

State Registration Number
B1827

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number
MI-ROP-B1827-2021

Empire Iron Mining Partnership

State Registration Number (SRN): B1827

Located at

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

Permit Number: MI-ROP-B1827-2021

Staff Report Date: September 21, 2020

This Staff Report is published in accordance with Sections 5506 and 5511 of Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451). Specifically, Rule 214(1) of the administrative rules promulgated under Act 451, requires that the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), prepare a report that sets forth the factual basis for the terms and conditions of the Renewable Operating Permit (ROP).

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SEPTEMBER 21, 2020 - STAFF REPORT

ROP Number

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Purpose

Major stationary sources of air pollutants, and some non-major sources, are required to obtain and operate in compliance with an ROP pursuant to Title V of the federal Clean Air Act; and Michigan's Administrative Rules for Air Pollution Control promulgated under Section 5506(1) of Act 451. Sources subject to the ROP program are defined by criteria in Rule 211(1). The ROP is intended to simplify and clarify a stationary source's applicable requirements and compliance with them by consolidating all state and federal air quality requirements into one document.

This Staff Report, as required by Rule 214(1), sets forth the applicable requirements and factual basis for the draft ROP terms and conditions including citations of the underlying applicable requirements, an explanation of any equivalent requirements included in the draft ROP pursuant to Rule 212(5), and any determination made pursuant to Rule 213(6)(a)(ii) regarding requirements that are not applicable to the stationary source.

General Information

Stationary Source Mailing Address:	Empire Iron Mining Partnership 101 Empire Mine Road Palmer, Michigan 49871
Source Registration Number (SRN):	B1827
North American Industry Classification System (NAICS) Code:	212210
Number of Stationary Source Sections:	1
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	201900190
Responsible Official:	James Kochevar, V.P. & General Manager 906-475-3400
AQD Contact:	Sydney Bruestle, Environmental Quality Analyst 906-236-3995
Date Application Received:	November 14, 2019
Date Application Was Administratively Complete:	November 14, 2019
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	September 21, 2020
Deadline for Public Comment:	October 21, 2020

Source Description

The Empire Iron Mining Partnership (Facility) is located in Marquette County near the village of Palmer. Production at the Facility ceased on August 3, 2016 and was indefinitely idled after the last stockpile of finished pellets were shipped. While there are currently no plans in place to begin production in the near future, the facility is being preserved in a care and maintenance mode to preserve its ability to restart when market conditions and pellet pricing support access of remaining ore reserves. The Facility is a low grade, open-pit iron ore mine with various material handling, crushing, milling, concentrating, pellet manufacturing, cooling, and handling equipment controlled by wet scrubbers and baghouse dust collectors. The Facility only mines and processes magnetite, a naturally occurring mineral that contains iron ore. The Facility operated three grate-kiln indurating furnaces (Empire II, III, and IV) controlled by dry electrostatic precipitators. Empire II was built in 1966, Empire III in 1975, and Empire IV in 1980. The Facility also has 5 boilers ranging up to 30 million British Thermal Unit per hour each, fired by natural gas with the option to burn fuel oil, or used oil fuel in emergency situations

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System (MAERS) for the year **2019**.

TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	0
Lead (Pb)	0
Nitrogen Oxides (NO _x)	0
Particulate Matter (PM)	0
Sulfur Dioxide (SO ₂)	0
Volatile Organic Compounds (VOCs)	0

The following table lists Hazardous Air Pollutant emissions as calculated for the year 2019 by MAERS:

Individual Hazardous Air Pollutants (HAPs) **	Tons per Year
Benzene	0
Formaldehyde	0
Hexane	0
Naphthalene	0
Toluene	0
Total Hazardous Air Pollutants (HAPs)	0

**As listed pursuant to Section 112(b) of the federal Clean Air Act.

See Parts C and D in the ROP for summary tables of all processes at the stationary source that are subject to process-specific emission limits or standards.

Regulatory Analysis

The following is a general description and history of the source. Any determinations of regulatory non-applicability for this source are explained below in the Non-Applicable Requirement part of the Staff Report and identified in Part E of the ROP.

The stationary source is in Marquette County, which is currently designated by the United States Environmental Protection Agency (USEPA) as attainment/unclassified for all criteria pollutants.

The stationary source is subject to Title 40 of the Code of Federal Regulations (CFR) Part 70, because the potential to emit of carbon monoxide, nitrogen oxides, and sulfur dioxide exceeds 100 tons per year and the potential to emit of any single HAP regulated by Section 112 of the federal Clean Air Act, is equal to or more than 10 tons per year and/or the potential to emit of all HAPs combined is equal to or more than 25 tons per year.

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-LIME-FEEDERS, EU-UNIT2-FURNACE, EU-UNIT3-FURNACE, 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, EU-BOILER4, and EU-BOILER5 at the stationary source were subject to review under the Prevention of Significant Deterioration regulations of 40 CFR 52.21 because at the time of New Source Review permitting the potential to emit of carbon monoxide, nitrogen oxides, and sulfur dioxide was greater than 100 tons per year.

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-UNIT1CONVF, EU-UNIT2-COOLER, EU-UNIT2-31-2CON, 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, and EU-UNIT4-32-1DIS at the stationary source are subject to the National Emission Standard for Hazardous Air Pollutants for Taconite Iron Ore Processing promulgated in 40 CFR Part 63, Subparts A and RRRRR.

FG-BOILERS1-3 and FG-BOILERS4-5 at the stationary source are subject to the National Emission Standard for Hazardous Air Pollutants for Major Sources: Industrial, Commercial and Institutional Boilers and Process Heaters promulgated in 40 CFR Part 63, Subparts A and DDDDD. FG-BOILERS6-7 are no longer operational at Empire Mine and have been removed from the ROP, they have been transferred to the Tilden Mine.

On September 4, 2019, the Facility signed a consent decree with the United States District Court for the Western District of Michigan Northern Division on behalf of the USEPA. Allegations from February 21, 2014, included emitting pollutants at levels exceeding the Michigan State Implementation Plan and failure to operate, maintain and monitor the indurating furnaces and control devices in violation of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for the Taconite and Iron Ore Processing Industry, 40 CFR Part 63, Subpart RRRRR. Since these allegations the Facility has indefinitely idled the mine and processing plant. None of the compliance requirements set forth in the consent decree apply unless and until the Facility restarts operations other than payment of the penalty and submission of a list of scrubbers subject to the Taconite MACT, both of which were completed.

The monitoring conditions contained in the ROP are necessary to demonstrate compliance with all applicable requirements and are consistent with the "Procedure for Evaluating Periodic Monitoring Submittals."

FG-BOILERS1-3 and FG-BOILERS4-5 do not have emission limitations or standards that are subject to the federal Compliance Assurance Monitoring (CAM) rule pursuant to 40 CFR Part 64, because the unit(s) do not have potential pre-control emissions over the major source thresholds.

The following Emission Units/Flexible Groups are subject to CAM:

Emission Unit/Flexible group ID	Pollutant/Emission Limit	UAR(s)	Control Equipment	Monitoring (Include Monitoring Range)	Emission Unit/Flexible Group for CAM	PAM? *
EU-UNIT2-FURNACE	PM 0.15 lbs/1000 lbs of exhaust gases	R 336.1331	Dry Electrostatic Precipitator	Continuous Opacity Monitor 0-20% opacity 6 minute block average	EU-UNIT2-FURNACE	No
EU-UNIT3-FURNACE	PM 0.1 lbs/1000 lbs of exhaust gases	R 336.1331	Dry Electrostatic Precipitator	Continuous Opacity Monitor 0-20% opacity 6 minute block average	EU-UNIT3-FURNACE	No
EU-UNIT4-FURNACE	PM 0.1 lbs/1000 lbs of exhaust gases	R 336.1331	Dry Electrostatic Precipitator	Continuous Opacity Monitor 0-20% opacity 6 minute block average	EU-UNIT4-FURNACE	No

*Presumptively Acceptable Monitoring (PAM)

Please refer to Parts B, C and D in the draft ROP for detailed regulatory citations for the stationary source. Part A contains regulatory citations for general conditions.

Source-Wide Permit to Install (PTI)

Rule 214a requires the issuance of a Source-Wide PTI within the ROP for conditions established pursuant to Rule 201. All terms and conditions that were initially established in a PTI are identified with a footnote designation in the integrated ROP/PTI document.

The following table lists all individual PTIs that were incorporated into previous ROPs. PTIs issued after the effective date of ROP No. MI-ROP-B1827-2015 are identified in Appendix 6 of the ROP.

PTI Number			
289-72	295-72	148-76	148-76A
148-76C	419-76	70-77	487-77
69-82	494-87B	436-97	199-02
199-02A	155-04	219-04	

Streamlined/Subsumed Requirements

This ROP does not include any streamlined/subsumed requirements pursuant to Rules 213(2) and 213(6).

Non-applicable Requirements

Part E of the ROP lists requirements that are not applicable to this source as determined by the AQD, if any were proposed in the ROP Application. These determinations are incorporated into the permit shield provision set forth in Part A (General Conditions 26 through 29) of the ROP pursuant to Rule 213(6)(a)(ii).

Processes in Application Not Identified in Draft ROP

There were no processes listed in the ROP Application as exempt devices under Rule 212(4). Exempt devices are not subject to any process-specific emission limits or standards in any applicable requirement.

Draft ROP Terms/Conditions Not Agreed to by Applicant

This draft ROP does not contain any terms and/or conditions that the AQD and the applicant did not agree upon pursuant to Rule 214(2).

Compliance Status

The AQD finds that the stationary source is expected to be in compliance with all applicable requirements at the time of issuance of the ROP except for requirements listed in Appendix 2. The table in Appendix 2 contains a Schedule of Compliance developed pursuant to Rule 119(a)(i). The applicant must adhere to this schedule and provide the required certified progress reports at least semiannually or in accordance with the schedule in the table. A Schedule of Compliance for any applicable requirement that the source is not in compliance with at the time of ROP issuance is supplemental to, and shall not sanction non-compliance with, the applicable requirements on which it is based.

Action taken by EGLE, AQD

The AQD proposes to approve this ROP. A final decision on the ROP will not be made until the public and affected states have had an opportunity to comment on the AQD's proposed action and draft permit. In addition, the USEPA is allowed up to 45 days to review the draft ROP and related material. The AQD is not required to accept recommendations that are not based on applicable requirements. The delegated decision maker for the AQD is Ed Lancaster, Marquette District Supervisor. The final determination for ROP approval/disapproval will be based on the contents of the ROP Application, a judgment that the stationary source will be able to comply with applicable emission limits and other terms and conditions, and resolution of any objections by the USEPA.

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NOVEMBER 4, 2020 - STAFF REPORT ADDENDUM

Purpose

A Staff Report dated September 21, 2020, was developed to set forth the applicable requirements and factual basis for the draft Renewable Operating Permit (ROP) terms and conditions as required by Rule 214(1) of the administrative rules promulgated under Act 451. The purpose of this Staff Report Addendum is to summarize any significant comments received on the draft ROP during the 30-day public comment period as described in Rule 214(3). In addition, this addendum describes any changes to the draft ROP resulting from these pertinent comments.

General Information

Responsible Official:	James Kochevar, V.P. & General Manager 906-475-3400
AQD Contact:	Sydney Bruestle, Senior Environmental Quality Analyst 906-236-3995

Summary of Pertinent Comments

EPA staff commented the following during the 30 day public comment period:

On page 5 of the staff report, second paragraph, it states that no emission units at the stationary source are currently subject to Michigan's Part 18 Prevention of Significant Deterioration regulations because the emissions were less than 100 tons per year. However, the follow paragraph states that numerous emission units are subject to the Federal PSD regulations in 52.21. Please clarify the major source construction permitting status for the emission units in the staff report.

Response: The sentence stating no emission units at the stationary source was template language the was accidentally left in the staff report, it has been deleted.

On pages 21 and 32, of the draft permit, sections III. 1. It states that the permittee shall not operate EU--UNIT3-FURNACE and FGFURNACES unless the electrostatic precipitator is operating properly. Operating properly is not defined for this condition. To ensure the practical enforceability of this permit condition, please specify "operating properly". This can be done by referencing the CAM plan the emission unit is subject to, or, as is described on page 19, section VI., provide an indicator and indicator range for proper operation of the ESP.

Response: Added clarifying language to these sections.

Changes to the September 21, 2020 Draft ROP

Language was added to page 21 and 32 of the draft permit referencing the CAM plan for proper operation of the ESP.