. Unit 3 has a maximum total heat input of 250 million BTU per hour. The unit has a dry electrostatic precipitator dust collector.

Flexible Group ID: FG-FURNACES, FG-TACONITEMACT

POLLUTION CONTROL EQUIPMENT

Dry Electrostatic Precipitator

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Nitrogen Oxides	1,114 pounds per hour. ²	Hourly	EU-UNIT3-FURNACE	SC V.1	R 336.1201(3) 40 CFR 52.21(j)
2. PM	0.10 pounds per 1000 pounds of exhaust gas ²	Hourly	EU-UNIT3-FURNACE	SC V. 1	R 336.1331

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall operate EU-UNIT3-FURNACE and the electrostatic precipitator as outlined in the CAM plan.² **(R 336.1201(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

1. The permittee shall verify PM emission rates from EU-UNIT3-FURNACE by testing at the owner's expense, in accordance with the Department requirements. Testing shall be performed using an approved EPA Method listed in 40 CFR 63.9621. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**
2. The permittee shall verify the PM emission rates from EU-UNIT3-FURNACE, within 180 days of start up, and a minimum, every five years from the date of the last test thereafter.² **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

3. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor not less than 30 days of the time and place before performance tests are conducted. **(R 336.1213(3))**

See Appendix 5

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall utilize COM-recorded opacity as an indicator of the proper operation of the electrostatic precipitator. The indicator range of opacity defining proper function of the ESP is 0-20%. Six-minute average values shall be based on 36 or more equally spaced instantaneous opacity measurements per six-minute period. The COM shall be calibrated in accordance with 40 CFR Part 60, Subpart A. **(40 CFR 64.6(c)(1)(i) and (ii))**
2. The opacity monitor shall continuously monitor opacity, the indicator range is 0-20% opacity, the averaging period is 6 minutes. The monitor shall be calibrated daily. **(40 CFR 64.6(c)(1)(iii))**
3. An excursion is a departure from the indicator range of 0-20% for greater than two 6-minute block averages per hour. **(40 CFR 64.6(c)(2))**
4. Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). **(40 CFR 64.7(d))**
5. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. **(40 CFR 64.6(c)(3), 40 CFR 64.7(c))**
6. The permittee shall properly maintain the monitoring system, including keeping necessary parts for routine repair of the monitoring equipment. **(40 CFR 64.7(b))**
7. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan and any activities undertaken to implement a quality improvement plan, and other information such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions. **(40 CFR 64.9(b)(1))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. Each semiannual report of monitoring and deviations shall include summary information on monitor downtime. If there were no periods of monitor downtime in the reporting period, then this report shall include a statement that there were no periods of monitor downtime. **(40 CFR 64.9(a)(2)(ii))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-UNIT3-FURNACE	NA	134 ²	R 336.1201(3)

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable requirements of 40 CFR Part 64. **(40 CFR Part 64)**
2. If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the AQD and if necessary, submit a proposed modification of the ROP and CAM Plan to address the necessary monitoring changes. Such a modification may include but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. **(40 CFR 64.7(e))**

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).
² This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**EU-UNIT4-FURNACE
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Unit 4 Grate Kiln Indurating Furnace dries and preheats pellets on a traveling grate and then heats the pellets in a rotary kiln for final induration. Unit 4 is fired with natural gas, fuel oil, coal, and/or coal/petroleum coke blend. The maximum total heat input to Unit 4 is approximately 330 million BTU per hour. The unit has a dry electrostatic precipitator dust collector.

Flexible Group ID: FG-FURNACES, FG-TACONITEMACT

POLLUTION CONTROL EQUIPMENT

Dry Electrostatic Precipitator

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	0.10 pounds per 1000 pounds of exhaust gases ²	Hourly	EU-UNIT4-FURNACE	SC V. 1	R 336.1331

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

- The permittee shall verify PM emission rates from EU-UNIT4-FURNACE by testing at the owner's expense, in accordance with the Department requirements. Testing shall be performed using an approved EPA Method listed in 40 CFR 63.9621. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**
- The permittee shall verify the PM emission rates from EU-UNIT4-FURNACE, within 180 days of start up, and a minimum, every five years from the date of the last test thereafter.² **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

3. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor not less than 30 days of the time and place before performance tests are conducted. **(R 336.1213(3))**

See Appendix 5

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall utilize COM-recorded opacity as an indicator of the proper operation of the electrostatic precipitator. The indicator range of opacity defining proper function of the ESP is 0-20%. Six-minute average values shall be based on 36 or more equally spaced instantaneous opacity measurements per six-minute period. The COM shall be calibrated in accordance with 40 CFR Part 60, Subpart A. **(40 CFR 64.6(c)(1)(i) and (ii))**
2. The opacity monitor shall continuously monitor opacity, the indicator range is 0-20% opacity, the averaging period is 6 minutes. The monitor shall be calibrated daily. **(40 CFR 64.6(c)(1)(iii))**
3. An excursion is a departure from the indicator range of 0-20% for greater than two 6-minute block averages per hour. **(40 CFR 64.6(c)(2))**
4. Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). **(40 CFR 64.7(d))**
5. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. **(40 CFR 64.6(c)(3), 40 CFR 64.7(c))**
6. The permittee shall properly maintain the monitoring system, including keeping necessary parts for routine repair of the monitoring equipment. **(40 CFR 64.7(b))**
7. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan and any activities undertaken to implement a quality improvement plan, and other information such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions. **(40 CFR 64.9(b)(1))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. Within 60 days after the end of each ozone control period, the permittee shall submit a summary report for Unit 4 Indurating Furnace in an acceptable format including all of the information specified in Rule 801(12).¹ **(R 336.1801(12))**
5. Each semiannual report of monitoring and deviations shall include summary information on monitor downtime. If there were no periods of monitor downtime in the reporting period, then this report shall include a statement that there were no periods of monitor downtime. **(40 CFR 64.9(a)(2)(ii))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-UNIT4-FURNACE	210 ²	134 ²	R 336.1201(3)

IX. OTHER REQUIREMENT(S)

1. During the Ozone Control Period (May 1 through September 30 of each year), the permittee shall operate Unit 4 Indurating Furnace in conformance with the control program for Oxides of Nitrogen required by Rule 801(4)(g), as approved by the AQD.¹ **(R 336.1801)**
2. The permittee shall comply with all applicable requirements of 40 CFR Part 64. **(40 CFR Part 64)**
3. If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the AQD and if necessary, submit a proposed modification of the ROP and CAM Plan to address the necessary monitoring changes. Such a modification may include but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. **(40 CFR 64.7(e))**

Footnotes:

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

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

D. FLEXIBLE GROUP SPECIAL CONDITIONS

Part D outlines the terms and conditions that apply to more than one emission unit. The permittee is subject to the special conditions for each flexible group in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply, NA (not applicable) has been used in the table. If there are no special conditions that apply to more than one emission unit, this section will be left blank.

FLEXIBLE GROUP SUMMARY TABLE

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

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-MATERIAL HANDLING	Emission Units subject to R 336.1331 PM emission limits. Primary crushing of iron ore from the open pit, conveying iron ore to storage barns, and feeding iron ore into the plant, and 24 wet primary grinding mills. Also, conveying and grinding of limestone. The emission units are controlled with either wet scrubbers or multi cyclone dust collector.	EU-CRUSHER1, EU-CONVEYOR1, EUCRUSHER1B, EU-CONVEYOR1B, EU-OREFEED-LN5, EU-OREFEED-LN9, EU-OREFEED-LN17, EU--OREFEED-LN19, EU-OREFEEDLINE21, EUOREFEED-LN22, EU-OREFEED--LN23, EU-OREFEED-LN24, EULIME-FEEDERS, EU-UNIT1-BENT-BL, EU-UNIT2-GRATE, EU-UNIT2-BENT-BL, EU-UNIT2-DIS#6, EU-UNIT3-GRATE, EU-UNIT3-31-4DIS, EU-UNIT3-BENT-BL, EU-UNIT3-COOLER, EU-UNIT3-31-4CON, EU-UNIT4-GRATEST, EU-UNIT4-PAN-CON, EU-UNIT4-GRATE-F, EU-UNIT4-COOLER, EU-UNIT4-31-5FD, EU-UNIT4-31-5DIS, EU-UNIT4-32-1DIS
FG-FURNACES	<p>Unit 2 Grate Kiln Indurating Furnace receives pellets from the balling section, dries and preheats them on a traveling grate which discharges them into a rotary kiln for final induration. Unit 2 is fired with natural gas, fuel oil, coal, and/or coal/petroleum coke blend. Unit 2 has a maximum total heat input of 250 million BTU per hour. The unit has a dry electrostatic precipitator dust collector.</p> <p>Unit 3 Grate Kiln Indurating Furnace receives pellets from the balling section, dries and preheats them on a traveling grate which discharges them into a rotary kiln for final induration. Unit 3 is fired with natural gas, fuel oil, coal, and/or coal/petroleum coke blend. Unit 3 has a maximum total heat input of 250 million BTU per hour. The unit has a dry electrostatic precipitator dust collector.</p>	EU-UNIT2-FURNACE EU-UNIT3-FURNACE EU-UNIT4-FURNACE

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
	Unit 4 Grate Kiln Indurating Furnace receives pellets from the balling section, dries and preheats them on a traveling grate which discharges them into a rotary kiln for final induration. Unit 4 is fired with natural gas, fuel oil, coal, and/or coal/petroleum coke blend. Unit 4 has a maximum total heat input of approximately 330 million BTU per hour. The unit has a dry electrostatic precipitator dust collector.	
FG-BOILERS1-3	Boilers each rated at 30 million BTU per hour and burn natural gas or fuel oil.	EU-BOILER1 EU-BOILER2 EU-BOILER3
FG-BOILERS4-5	Boilers each rated at 30 million BTU per hour and burn natural gas or fuel oil.	EU-BOILER4 EU-BOILER5
FG-TACONITEMACT	Emission units subject to standards specified in 40 CFR Part 63, Subpart RRRRR, National Emission Standards for Hazardous Air Pollutants: Taconite Iron Ore Processing	EU-CRUSHER1, EU-CONVEYOR1 EU-CRUSHER1B, EU-CONVEYOR1B EU-OREFEED-LN5, EU-OREFEED-LN9, EU-OREFEED-LN17, EU-OREFEED-LN19, EU-OREFEED-LN21, EU-OREFEED-LN22, EU-OREFEED-LN23, EU-OREFEED-LN24, EU-UNIT2-FURNACE, EU-UNIT2-GRATE, EU-UNIT2-DIS#6, EU-UNIT3-FURNACE, EU-UNIT3-GRATE, EU-UNIT3-31-4DIS, EU-UNIT3-COOLER, EU-UNIT-31-4CON, EU-UNIT4-FURNACE, EU-UNIT4-GRATEST, EU-UNIT4-PAN-CON, EU-UNIT4-GRATE-F, EU-UNIT4-COOLER, EU-UNIT4-31-5FD, EU-UNIT4-31-5DIS, EU-UNIT4-32-1DIS
FG-BOILERMACT	Requirements for existing boilers and process heaters that are designed to burn gas 1 subcategory fuel with a heat input capacity of 10 MMBTU/hr or greater at major sources of HAP emissions per 40 CFR Part 63, Subpart DDDDD (Boiler MACT). Units designed to burn gas 1 subcategory fuels include boilers or process heaters that burn only natural gas, refinery gas, and/or other Gas 1 fuels. Units that burn liquid fuel for testing or maintenance purposes for less than a total of 48 hours per year, or that burn liquid fuel during periods of curtailment or supply interruptions are included in this definition. Wickes Boilers 1, 2, 3, and Johnston Boilers 4 and 5, each rated at 30 Million BTU per hour.	EU-BOILER1 EU-BOILER2 EU-BOILER3 EU-BOILER4 EU-BOILER5

**FG-MATERIAL HANDLING
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Emission Units subject to R 336.1331 PM emission limits. Primary crushing of iron ore from the open pit, conveying iron ore to storage barns, and feeding iron ore into the plant, and 24 wet primary grinding mills. Also, conveying and grinding of limestone. The emission units are controlled with either wet scrubbers or multi cyclone dust collector.

The Unit 1 bentonite blenders are controlled with a wet scrubber.

Unit 2 grate stripping and Unit 2 bentonite blenders. The various processes are controlled with wet scrubber SV-UNIT2GRATESTR.

Unit 1 Conveyor 32 Feed End finished pellet conveyor, Unit 2 cooler discharge, and Unit 2 Conveyor 31 discharge end. These processes are controlled with a wet scrubber SV-UNIT2COOLER.

The Unit 3 bentonite blenders, pellet stripping of the grate, cooler discharge, and pellet conveyor feed and handling are controlled with wet scrubbers, SV-UNIT3GRATESTR, SV-UNIT3COOLER, and SV-31-4CONVFEEED, respectively.

The Unit 4 bentonite blenders, pellet stripping of the grate, cooler discharge, pellet conveyor feed and handling are controlled with wet scrubbers SV-UNIT4GRATESTR, SV-UNIT4COOLER, and SV-31-5CONVFEEED, respectively.

Emission Units: EU-CRUSHER1, EU-CONVEYOR1, EU-CRUSHER1B, EU-CONVEYOR1B, EU-OREFEED-LN5, EU-OREFEED-LN9, EU-OREFEED-LN17, EU-OREFEED-LN19, EU-OREFEEDLINE21, EU-OREFEED-LN22, EU--OREFEED-LN23, EU-OREFEED-LN24, EU-LIME-FEEDERS, EU-UNIT1-BENT-BL, EU-UNIT2-GRATE, EU-UNIT2-BENT-BL, EU-UNIT3-GRATE, EU-UNIT3-31-4DIS, EU-UNIT3-BENT-BL, EU-UNIT3-COOLER, EU-UNIT3-31-4CON, EU-UNIT4-GRATESTR, EU-UNIT4-PAN-CON, EU-UNIT4-GRATE-F, EU-UNIT4-COOLER, EU-UNIT4-31-5FD, EU-UNIT4-31-5DIS, EU-UNIT4-32-1DIS

POLLUTION CONTROL EQUIPMENT

Multi cyclone dust collector, wet scrubbers

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	0.01 pounds per 1000 pounds of exhaust gases, calculated on a dry gas basis ²	Hourly	FG-MATERIAL HANDLING	SC V.1	R 336.1331

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

NA

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. (R 336.1213(3)(c)(ii))
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. (R 336.1213(3)(c)(i))
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. (R 336.1213(4)(c))

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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

² This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**FG-FURNACES
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Emission Units subject to R 336.1402 emission limits.

Unit 2 Grate Kiln Indurating Furnace dries and preheats pellets on a traveling grate and then heats the pellets in a rotary kiln for final induration. Unit 2 is fired with natural gas, fuel oil, coal, and/or coal/petroleum coke blend. Unit 2 has a maximum total heat input of 250 million BTU per hour. Emissions from this unit are controlled by a dry electrostatic precipitator dust collector (Unit 2 Dry ESP).

Unit 3 Grate Kiln Indurating Furnace dries and preheats pellets on a traveling grate and then heats the pellets in a rotary kiln for final induration. Unit 3 is fired with natural gas, fuel oil, coal, and/or coal/petroleum coke blend. Unit 3 has a maximum total heat input of 250 million BTU per hour. Emissions from this unit are controlled by a dry electrostatic precipitator dust collector (Unit 3 Dry ESP).

Unit 4 Grate Kiln Indurating Furnace dries and preheats pellets on a traveling grate and then heats the pellets in a rotary kiln for final induration. Unit 4 is fired with natural gas, fuel oil, coal, and/or coal/petroleum coke blend. Unit 4 has a maximum total heat input of approximately 330 million BTU per hour. Emissions from this unit are controlled by a dry electrostatic precipitator dust collector (Unit 4 Dry ESP).

Emission Units: EU-UNIT2-FURNACE, EU-UNIT3-FURNACE, EU-UNIT4-FURNACE

POLLUTION CONTROL EQUIPMENT

These units are controlled by dry electrostatic precipitator dust collectors.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Sulfur Dioxide	Emissions from each individual indurating furnace shall not exceed 19,200 pounds per calendar day. ²	Calendar Day	EU-UNIT2-FURNACE EU-UNIT3-FURNACE EU-UNIT4-FURNACE	SC VI.1 SC VI.2	R 336.1402
2. Sulfur Dioxide	Emissions from Unit 2, 3, and 4 indurating furnaces combined shall not exceed 28,704 pounds per calendar day. ²	Calendar Day	FG-FURNACES combined	SC VI.1 SC VI.2	R 336.1402

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall operate FG-FURNACES and the dry electrostatic precipitators as outlined in the CAM plan.² **(R 336.1201(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall obtain and keep records of the sulfur content of the coal, petroleum coke, and fuel oil burned in FG-FURNACES, as detailed in Appendix 4.² **(R 336.1201(3))**
2. The permittee shall record on a daily basis the sulfur content of the fuels burned in the indurating furnaces and the sulfur content of the green balls and pellets processed through each indurating furnace when firing coal and/or coal/petroleum coke blend and/or fuel oil, using the records obtained in Appendix 4 and records from weekly green ball and pellet sampling. The permittee shall calculate the daily sulfur dioxide emissions from each indurating furnace when firing coal and/or coal/petroleum coke blend and/or fuel oil presuming that all of the sulfur available in the fuels and the difference in sulfur content between the green balls and pellets is converted to sulfur dioxide and emitted to the ambient air.² **(R336.1201(3))**

See Appendix 4

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. Any sulfur dioxide emissions in excess of limitations specified in this table shall be reported to the AQD District Supervisor within 15 days after the end of the calendar month in which the calculated data shows an excess emission(s).² **(R 336.1201(3))**
5. No later than 90 days after the date on which Empire restarts its processing plant, Empire shall submit for EPA review and approval an Operations & Maintenance Plan for ESPs on its indurating furnaces ("O&M Plan"). Once EPA approves of the O&M Plan, the O&M Plan shall become an obligation of this ROP that shall survive termination of the September 4, 2019, Consent Decree between the United States of America and Empire Iron Mining Partnership. Empire shall be authorized to make updates and revisions to the O&M Plan without requiring a permit amendment. **(Consent Decree: VI. Compliance Requirements, Case 2:19-cv-00096-GJQ-MV ECF No. 8 filed 09/04/19)**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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

² This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**FG-BOILERS1-3
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Wickes Boilers 1, 2, and 3 are each rated at 30 million BTU per hour and burn natural gas or fuel oil.

Emission Units: EU-BOILER1, EU-BOILER2, EU-BOILER3

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Fuel Oil	Sulfur Content Less than 1.5 % by weight (calculated on the basis of 18,000 BTU per pound)	Continuous	FG-BOILERS1-3	SC VI. 1	R 336.1402

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall burn only natural gas or fuel oil in FG-BOILER1-3. (R 366.1201(3))

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall obtain and keep records of the sulfur content of the fuel oil burned in FG-BOILERS1-3, as detailed in Appendix 4.² (R336.1213(3))

See Appendix 4

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. (R 336.1213(3)(c)(ii))

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with the applicable requirements of 40 CFR Part 63, Subpart DDDDD - National Emission Standards for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters.¹ **(40 CFR Part 63, Subpart DDDDD)**

Footnotes:

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

² This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**FG-BOILERS4-5
FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Johnston Boilers 4 and 5 are each rated at 30 million BTU per hour and burn natural gas or fuel oil.

Emission Units: EU-BOILER4, EU-BOILER5

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Fuel Oil	Sulfur Content Less than 1.25 % by weight (calculated on the basis of 18,000 BTU per pound)	Continuous	FG-BOILERS4-5	SC VI. 1	R 336.1201(3)

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall burn only natural gas or fuel oil in FG-BOILERS4-5.² **(R336.1201(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall obtain and keep records of the sulfur content of the fuel oil burned in FG-BOILERS4-5, as detailed in Appendix 4.² **(R336.1213(3))**

See Appendix 4

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBOILER4&5	48 ²	141 ²	R 336.1201(3)

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with the applicable requirements of 40 CFR Part 63, Subpart DDDDD - National Emission Standards for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters.¹ **(40 CFR Part 63, Subpart DDDDD)**

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).
² This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**FG-TACONITEMACT
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Emission units subject to standards specified in 40 CFR Part 63, Subpart RRRRR, and the National Emission Standards for Hazardous Air Pollutants: Taconite Iron Ore Processing. Empire Mine only processes magnetite ore.

Emission Units: EU-CRUSHER1, EU-CONVEYOR1, EU-CRUSHER1B, EU-CONVEYOR1B, EU-OREFEED-LN5, EU-OREFEED-LN9, EU-OREFEED-LN17, EU-OREFEED-LN19, EU-OREFEED-LN21, EU-OREFEED-LN22, EU-OREFEED-LN23, EU-OREFEED-LN24, EU-UNIT2-FURNACE, EU-UNIT2-GRATE, EU-UNIT2-DIS#6, EU-UNIT3-FURNACE, EU-UNIT3-GRATE, EU-UNIT3-31-4DIS, EU-UNIT3-COOLER, EU-UNIT3-31-4CON, EU-UNIT4-FURNACE, EU-UNIT4-GRATEST, EU-UNIT4-PAN-CON, EU-UNIT4-GRATE-F, EU-UNIT4-COOLER, EU-UNIT4-31-5FD, EU-UNIT4-31-5DIS, EU-UNIT4-32-1DIS

POLLUTION CONTROL EQUIPMENT

Ore Crushing and Handling and Finished Pellet Handling emission units are controlled with wet scrubbers. Indurating Furnace emission units are controlled with dry electrostatic precipitators.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	0.01 grains per dry standard cubic foot (gr/dscf)	Hourly	Each indurating furnace processing magnetite: EU-UNIT2-FURNACE EU-UNIT3-FURNACE EU-UNIT4-FURNACE	SC V. 1 SC VI. 1	40 CFR 63.9590(a), 40 CFR 63.9621(a), 40 CFR Part 63, Subpart RRRRR, Table 1(3)
2. PM	0.008 grains per dry standard cubic foot (gr/dscf).	Hourly	A flow weighted average of all affected source Ore Crushing and Handling Emission Units: EU-CRUSHER1 EU-CONVEYOR1 EU-CRUSHER1B EU-CONVEYOR1B EU-OREFEED-LN5 EU-OREFEED-LN9 EU-OREFEED-LN17 EU-OREFEED-LN19 EU-OREFEED-LN21 EU-OREFEED-LN22 EU-OREFEED-LN23 EU-OREFEED-LN24	SC V. 1 SC VI. 2	40 CFR 63.9590(a), 40 CFR 63.9621(a), 40 CFR 63.9621(b), 40 CFR Part 63, Subpart RRRRR, Table 1(1)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
3. PM	0.008 grains per dry standard cubic foot (gr/dscf).	Hourly	A flow weighted average of all affected Finished Pellet Handling emission units: EU-UNIT2-GRATE EU-UNIT3-GRATE EU-UNIT3-31-4DIS EU-UNIT3-COOLER EU-UNIT3-31-4CON EU-UNIT4-GRATEST EU-UNIT4-PAN-CON EU-UNIT4-GRATE-F EU-UNIT4-COOLER EU-UNIT4-31-5FD EU-UNIT4-31-5DIS EU-UNIT4-32-1DIS	SC V.1 SC VI. 2	40 CFR 63.9590(a), 40 CFR 63.9621(a), 40 CFR 63.9621(b), 40 CFR Part 63 Subpart RRRRR, Table 1(5)

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall operate and maintain the affected sources, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by 40 CFR Part 63, Subpart RRRRR. **(40 CFR 63.9600(a))**
2. For each wet scrubber applied to meet any PM emission limit in Table 1 of 40 CFR Part 63, Subpart RRRRR, the permittee must maintain the daily average pressure drop and daily average scrubber water flow rate at or above the minimum levels established during an initial or subsequent performance test. If the daily average pressure drop or water flow rate is below the established operating limits, the permittee must follow the corrective action procedures specified in Condition 4 of this section. **(40 CFR 63.9590(b)(1), 40 CFR 63.9622(a), 40 CFR 63.9622(f), 40 CFR 63.9634(e))**
3. For each dry electrostatic precipitator applied to meet any PM emission limit in Table 1 to 40 CFR Part 63, Subpart RRRRR, the permittee must maintain either (1) the 6-minute average opacity of emissions exiting the control device stack; or (2) the daily average secondary voltage and daily average secondary current for each field, at or below the levels established during an initial or subsequent performance test. If demonstrating compliance using opacity, if the daily average opacity is above the operating limits established for the corresponding emission unit, the permittee must follow the corrective action procedures specified in Condition 4 of this section. If demonstrating compliance using daily average secondary voltage and secondary current, if the daily average is below the operating limits established for the corresponding emission unit, the permittee must follow the corrective action procedures specified in Condition 4 of this section. **(40 CFR 63.9590(b)(3), 40 CFR 63.9622(c), 40 CFR 63.9622(f), 40 CFR 63.9634(g) and 63.9636)**
4. If the daily average operating parameter value for an emission unit or group of similar emission units does not meet the corresponding established operating limit, the permittee must follow the procedures in paragraphs (a) through (d) of this section.
 - a. You must initiate and complete initial corrective action within 10 calendar days and demonstrate that the initial corrective action was successful. During any period of corrective action, you must continue to monitor and record all required operating parameters for equipment that remains in operation. After 10 calendar days, measure and record the daily average operating parameter value for the emission unit or group of similar emission units on which corrective action was taken. After the initial corrective action, if the daily average

operating parameter value for the emission unit or group of similar emission units meets the operating limit established for the corresponding unit or group, then the corrective action was successful and the emission unit or group of similar emission units is in compliance with the established operating limits. **(40 CFR 63.9634(j)(1))**

- b. If the initial corrective action required in paragraph (a) of this section was not successful, then you must complete additional corrective action within 10 calendar days and demonstrate that the subsequent corrective action was successful. During any period of corrective action, you must continue to monitor and record all required operating parameters for equipment that remains in operation. After the second set of 10 calendar days allowed to implement corrective action, you must again measure and record the daily average operating parameter value for the emission unit or group of similar emission units. If the daily average operating parameter value for the emission unit or group of similar emission units meets the operating limit established for the corresponding unit or group, then the corrective action was successful and the emission unit or group of similar emission units is in compliance with the established operating limits. **(40 CFR 63.9634(j)(2))**
 - c. If the second attempt at corrective action required in paragraph (b) of this section was not successful, then you must repeat the procedures of paragraph (b) of this section until the corrective action is successful. If the third attempt at corrective action is unsuccessful, you must conduct another performance test in accordance with the procedures specified in 40 CFR 63.9622(f) and report to the District Supervisor as a deviation the third unsuccessful attempt at corrective action. **(40 CFR 63.9634(j)(3))**
 - d. After the third unsuccessful attempt at corrective action, you must submit to the District Supervisor the written report required in paragraph (c) of this section within 5 calendar days after the third unsuccessful attempt at corrective action. This report must notify the AQD that a deviation has occurred and document the types of corrective measures taken to address the problem that resulted in the deviation of established operating parameters and the resulting operating limits. **(40 CFR 63.9634(j)(4))**
5. As required by 40 CFR 63.6(e)(1)(i), the permittee must always operate and maintain the affected source, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by Section I. **(40 CFR 63.9600(a))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

1. The permittee shall verify PM emission rates from equipment listed in FG-TACONITEMACT (each indurating furnace, ore crushing and handling emission units, and finished pellet handling emission units) by testing at the owner's expense, in accordance with the Department requirements. Testing shall be performed using an approved USEPA Method listed in 40 CFR 63.9621(b). An alternate method, or a modification to the approved USEPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004, 40 CFR 63.9621(a), 40 CFR 63.9630(a), 40 CFR 63.9630 (b), 40 CFR 63.9640)**
2. The permittee shall verify the PM emission rates from equipment listed in FG-TACONITEMACT within 180 days of start up, and at a minimum, every five years from the date of the last test. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**
3. The permittee may elect to test a representative unit in accordance with 40 CFR 63.9620(e)-(g) in lieu of testing every Ore Crushing and Handling emission unit. **(40 CFR 63.9620(e)-(g))**
4. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor not less than 30 days of the time and place before performance tests are conducted. **(R 336.1213(3))**

See Appendix 5

VI. MONITORING/RECORDKEEPING

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

1. For each wet scrubber subject to FG-TACONITEMACT, the permittee must install, operate, and maintain a Continuous Parameter Monitoring System (CPMS) according to the requirements of 40 CFR 63.9632(b)-(e) and monitor the daily average pressure drop and daily average scrubber water flow rate according to the requirements of 40 CFR 63.9633. The permittee shall record all information needed to document conformance with these requirements. **(40 CFR 63.9631(b), 40 CFR 63.9632(b)-(e), 40 CFR 63.9633, 40 CFR 63.9634(e)(2) and (3))**
2. For each dry electrostatic precipitator subject to FG-TACONITEMACT, the permittee must follow one of the following monitoring requirements:
 - a. If demonstrating compliance using the 6-minute average of opacity of emissions, the permittee must install, operate, and maintain a COMS according to the requirements in 40 CFR 63.9632(f) and monitor the 6-minute average opacity of emissions existing each control device stack according to the requirements of 40 CFR 63.9633. **(40 CFR 63.9633)**
 - b. If demonstrating compliance using the secondary voltage and average secondary current, the permittee must install, operate, and maintain a CPMS according to the requirements of 40 CFR 63.9632(b)-(e) and monitor the daily average secondary voltage and daily average secondary current according to the requirements of 40 CFR 63.9633. The permittee shall record all information needed to document conformance with these requirements. **(40 CFR 63.9631(b), 40 CFR 63.9632(b)-(e)(f), 40 CFR 63.9633, 40 CFR 63.9634(g)(2))**
3. The permittee shall maintain the following records for a period of five years. Records must be maintained on-site for 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. Records may be maintained offsite for the remaining 3 years. **(40 CFR 63.9642, 40 CFR 63.9643)**
 - a. A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any initial notification or notification of compliance status that you submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv).
 - b. The records in 40 CFR 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.
 - c. Records of performance tests and performance evaluations as required in 40 CFR 63.10(b)(2)(viii).
 - d. For each COMS, you must keep the following records:
 - i. records described in 40 CFR 63.10(b)(2)(vi) through (xi);
 - ii. monitoring data for COMS during a performance evaluation as required in 40 CFR 63.6(h)(7)(i) and (ii);
 - iii. previous (that is, superseded) versions of the performance evaluation plan as required in 40 CFR 63.8(d)(3);
 - iv. records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.
 - e. The permittee must keep the records required in 40 CFR 63.9634 through 63.9636 to show continuous compliance with each emission limitation, work practice standard, and operation and maintenance requirement that applies to you.

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. The permittee must report each instance in which you did not meet an emission limitation in 40 CFR Part 63, Subpart RRRRR, including during periods of startup, shutdown or malfunction, and each instance in which you did not meet a work practice standard in 40 CFR 63.9591 or an operation and maintenance requirement in 40 CFR 63.9600. Deviations occurring during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the Department's satisfaction that you were operating in accordance with 40 CFR 63.6(e)(1). Deviations shall be reporting semiannually. **(40 CFR 63.9637, 40 CFR 63.9641(a), 40 CFR 63.9641(b), 40 CFR 63.9641(d), 40 CFR 63.9650, 40 CFR 63.6(e), 40 CFR 63.10(d)(5)(i))**
5. If the permittee had a startup, shutdown, or malfunction during the semiannual reporting period that was not consistent with your Malfunction Abatement Plan, you must submit an immediate Malfunction Abatement report according to the requirements in 40 CFR 63.10(d)(5)(ii). **(40 CFR 63.9641(c))**
6. If the permittee had three unsuccessful attempts of applying corrective action as described in 40 CFR 63.9634(j), then you must submit an immediate corrective action report. Within 5 calendar days after the third unsuccessful attempt at corrective action, you must submit to the District Supervisor a written report in accordance with 40 CFR 63.9634(j)(3) and (4). This report must notify that a deviation has occurred and document the types of corrective measures taken to address the problem that resulted in the deviation of established operating parameters and the resulting operating limits. **(40 CFR 63.9641(e))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall prepare and operate according to a fugitive dust control plan. The permittee shall submit a copy of the plan to the appropriate AQD District Office and keep a copy on site for the life of the affected source or until the source is no longer subject to the requirements of 40 CFR Part 63, Subpart RRRRR. The Fugitive Dust Emissions Control Plan shall describe in detail the measures that will be put in place to control fugitive dust emissions from the following: **(40 CFR 63.9591, 40 CFR 63.9635)**
 - a. Stockpiles (includes but is not limited to, stockpiles of uncrushed ore, crushed ore, or finished pellets)
 - b. Material transfer points
 - c. Plant roadways
 - d. Tailings basin
 - e. Pellet loading areas
 - f. Yard areas
2. The permittee shall prepare and operate according to a written operation and maintenance plan meeting the requirements of 40 CFR 63.9600(b) for each control device applied to meet any PM emission limit in Table 1 to 40 CFR Part 63, Subpart RRRRR. The operational and maintenance plan must require performing preventative maintenance for each control device, initiating and completing corrective action for a continuous parameter monitoring system when an established operating limit is exceeded, and implementing and maintaining site-specific good combustion practices for each indurating furnace. A copy of the plan must be retained on-site for the life of the affected source or until the affected sources is no longer subject to the requirements of 40 CFR Part 63, Subpart RRRRR. **(40 CFR 63.9600(b), 40 CFR 63.9636)**
3. The permittee shall implement and maintain site-specific good combustion practices for each indurating furnace and must record all information needed to document conformance with these requirements. These practices should correspond to the standard operating procedures for maintaining the proper and efficient combustion within each indurating furnace. Good combustion practices include, but are not limited to: **(40 CFR 63.9600(b)(4))**

- a. Proper operating conditions for each indurating furnace (e.g., minimum combustion temperature, maximum carbon monoxide concentration in the furnace exhaust gases, burner alignment, or proper fuel-air distribution/mixing).
 - b. Routine inspection and preventative maintenance and corresponding schedules of each indurating furnace.
 - c. Performance analysis of each indurating furnace.
 - d. Keeping operator logs.
 - e. Keeping applicable records to document compliance with each element.
4. Pursuant to 40 CFR Part 63.6(e)(3), Subpart A – General Provisions, the permittee shall develop and implement a written Startup, Shutdown, and Malfunction Abatement Plan that describes, in detail, procedures for operating and maintaining the affected source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process and air pollution control equipment used to comply with the relevant standard. This plan shall be developed by the permittee by the source's compliance date for that relevant standard. **(40 CFR 63.9610(c), 40 CFR 63.9650, 40 CFR 63.6(e)(3))**
5. The permittee shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants: Taconite Iron Ore Processing by the compliance date(s) specified in the Standards. These include Emission Limitations, Work Practice Standards, Operation and Maintenance Requirements, General Compliance Requirements, Initial and Continuous Compliance Requirements, Notification, Reporting, and Recordkeeping Requirements, and General Provisions Requirements. **(40 CFR Part 63, Subparts RRRRR and A)**

Footnotes:

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

² This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

FG-BOILERMACT FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Requirements for existing boilers and process heaters that are designed to burn gas 1 subcategory fuel with a heat input capacity of 10 MMBTU/hr or greater at major sources of HAP emissions per 40 CFR Part 63, Subpart DDDDD (Boiler MACT). Units designed to burn gas 1 subcategory fuels include boilers or process heaters that burn only natural gas, refinery gas, and/or Other Gas 1 fuels. Units that burn liquid fuel for testing or maintenance purposes for less than a total of 48 hours per year, or that burn liquid fuel during periods of curtailment or supply interruptions are included in this definition. Wickes Boilers 1, 2, 3, and Johnston Boilers 4 and 5, each rated at 30 Million BTU per hour.

Emission Units: EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-BOILER4, EU-BOILER5

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall conduct an annual tune up of each boiler or process heater as specified below. The annual tune-up shall be no more than 13 months after the previous tune-up. **(40 CFR 63.7500(a)(1), 40 CFR 63.7515(d), Table 3 of 40 CFR Part 63, Subpart DDDDD)**
 - a. As applicable, inspect the burner, and clean or replace any components of the burner as necessary. The permittee may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown. Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment. **(40 CFR 63.7540(a)(10)(i))**
 - b. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available. **(40 CFR 63.7540(a)(10)(ii))**
 - c. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (the permittee may delay the inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection. **(40 CFR 63.7540(a)(10)(iii))**
 - d. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_x requirement to which the unit is subject. **(40 CFR 63.7540(a)(10)(iv))**

- e. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer. **(40 CFR 63.7540(a)(10)(v))**
2. If the unit is not operated on the required date for the tune-up, the tune-up must be conducted within 30 calendar days of startup. **(40 CFR 63.7540(a)(13))**
3. At all times, the permittee must operate and maintain each existing gas 1 boiler or process heater, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. **(40 CFR 63.7500(a)(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee must keep a copy of each notification and report that the permittee submitted to comply with 40 CFR Part 63, Subpart DDDDD, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that the permittee submitted. **(40 CFR 63.7555(a)(1))**
2. If the permittee uses an alternative fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart under 40 CFR Part 63, Other Gas 1 fuel, or gaseous fuel subject to another subpart of 40 CFR Part 60 or Part 61, or Part 65, the permittee must keep records of the total hours per calendar year that alternative fuel is burned and the total hours per calendar year that the unit operated during periods of gas curtailment or gas supply emergencies. **(40 CFR 63.7555(h))**
3. The permittee shall maintain on-site and submit, if requested by the AQD, an annual tune-up report containing the information listed below.
 - a. The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater. **(40 CFR 63.7540(a)(10)(vi)(A))**
 - b. A description of any corrective actions taken as a part of the tune-up. **(40 CFR 63.7540(a)(10)(vi)(B))**
 - c. The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit. **(40 CFR 63.7540(a)(10)(vi)(C))**
4. The permittee's records must be in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1). **(40 CFR 63.7560(a))**
5. As specified in 40 CFR 63.10(b)(1), the permittee must keep each record for 5-years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. **(40 CFR 63.7560(b))**

6. The permittee must keep each record on site, or they must be accessible from on-site (for example, through a computer network), for at least 2-years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. The permittee can keep the records off site for the remaining 3-years. **(40 CFR 63.7560(c))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. The permittee must submit boiler and process heater tune-up compliance reports to the appropriate AQD District Office. The reports must be postmarked or submitted by March 15th and must cover the period of January 1 through December 31 of the reporting year. Compliance reports must also be submitted to EPA using the Compliance and Emissions Data Reporting Interface (CEDRI) which is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). **(40 CFR 63.7550(b))**
5. The permittee must submit a compliance report containing the following information.
 - a. Company and Facility name and address. **(40 CFR 63.7550(c)(5)(i))**
 - b. Process unit information, emissions limitations, and operating parameter limitations. **(40 CFR 63.7550(c)(5)(ii))**
 - c. Date of report and beginning and ending dates of the reporting period. **(40 CFR 63.7550(c)(5)(iii))**
 - d. Include the date of the most recent tune-up for each unit. Include the date of the most recent burner inspection if it was not done annually and was delayed until the next scheduled or unscheduled unit shutdown. **(40 CFR 63.7550(c)(5)(xiv))**
 - e. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report. **(40 CFR 63.7550(c)(5)(xvii))**
6. The permittee must submit all reports required by Table 9 of this subpart electronically using CEDRI that is accessed through the EPA's Central Data Exchange (CDX) (www.cdx.epa.gov). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, submit the report to the EPA Region V at the appropriate address listed in 40 CFR 63.13 and to the appropriate AQD District Office. **(40 CFR 63.7550(h)(3))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters as specified in 40 CFR Part 63, Subparts A and DDDDD. **(40 CFR Part 63, Subparts A and DDDDD)**

E. NON-APPLICABLE REQUIREMENTS

At the time of the ROP issuance, the AQD has determined that no non-applicable requirements have been identified for incorporation into the permit shield provision set forth in the General Conditions in Part A pursuant to Rule 213(6)(a)(ii).

APPENDICES

Appendix 1. Acronyms and Abbreviations

Common Acronyms		Pollutant / Measurement Abbreviations	
AQD	Air Quality Division	acfm	Actual cubic feet per minute
BACT	Best Available Control Technology	BTU	British Thermal Unit
CAA	Clean Air Act	°C	Degrees Celsius
CAM	Compliance Assurance Monitoring	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	CO ₂ e	Carbon Dioxide Equivalent
CEMS	Continuous Emission Monitoring System	dscf	Dry standard cubic foot
CFR	Code of Federal Regulations	dscm	Dry standard cubic meter
COM	Continuous Opacity Monitoring	°F	Degrees Fahrenheit
Department/ department	Michigan Department of Environment, Great Lakes, and Energy	gr	Grains
EGLE	Michigan Department of Environment, Great Lakes, and Energy	HAP	Hazardous Air Pollutant
EU	Emission Unit	Hg	Mercury
FG	Flexible Group	hr	Hour
GACS	Gallons of Applied Coating Solids	HP	Horsepower
GC	General Condition	H ₂ S	Hydrogen Sulfide
GHGs	Greenhouse Gases	kW	Kilowatt
HVLP	High Volume Low Pressure*	lb	Pound
ID	Identification	m	Meter
IRSL	Initial Risk Screening Level	mg	Milligram
ITSL	Initial Threshold Screening Level	mm	Millimeter
LAER	Lowest Achievable Emission Rate	MM	Million
MACT	Maximum Achievable Control Technology	MW	Megawatts
MAERS	Michigan Air Emissions Reporting System	NMOC	Non-methane Organic Compounds
MAP	Malfunction Abatement Plan	NO _x	Oxides of Nitrogen
MSDS	Material Safety Data Sheet	ng	Nanogram
NA	Not Applicable	PM	Particulate Matter
NAAQS	National Ambient Air Quality Standards	PM10	Particulate Matter equal to or less than 10 microns in diameter
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
NSPS	New Source Performance Standards	pph	Pounds per hour
NSR	New Source Review	ppm	Parts per million
PS	Performance Specification	ppmv	Parts per million by volume
PSD	Prevention of Significant Deterioration	ppmw	Parts per million by weight
PTE	Permanent Total Enclosure	%	Percent
PTI	Permit to Install	psia	Pounds per square inch absolute
RACT	Reasonable Available Control Technology	psig	Pounds per square inch gauge
ROP	Renewable Operating Permit	scf	Standard cubic feet
SC	Special Condition	sec	Seconds
SCR	Selective Catalytic Reduction	SO ₂	Sulfur Dioxide
SNCR	Selective Non-Catalytic Reduction	TAC	Toxic Air Contaminant
SRN	State Registration Number	Temp	Temperature
TEQ	Toxicity Equivalence Quotient	THC	Total Hydrocarbons
USEPA/EPA	United States Environmental Protection Agency	tpy	Tons per year
VE	Visible Emissions	µg	Microgram
		µm	Micrometer or Micron
		VOC	Volatile Organic Compounds
		yr	Year

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

Appendix 2. Schedule of Compliance

The permittee certified in the ROP application that this stationary source is in compliance with all applicable requirements and the permittee shall continue to comply with all terms and conditions of this ROP. A Schedule of Compliance is not required. (R 336.1213(4)(a), R 336.1119(a)(ii))

Appendix 3. Monitoring Requirements

Specific monitoring requirement procedures, methods or specifications are detailed in Part A or the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, this appendix is not applicable.

Appendix 4. Recordkeeping

The permittee shall use the following approved formats and procedures for the recordkeeping requirements referenced in FG-FURNACES, FG-BOILERS1-3, and FG-BOILERS4-5. Alternative formats must be approved by the AQD District Supervisor.

Coal, Petroleum Coke, and Coal/Petroleum Coke Blend Analysis

1. For each fuel shipment (barge) received, the permittee shall obtain from the supplier a laboratory analysis of the ash content, sulfur content, and BTU content. The determination of sulfur content shall be carried out in accordance with a procedure acceptable to the AQD. For each fuel shipment received, the permittee shall record the date received, source of fuel and shipper, and tons received.
2. At least once per calendar year, the permittee shall have one analysis performed of the ash content, sulfur content, and BTU content for each of the following fuels burned:
 - a. Coal
 - b. Petroleum coke
 - c. Coal/petroleum coke blend, if received pre-blended

The analyses required in Condition 2 shall be independent of the analyses received from the supplier with each fuel delivery described in Condition 1. The determination of fuel sulfur content shall be carried out in accordance with ASTM Method 3177-75, Method 4239-85, or a method approved by the District Supervisor.

Fuel Oil Analysis

For each shipment of fuel oil received, the permittee shall obtain from the fuel oil supplier a laboratory analysis of the sulfur and BTU content. The determination of sulfur content shall be carried out in accordance with one of the following procedures: ASTM Method D129-64 or ASTM Method 1552-83 or ASTM Method 2622-87 or ASTM Method 1266-87 or an alternative method approved by the AQD District Supervisor. For each fuel oil shipment received, the permittee shall also record the date received, source of fuel oil and supplier, and gallons received. These records shall be retained by the permittee for a minimum of five years and made available to the AQD upon request.

Used Oil Fuel Analysis

At least once per calendar year, the permittee shall have an analysis performed of the used oil fuel sulfur and BTU content. The determination of sulfur content shall be carried out in accordance with one of the following procedures: ASTM Method D129-64 or ASTM Method 1552-83 or ASTM Method 2622-87 or ASTM Method 1266-87 or an alternative method approved by the AQD District Supervisor. These records shall be retained by the permittee for a minimum of five years and made available to the AQD upon request.

Appendix 5. Testing Procedures

Specific testing requirement plans, procedures, and averaging times are detailed in the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, this appendix is not applicable.

Appendix 6. Permits to Install

The following table lists any PTIs issued or ROP revision applications received since the effective date of the previously issued ROP No. MI-ROP-B1827-2015. Those ROP revision applications that are being issued concurrently with this ROP renewal are identified by an asterisk (*). Those revision applications not listed with an asterisk were processed prior to this renewal.

Source-Wide PTI No MI-PTI-B1827-2015 is being reissued as Source-Wide PTI No. MI-PTI-B1827-2021.

Permit to Install Number	ROP Revision Application Number	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
NA	NA	NA	NA

Appendix 7. Emission Calculations

Specific emission calculations to be used with monitoring, testing or recordkeeping data are detailed in the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, this appendix is not applicable.

Appendix 8. Reporting

A. Annual, Semiannual, and Deviation Certification Reporting

The permittee shall use EGLE, AQD, Report Certification form (EQP 5736) and EGLE, AQD, Deviation Report form (EQP 5737) for the annual, semiannual and deviation certification reporting referenced in the Reporting Section of the Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Alternative formats must meet the provisions of Rule 213(4)(c) and Rule 213(3)(c)(i), respectively, and be approved by the AQD District Supervisor.

B. Other Reporting

Specific reporting requirement formats and procedures are detailed in Part A or the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, Part B of this appendix is not applicable.