

Michigan Department of Environmental Quality  
Air Quality Division

State Registration Number

A3934

**RENEWABLE OPERATING PERMIT  
STAFF REPORT**

ROP Number

MI-ROP-A3934-2015

**The Reserve Group  
Great Lakes Castings, LLC**

SRN: A3934

Located at:

800 North Washington Street, Ludington, Mason County, Michigan 49431

Permit Number: MI-ROP-A3934-2015

Staff Report Date: July, 27, 2015

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).

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**JULY 27, 2015 - STAFF REPORT**

ROP Number

MI-ROP-A3934-2015

**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:	Great Lakes Castings LLC 800 North Washington Street Ludington, Michigan 49431
Source Registration Number (SRN):	A3934
North American Industry Classification System (NAICS) Code:	3321
Number of Stationary Source Sections:	1
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	201300152
Responsible Official:	Mr. Robert Killips, President and CEO 231-843-2501
AQD Contact:	Mr. Rob Dickman, Environmental Quality Analyst 231-876-4412
Date Application Received:	October 4, 2013
Date Application Was Administratively Complete:	October 4, 2013
Is Application Shield In Effect?	Yes
Date Public Comment Begins:	July 27, 2015
Deadline for Public Comment:	August 26, 2015

## Source Description

Great Lakes Castings LLC is a gray iron foundry, producing various small castings, mostly for the automobile industry. Processes at the facility include the cupola, iron pouring and mold cooling, sand handling, and core making. Cupola emissions are controlled by a venturi scrubber, quencher, demister and afterburners. Cold-box core making emissions are controlled by a scrubber. There are two iron pouring and mold cooling lines (Hunter and Disa). Emissions from the Hunter iron pouring and mold cooling operations are vented by stacks to the outer air. Sand handling emissions for the Hunter line are controlled by a baghouse. Emissions from the Disa iron pouring and mold cooling line are controlled by another baghouse. Emissions from the Disa line shakeout and return sand handling operations are controlled by a wet dust collector system. Casting cleaning and finishing emissions from grinding, wheelabrator cleaning, and shot blasting operations are controlled by their own baghouse. Several other operations with small amounts of emissions are conducted at the facility including a core oven, parts washing, and rust prevention.

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**

<b>Pollutant</b>	<b>Tons per Year</b>
Carbon Monoxide (CO)	10.8
Lead (Pb)	0.15
Nitrogen Oxides (NO <sub>x</sub> )	12.3
Particulate Matter (PM)	32.8
Sulfur Dioxide (SO <sub>2</sub> )	0.25
Volatile Organic Compounds (VOCs)	34.5
<b>Total Hazardous Air Pollutants (HAPs)</b>	<b>0</b>

\*\*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 (GHG) in tons per year of CO<sub>2</sub>e (carbon dioxide equivalents) is less than 100,000. CO<sub>2</sub>e is a calculation of the combined global warming potentials of six GHG (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 Mason County, which is currently designated by the U.S. 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 particulate matter and carbon monoxide exceeds 100 tons per year.

The stationary source is considered to be a "synthetic minor" source in regards to HAP emissions because the stationary source accepted a legally enforceable permit condition limiting the potential to emit of any single HAP regulated by the federal Clean Air Act, Section 112, to less than 10 tons per year and the potential to emit of all HAPs combined to less than 25 tons per year.

EUCUPOLA at the stationary source was 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 was greater than 250 tons per year.

All emission units at the stationary source are subject to the National Emission Standard for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources promulgated in 40 CFR Part 63, Subparts A and ZZZZ.

EUEMER-GEN at the stationary source is subject to the National Emissions Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines Area Source promulgated in 40 CFR Part 63, Subparts A and ZZZZ (RICE Area Source MACT). The ROP contains special conditions provided by Great Lakes Castings LLC in their application for applicable requirements from 40 CFR Part 63, Subparts A and ZZZZ. The AQD is not delegated the regulatory authority for this area source MACT.

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."

Permit to Install (PTI) number 438-80F was integrated in to the draft ROP. This PTI removed NOx and Mn-10 limitations from EUCUPOLA.

Permit to Install number 151-93B was integrated in to the draft ROP. This PTI described name and equipment changes related to the Disa Line pouring, mold cooling, and sand mulling operations controlled by the Dustar baghouse.

Permit to Install number 210-91B was integrated in to the draft ROP. This PTI described name and equipment changes related to six cold box core machines with packed tower scrubber including ancillary core making equipment found in EUCOLDBOXCORE.

EUCUPOLA at the stationary source is subject to the federal Compliance Assurance Monitoring rule under 40 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. The monitoring for the control devices is pressure drop and flow rate of the quencher/demister/scrubber for Particulate Matter.

EUCUPOLA at the stationary source is subject to the federal Compliance Assurance Monitoring rule under 40 CFR Part 64. This emission unit has a control device and potential pre-control emissions of Carbon Monoxide greater than the major source threshold level. The monitoring for the control devices is upper stack temperature for and Carbon Monoxide.

EUHUNTERSAND, EUHUNTER, EUDISA, EUCLEANING, EUFINISH, and EUDISAEWETDC at the stationary source are subject to the federal Compliance Assurance Monitoring rule under 40 CFR Part 64. Each emission unit has a control device and potential pre-control emissions of Particulate Matter greater than the major source threshold level. The monitoring for the control devices is pressure drop across the baghouse for Particulate Matter.

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-A3934-2010 are identified in Appendix 6 of the ROP.

PTI Number			
284-76	906-79	438-80C	440-90A
210-91	565-91	657-91	1031-91
151-93A	259-73	358-74	403-80
403-80B	210-91A	102-03	329-06
336-07			

**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
FGHeatTreats	Three Metal Heat Ovens fired by natural gas and with less than 10,000,000 Btu/hr input	R 336.1212(4)(b)	R 336.1282(a)(i)
EUPropane	1000 gallons storage tank of Propane	R 336.1212(4)(c)	R 336.1284(b)
FGAirMakeUps	Gas fired air makeup and HVAC units with less than 10,000,000 Btu/hr heat input.	R 336.1212(4)(b)	R 336.1282(a)(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 as of the effective date of this ROP.

## **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 Ms. Janis Ransom, Cadillac 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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**SEPTEMBER 2, 2015 -  
STAFF REPORT ADDENDUM**

MI-ROP-A3934-2015

**Purpose**

A Staff Report dated July 27, 2015, 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:	Mr. Robert Killips, President and CEO 231-843-2501
AQD Contact:	Mr. Rob Dickman, Environmental Quality Analyst 231-876-4412

**Summary of Pertinent Comments**

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

**Changes to the July 27, 2015 Draft ROP**

No changes were made to the draft ROP.