

State Registration Number  
A4302

**RENEWABLE OPERATING PERMIT  
STAFF REPORT**

ROP Number  
MI-ROP-A4302-2020a

**MAHLE Industries, Incorporated and MAHLE Engine Components USA, Inc.**

State Registration Number (SRN): A4302

Located at

2020 Sanford Street, Muskegon Heights, Muskegon County, Michigan 49444

Permit Number: MI-ROP-A4302-2020a

Staff Report Date: September 21, 2020

Amended Date: April 6, 2021

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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State Registration Number

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**RENEWABLE OPERATING PERMIT**

**September 21, 2020 - STAFF REPORT**

ROP Number

MI-ROP-A4302-2020

**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:	MAHLE Engine Components USA, Inc. 2020 Sanford Street Muskegon Heights, Michigan 49444
Source Registration Number (SRN):	A4302
North American Industry Classification System (NAICS) Code:	541380
Number of Stationary Source Sections:	1
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	202000015
Responsible Official:	Mr. Kimm Karris – Head of Engine Systems and Components Central Labs and the Muskegon Tech Center Phone: 231-724-1665
AQD Contact:	Scott Evans, Environmental Quality Analyst 616-450-2072
Date Application Received:	February 4, 2020
Date Application Was Administratively Complete:	February 4, 2020
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	September 21, 2020
Deadline for Public Comment:	October 21, 2020

## Source Description

This MAHLE facility performs testing on engines primarily for the automotive industry. The facility has several engine test cells that are used for emissions testing. This MAHLE facility has permitted and grandfathered (installed before August 14, 1967) engine test cells in operation. The engines are tested using gasoline, E85, diesel, LPG, and natural gas fuels. A previous degreasing operation caused historical contamination of the groundwater. The facility now has a soil vapor extraction system located in a stand-alone building that is exempt from Rule 201 permitting requirements under Rule 290.

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**

<b>Pollutant</b>	<b>Tons per Year</b>
Carbon Monoxide (CO)	114.46
Nitrogen Oxides (NO <sub>x</sub> )	17.98
Particulate Matter (PM)	8.08
Sulfur Dioxide (SO <sub>2</sub> )	3.75
Volatile Organic Compounds (VOCs)	9.8

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

<b>Individual Hazardous Air Pollutants (HAPs) **</b>	<b>Tons per Year</b>
Lead	2.03E-06
<b>Total Hazardous Air Pollutants (HAPs)</b>	<b>1.64</b>

\*\*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.

Part of Muskegon County is currently designated by the United States Environmental Protection Agency (USEPA) as a non-attainment area with respect to the 8-hour ozone standard. The location of the facility is within this designated area.

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

The facility currently operates 19 engine test cells. The test cells are used to assess and compare engines against certain performance standards that must be met. Eleven of the test cells are currently grandfathered and do not have any applicable requirements associated with them. The remaining eight test cells have emission limits and other associated applicable requirements. All of the engine test cells, both grandfathered and permitted, vent through one combined stack with no add-on controls.

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

The stationary source is considered a “synthetic minor” source in regards to the Prevention of Significant Deterioration regulations of 40 CFR 52.21 because the stationary source accepted legally enforceable permit conditions limiting the potential to emit of both carbon monoxide and nitrogen oxides to less than 250 tons per year.

Eu-TestCell#3, Eu-TestCell#4, Eu-TestCell#5, Eu-TestCell#6, Eu-TestCell#7, Eu-TestCell#8, Eu-TestCell#9, Eu-TestCell#10, Eu-TestCell#11, Eu-TestCell#12, and Eu-TestCell#13 were installed prior to August 15, 1967. As a result, this equipment is considered "grandfathered" and is not subject to New Source Review (NSR) permitting requirements. However, future modifications of this equipment may be subject to NSR.

In 2002, eight new engine test stands (EU-TestCell#14 – EU-TestCell#21) were installed under Permit to Install (PTI) No. 166-02. These engines were limited to burning gasoline and diesel fuel. In 2004, PTI No. 166-02A allowed for an increase in the usage limits of gasoline and diesel fuel. In 2011, PTI No. 256-10 was issued to the facility which allowed the use of liquefied petroleum gas and compressed natural gas and added emission limitations for the new fuel types.

The Facility underwent best available control technology (BACT) review during the process of applying for the original new source review permit for the eight engine test cells that are permitted and not grandfathered. It was determined at the time of the BACT review that BACT for VOCs was good combustion practices and limiting fuel usage and therefore no add-on controls were required for the process.

During the permitting process, the facility also underwent a toxics review for rule 225. The determination was made that the amount of each fuel used during the engine testing must be limited and monitored to ensure that toxics limits were met.

By accepting legally enforceable HAP limits, the facility boilers, and process heaters are not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for major sources under 40 CFR Part 63, Subpart DDDDD. These HAP limits also result in the Engine Test Cells/Stands not being subject to 40 CFR Part 63, Subpart PPPPP since this standard only applies to major sources of HAPs.

The facility has one natural gas-fired boiler. Being natural gas fired, this boiler is not subject to the NESHAP for area sources, 40 CFR Part 63, Subpart JJJJJ. This boiler is also not subject to the New Source Performance Standards (NSPS) for boilers as it has a heat input capacity of less than 10 MMBTU/hr.

The facility has one natural gas-fired emergency generator, which was installed in September of 2008. This emergency generator is not subject to the NSPS for Stationary Spark Ignition Internal Combustion Engines, 40 CFR Part 60, Subpart JJJJ, due to the manufacture date being prior to January 1, 2009. This engine is subject to the NESHAP for Area Sources: Reciprocating Internal Combustion Engines promulgated in 40 CFR Part 63, Subpart ZZZZ. Due to the size and the installation date of this engine, the NESHAP only requires compliance with the New Source Performance Standards (NSPS) for Stationary Spark Ignition Internal Combustion Engines promulgated in 40 CFR Part 60, Subpart JJJJ. However, based upon the manufacture date, Subpart JJJJ does not impose any requirements.

The AQD's Rules 287 and 290 were revised on December 20, 2016. FG-RULE287(2)(c) and FG-RULE290 are flexible group tables created for emission units subject to these rules. Emission units installed before December 20, 2016, can comply with the requirements of Rule 287 and Rule 290 in effect at the time of installation or modification as identified in the tables. However, emission units installed or modified on or after December 20, 2016, must comply with the requirements of the current rules as outlined in the tables.

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."

No emission units have emission limitations or standards that are subject to the federal Compliance Assurance Monitoring rule pursuant to 40 CFR Part 64, because all emission units at the stationary source either do not have a control device or those with a control device do not have potential pre-control emissions over the major source thresholds.

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-A4302-2015 are identified in Appendix 6 of the ROP.

PTI Number			
166-02A	256-10		

**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.

<b>PTI Exempt Emission Unit ID</b>	<b>Description of PTI Exempt Emission Unit</b>	<b>Rule 212(4) Citation</b>	<b>PTI Exemption Rule Citation</b>
EU-G-Boiler	3.5 MMBTU/hr natural gas fired boiler (Heating only)	Rule 212(4)(c)	Rule 282(2)(b)(i)
EU-Backup Generator	2.0 MMBTU/hr natural gas fired generator	Rule 212(4)(e)	Rule 285(2)(g)
EU-Space Heaters	Two 175,000 BTU/hr natural gas Infrared Heaters (heating only)	Rule 212(4)(c)	Rule 282(2)(b)(i)
EU-Space Heater	One 60,000 BTU/hr LPG Heater (heating only)	Rule 212(4)(c)	Rule 282(2)(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 as of the effective date of this ROP.

**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 Heidi Hollenbach, Grand Rapids 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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2020

**October 29, 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:	Mr. Kimm Karrip – Head of Engine Systems and Components Central Labs and the Muskegon Tech Center Phone: 231-724-1665
AQD Contact:	Scott Evans, Environmental Quality Analyst 616-450-2072

**Summary of Pertinent Comments**

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

**Changes to the September 21, 2020 Draft ROP**

No changes were made to the draft ROP.

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## RENEWABLE OPERATING PERMIT

ROP Number

MI-ROP-A4302-2020a

**April 6, 2021 - STAFF REPORT FOR RULE 216(2)  
MINOR MODIFICATION**

### Purpose

On December 15, 2020, the Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), approved and issued Renewable Operating Permit (ROP) No. MI-ROP-A4302-2020 to MAHLE Engine Components USA, Inc. pursuant to Rule 214 of the administrative rules promulgated under Act 451. Once issued, a company is required to submit an application for changes to the ROP as described in Rule 216. The purpose of this Staff Report is to describe the changes that were made to the ROP pursuant to Rule 216(2).

### General Information

Responsible Official:	Mr. Kimm Karrip – Head of Muskegon Tech Center For Both Section 1 and Section 2 Phone: 231-724-1665
AQD Contact:	Caryn Owens, Environmental Engineer 231-878-6688
Application Number:	202100014
Date Application for Minor Modification was Submitted:	January 21, 2021

### Regulatory Analysis

The AQD has determined that the change requested by the stationary source meets the qualifications for a Minor Modification pursuant to Rule 216(2).

### Description of Changes to the ROP

Minor Modification Number 202100014 was to separate the facility into two Sections, since Section 1 is owned by MAHLE Industries, Incorporated that includes equipment FG-TESTCELLS and FG-COLDCLEANERS. The equipment included in FG-RULE290 is covered in Section 2 and owned by MAHLE Engine Components USA, Inc.

### Compliance Status

The AQD finds that the stationary source is expected to be in compliance with all applicable requirements associated with the emission unit(s) involved with the change as of the date of approval of the Minor Modification to the ROP.

### Action Taken by EGLE

The AQD proposes to approve a Minor Modification to ROP No. MI-ROP-A4302-2020, as requested by the stationary source. A final decision on the Minor Modification to the ROP will not be made until any affected states and the United States Environmental Protection Agency (USEPA) has been allowed 45 days to review the proposed changes to the ROP. The delegated decision maker for the AQD is the District Supervisor. The final determination for approval of the Minor Modification will be based on the contents of the permit application, a judgment that the stationary source will be able to comply with applicable emission limits and other requirements, and resolution of any objections by any affected states or the USEPA.