

Michigan Department of Environmental Quality
Air Quality Division

State Registration Number
B7061

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number
MI-ROP-B7061-2016

**Gerdau Macsteel Monroe Mill
and Tube City IMS**

SRN: B7061

Located at

3000 East Front Street, Monroe, Monroe County, Michigan 48161

Permit Number: MI-ROP-B7061-2016

Staff Report Date: May 30, 2016

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) requires that the Michigan Department of Environmental Quality (MDEQ), Air Quality Division (AQD), prepare a report that sets forth the factual basis for the terms and conditions of the Renewable Operating Permit (ROP).

TABLE OF CONTENTS

May 30, 2016 - STAFF REPORT	3
August 4, 2016 - STAFF REPORT ADDENDUM	8

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 of 1990 and Michigan's Administrative Rules for Air Pollution Control pursuant to 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:	Gerdau Macsteel Monroe Mill 3000 East Front Street Monroe, Michigan 48161
Source Registration Number (SRN):	B7061
North American Industry Classification System (NAICS) Code:	331111
Number of Stationary Source Sections:	2
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	20140034
Responsible Official Section 1: (Gerdau Macsteel Monroe Mill)	Darrell Moore, General Plant Manager 734-384-6510
Responsible Official Section 2: (Tube City IMS)	Michael Connolly, Director, Environmental Engineering 215-956-5618
AQD Contact:	Eric Grinstern, Environmental Quality Specialist 616-356-0266
Date Application Received:	February 14, 2014
Date Application Was Administratively Complete:	February 14, 2014
Is Application Shield In Effect?	Yes
Date Public Comment Begins:	May 30, 2016
Deadline for Public Comment:	June 29, 2016

Source Description

The Gerdau Macsteel Monroe Mill is an electric arc steel making facility located on approximately 162 acres in the Port of Monroe, Monroe, Michigan. The facility is surrounded by industrial and commercial businesses on all sides. Since approximately 1980, the facility has been engaged in steel manufacturing. Gerdau acquired the facility in 2007 from the Quanex Corporation. The facility processes recycled steel scrap to manufacture Special Bar Quality (SBQ) steel of various grades and diameters. The facility operates an electric arc furnace, ladle metallurgy system, vacuum degassing, a continuous caster, a reheat furnace, and other ancillary equipment.

In addition to Gerdau Macsteel, Tube City IMS is located on the property of Gerdau Macsteel and has equipment/process with a permit to install for metal recovery through the sizing/sorting of steel slag from Gerdau Macsteel, as well the torch/lance cutting of revert scrap for return to the mill. Tube City IMS supports the main steel making activities of Gerdau Macsteel and meets the regulatory criteria to be considered a single stationary source as defined in R 336.1119(r).

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System (MAERS) for the year **2014**.

TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	642
Nitrogen Oxides (NO _x)	173
Particulate Matter (PM)	29
Sulfur Dioxide (SO ₂)	23
Volatile Organic Compounds (VOCs)	32

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

In addition to the pollutants listed above that have been reported in MAERS, the potential to emit of Greenhouse Gases in tons per year of CO₂e is 331,004 tons. CO₂e is a calculation of the combined global warming potentials of six Greenhouse Gases (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride).

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 located in Monroe County, which is currently designated by the U.S. Environmental Protection Agency (USEPA) as attainment/unclassified for all criteria pollutants.

The stationary source has been subject to review under the Prevention of Significant Deterioration regulations of Title 40 of the Code of Federal Regulations (CFR), Part 52.21 due to modification at the facility.

The stationary source has an emission unit that was subject to R 336.1220 for Major Offset Sources at the time of New Source Review permitting.

EUEAF at the stationary source is subject to the New Source Performance Standards for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels constructed after August 7, 1983 promulgated in Title 40 of the Code of Federal Regulations, Part 60, Subparts A and AAa. The facility is also subject to the National Emission Standard for Hazardous Air Pollutants for Area Sources: Electric Arc Furnaces Steel Making Facilities promulgated in Title 40 of the Code of Federal Regulations (CFR) Part 63, Subparts A and YYYYYY.

EUADMINGEN at the stationary source is subject to the New Source Performance Standards of Performance for Stationary Spark Ignition Internal Combustion Engines promulgated in Title 40 of the Code of Federal Regulation Part 60, Subparts JJJJ.

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

EUEAF at the stationary source is subject to the federal Compliance Assurance Monitoring (CAM) rule under Title 40 of the Code of Federal Regulations (CFR) Part 64. This emission unit has a control device and potential pre-control emissions of particulate matter greater than the major source threshold level. Monitoring for the control device is a continuous opacity monitor. EUEAF (Increased Output) has potential pre-control emissions of VOC and CO that exceed the 100 tpy major source threshold, however neither pollutant is controlled by a device that meets the definitions of a control device in 40 CFR 64.1. Additionally, the ROP requires the facility to operate a CO CEMS. Therefore, CO and VOC are exempt from CAM applicability.

The stationary source is subject to Title 40 of the Code of Federal Regulations (CFR), Part 70, because the potential to emit carbon monoxide exceeds 100 tons per year.

The stationary source is considered to be a minor source of HAP emissions because the potential to emit of any single HAP regulated by the federal Clean Air Act, Section 112, is less than 10 tons per year and the potential to emit of all HAPs combined are less than 25 tons per year.

EUCASTER, EUBILLETREHEAT-WB, FGMELTSHOP and FGBLDGFUG at the stationary source were subject to review under the Prevention of Significant Deterioration regulations of 40 CFR Part 52.21, because at the time of New Source Review permitting the potential to emit of carbon monoxide was greater than 100 tons per year.

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."

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-B7061-2009a are identified in Appendix 6 of the ROP.

PTI Number			
53-94A			

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

The following table lists processes that were included in the ROP Application as exempt devices under Rule 212(4). These processes are not subject to any process-specific emission limits or standards in any applicable requirement.

Exempt Emission Unit ID	Description of Exempt Emission Unit	Rule 212(4) Exemption	Rule 201 Exemption
EUBUNDLEHTRS	Bundler post heaters (2) -1.3 MMBTU/hr each	R336.1212(4)(b)	R336.1282(b)(i)
EUSCALEHTR	Scale post heater -1.3 MMBTU/hr	R336.1212(4)(b)	R336.1282(b)(i)
EUPORTABLEHTRS	Portable natural gas space heaters (20) - 0.25 MMBTU/hr each	R336.1212(4)(b)	R336.1282(b)(i)
EULADLE-DRYER	Natural gas dryer to dry green refractories - 3.6 MMBTU/hr	R336.1212(4)(b)	R336.1282(b)(i)
EULADLE-PREHEAT	Natural gas heaters to maintain refractory high temperature (2) - 15 MMBTU/hr each	R336.1212(4)(b)	R336.1282(b)(i)
EUSPACEHEATERS	152 units, 2 at 3.65 MMBTU/hr the remaining at < 0.15 MMBTU/hr	R336.1212(4)(b)	R336.1282(b)(i)
EUTUNDISH-DRYER	Natural gas dryer to dry green refractory on newly lined ladle - 2.4 MMBTU/hr	R336.1212(4)(b)	R336.1282(b)(i)
EUTUNDISH-PRHT	Natural gas heaters for refractories high temperature (2) - 8 MMBTU/hr each.	R336.1212(4)(b)	R336.1282(b)(i)
EUFURNACES	Two (2) roller hearth heat treat furnaces - 7 MMBTU/hr each	R336.1212(4)(d)	R336.1285(a)(i)
EUFINISHING	Metal finishing (champhoring) process with a baghouse	R336.1212(4)(d)	R336.1285(l)(vi)
EUBUNDLEHTRS	Bundler post heaters (2) -1.3 MMBTU/hr each	R336.1212(4)(b)	R336.1282(b)(i)

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 2-1. The table in Appendix 2-1 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 the MDEQ, 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 Scott Miller, Jackson 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.

Purpose

A Staff Report dated May 30, 2016, was developed in order to set forth the applicable requirements and factual basis for the draft Renewable Operating Permit (ROP) terms and conditions as required by R 336.1214(1). 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 R 336.1214(3). In addition, this addendum describes any changes to the draft ROP resulting from these pertinent comments.

General Information

Responsible Official Section 1: (Gerdau Macsteel Monroe Mill)	Darrell Moore, General Plant Manager 734-384-6510
Responsible Official Section 2: (Tube City IMS)	Michael Connolly, Director, Environmental Engineering 215-956-5618
AQD Contact:	Eric Grinstern, Environmental Quality Specialist 616-356-0266

Summary of Pertinent Comments

No pertinent comments were received during the 30-day public comment period.

Changes to the May 30, 2016 Draft ROP

The changes to the ROP are related to Section 1 – Gerdau Monroe Mill, Appendix 2-1. Schedule of Compliance. The Draft ROP contained a Schedule of Compliance requiring the permittee implement corrective measures to come into compliance with the SO₂ emission limit for FGMELTSHOP, SC I.9. The permittee implemented corrective measures to comply with the SO₂ emission limit. The permittee has verified ongoing compliance with the SO₂ emission limit through the use of a continuous emissions monitoring system (CEMS) and compliance testing conducted on February 25 and 26, 2016. Therefore, the corrective action requirements addressing SO₂ compliance have been removed from the ROP.

A Schedule of Compliance was added to the ROP requiring the permittee to implement corrective measures to come into compliance with the PM₁₀, PM_{2.5} and VOC emission limits for FGMELTSHOP, SC I.4, I.6, I.7, I.18 and I.19. Compliance testing conducted subsequent to the permit application submittal showed that the permittee was exceeding the applicable emission limits. The permittee will be required to take corrective action and conduct compliance testing to demonstrate compliance with PM₁₀, PM_{2.5} and VOC emission limits for FGMELTSHOP.