

State Registration
Number
B4049

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number
MI-ROP-B4049-2019a

General Motors LLC – Warren Technical Center

State Registration Number (SRN): B4049

Located at

31295 Charles Kettering, MC 480-101-240, Warren, Macomb County, Michigan 48092

Permit Number: MI-ROP-B4049-2019a

Staff Report Date: July 15, 2019

Amended Date: February 24, 2022

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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Michigan Department of Environmental Quality
Air Quality Division

State Registration Number
B4049

RENEWABLE OPERATING PERMIT
JULY 15, 2019 - STAFF REPORT

ROP Number
MI-ROP-B4049-2019

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:	General Motors LLC - Warren Technical Center 31295 Charles Kettering, MC 480-101-240 Warren, Michigan 48090
Source Registration Number (SRN):	B4049
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:	201800136
Responsible Official:	Sudesh Kent, Senior Manager Sustainable Workplaces, Global Technical Center 586-386-7058
AQD Contact:	Kerry Kelly, Environmental Quality Analyst 586-506-9817
Date Application Received:	November 5, 2018
Date Application Was Administratively Complete:	November 14, 2018
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	July 15, 2019
Deadline for Public Comment:	August 14, 2019

Source Description

General Motors LLC owns and operates the Warren Technical Center, occupying several buildings bounded by Mound Road and Van Dyke Avenue, and Twelve Mile Road and Chicago Road. The complex also occupies buildings at the south side of Twelve Mile Road and Lorna Street. The Warren Technical Center conducts research on all aspects of automobile development and production, including design, engineering and manufacturing.

Air emission sources at the Warren Technical Center include paint spray booths, wood working operations, metal machining operations, fuel storage tanks, cold cleaners, lab equipment, space heaters, boilers, process heaters and emergency generators.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System (MAERS) for the year **2017**.

TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	65.47
Lead (Pb)	<0.10
Nitrogen Oxides (NO _x)	107.07
Particulate Matter (PM)	4.02
Sulfur Dioxide (SO ₂)	2.45
Volatile Organic Compounds (VOCs)	27.19
Ammonia	1.38

The following table lists Hazardous Air Pollutant emissions as calculated for the year 2017 by Michigan Air Emissions Reporting System (MAERS):

Individual Hazardous Air Pollutants (HAPs) **	Tons per Year
Hexane	0.58
Total Hazardous Air Pollutants (HAPs)	0.58

**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.

Macomb County is currently designated by the United States Environmental Protection Agency (USEPA) as a non-attainment area with respect to the eight-hour ozone standard.

The stationary source is subject to Title 40 of the Code of Federal Regulations (CFR) Part 70, because the potential to emit of all criteria pollutants, except lead, 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.

FG-BACKUPGENSBLDG206 at the stationary source were subject to review under the Prevention of Significant Deterioration regulations of The Michigan Air Pollution Control Rules Part 18, Prevention of

Significant Deterioration of Air Quality, because at the time of New Source Review permitting the potential to emit of nitrogen oxides was greater than 250 tons per year.

The Service Technology operations and maintenance paint spray booths (EU-R287-BLDG204 and EU-R287-BLDG101 respectively) are subject to Rule 621 and Rule 632 but are exempted from the requirements pursuant to Rule 610(10) and Rule 632(15) because the volatile organic compound (VOC) emissions from each booth are less than 2,000 pounds per month and 10.0 tons per year, and the total VOC emissions for all Service Technology operations and maintenance paint spray booths combined are less 30.0 tons per year.

Gasoline storage vessels included in FG-GASTANKS (EU-GTCL3, EU-GTCL4, and EU-GTCL5) are subject to the requirements of R 336.1703 because they are used to dispense gasoline at the facility and the capacity of each vessel exceeds 2,000 gallons.

The facility operates refrigeration and cooling equipment that, when serviced, may be subject to the requirements of 40 CFR Part 82 Subpart F. This equipment is not identified as a separate emission unit or flexible group because it is covered by General Requirement No. 37 in Part A of the ROP.

EU-EMGEN107 and emission units in and FG-SUBPARTJJJJ at the stationary source are subject to the Standards of Performance for Stationary Spark Ignition Internal Combustion Engines promulgated in 40 CFR Part 60, Subparts A and JJJJ.

EU-ENGINE7000BLDG202 and the emission units in FG-BACKUPGENSBLD206 and FG-SUBPARTIIII at the stationary source are subject to the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines promulgated in 40 CFR Part 60, Subparts A and IIII.

EU-BOILER1CL and EU-BOILER2CL at the stationary source are subject to the Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units promulgated in 40 CFR Part 60, Subparts A and Dc.

EU-Boiler1-107, EU-Boiler2-107, and EU-Boiler3-107 at the stationary source are subject to the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units promulgated in 40 CFR Part 60, Subparts A and Db.

The emission units in FG-BOILERSBLDG107 and FG-BOILERMACT 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.

The emission units in FG-RICEMACT at the stationary source are subject to the National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines promulgated in 40 CFR Part 63, Subparts A and ZZZZ. EU-EMGEN7000BLDG202, EU-EMGEN101, EU-EMGEN108, EU-EMGEN106.1, EU-EMGEN106.2, EU-EMGEN202.2, EU-EMGEN106.2, EU-EMGEN501.2, and EU-EMGEN501.3 are subject to the initial notification requirements of 40 CFR 63.6645(f) in 40 CFR Part 63, Subpart ZZZZ.

The AQD's Rules 287 and 290 were revised on December 20, 2016. FGRULE287(2)(c) and FGRULE290 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-B4049-2014 are identified in Appendix 6 of the ROP.

PTI Number			
127-04	82-11	42-13	106-11B
96-04*	298-99*	42-14*	

*General Motors LLC – Warren Technical Center requested the following equipment, included in Source-wide PTI No. MI-PTI-B4049-2014a, be removed from the ROP and, therefore, also from Source-wide PTI No. MI-PTI-B4049-20XX:

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs	Associated PTI Number/s
FG-RDDYNOS	Dynamometer test cells located at the Research & Development Building.	EU-RDDYNO2, EU-RDDYNO3, EU-RDDYNO4, EU-RDDYNO5, EU-RDDYNO6, EU-RDDYNO16	96-04 298-99
FG-BOILERS	Main boilers located at the Steam Plant.	EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-BOILER4, EU-BOILER5, EU-BOILER16	42-14

In addition, conditions from PTI 40-95A were rolled into the source’s initial ROP (199600334). Equipment permitted in PTI 40-95 were two engine test cells controlled by a thermal oxidizer (EU-SUPERCELL1, EU-SUPERCELL2 in ROP) located in the Powertrain Building. According to the ROP Staff Report dated April 27, 2009, EU-SUPERCELL1 and EU-SUPERCELL2 permanently ceased operation on September 30, 2008. This equipment was not included in MI-ROP-B4049-2009 nor MI-PTI-B4049-2009.

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). Some of the boilers included in EU-MISCBOILERS are subject to process-specific emission limits or standards and are included in the ROP.

PTI Exempt Emission Unit ID	Description of PTI Exempt Emission Unit	Rule 212(4) Citation	PTI Exemption Rule Citation
EU-MISCBOILERS	Various space heaters, door heaters, and boilers <10 MMBtu/hour	Rule 212(4)(c)	Rule 282(2)(b)

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 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 Joyce Zhu, Southeast Michigan 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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2019

**AUGUST 26, 2019 - STAFF REPORT
ADDENDUM**

Purpose

A Staff Report dated July 15, 2019, 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:	Sudesh Kent, Senior Manager Sustainable Workplaces, Global Technical Center 586-386-7058
AQD Contact:	Kerry Kelly, Environmental Quality Analyst 586-506-9817

Summary of Pertinent Comments

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

State Registration Number
B4049

RENEWABLE OPERATING PERMIT
FEBRUARY 24, 2022 - STAFF REPORT FOR
RULE 216(1)(a)(i)-(iv) ADMINISTRATIVE
AMENDMENT

ROP Number
MI-ROP-B4049-2019a

Purpose

On October 16, 2019, the Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), approved and issued Renewable Operating Permit (ROP) No. MI-ROP-B4049-2019 to General Motors LLC – Warren Technical Center 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(1)(a)(i-iv).

General Information

Responsible Official:	Amanda Allen, Senior Manager, GTC Operations
AQD Contact:	Caryn E. Owens, Senior Environmental Engineer 231-878-6688
Application Number:	202200006
Date Application for Administrative Amendment was Submitted:	January 7, 2022

Regulatory Analysis

The AQD has determined that the change requested by the stationary source meets the qualifications for an Administrative Amendment pursuant to Rule 216(1)(a)(i).

Description of Changes to the ROP

This Administrative Amendment was to remove reference of the "body shop equipment" in the Emission Unit Description for EU-VVO, since it has been removed from the facility and is not included in the Vehicle Validation operation located at Building 205. The conditions of the Emission Unit remain the same, no other changes were made in the ROP.

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 Administrative Amendment to the ROP.

Action Taken by EGLE

The AQD approved an Administrative Amendment to ROP No. MI-ROP-B4049-2019, as requested by the stationary source. The delegated decision maker for the AQD is the District Supervisor.