

State Registration Number

B7227

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number

MI-ROP-B7227-2020a

General Motors LLC - Orion Assembly

State Registration Number (SRN): B7227

Located at

4555 Giddings Road, Lake Orion, Oakland County, Michigan 48359

Permit Number: MI-ROP-B7227-2020a

Staff Report Date: June 29, 2020

Amended Date: June 29, 2023

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).

TABLE OF CONTENTS

JUNE 29, 2020 - STAFF REPORT	3
AUGUST 5, 2020 - STAFF REPORT ADDENDUM	9
JUNE 29, 2023 - STAFF REPORT FOR RULE 216(2) MINOR MODIFICATION	10

State Registration Number
B7227

RENEWABLE OPERATING PERMIT

ROP Number

JUNE 29, 2020 - STAFF REPORT

MI-ROP-B7227-2020

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:	General Motors LLC - Orion Assembly 4555 Giddings Road Lake Orion, Michigan 48359
Source Registration Number (SRN):	B7227
North American Industry Classification System (NAICS) Code:	336111
Number of Stationary Source Sections:	1
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	201900171
Responsible Official:	Mr. John Urbanic, Plant Director 517-719-9802
AQD Contact:	Robert Byrnes, Senior Environmental Engineer 517-275-0439
Date Application Received:	October 9, 2019
Date Application Was Administratively Complete:	October 26, 2019
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	June 29, 2020
Deadline for Public Comment:	July 29, 2020

Source Description

The General Motors - Orion Assembly Plant is principally involved with the manufacturing of automobiles. Significant emission sources at the facility include VOC emissions from the application of primer and topcoat coatings to automobile bodies. These emissions are controlled with a regenerative thermal oxidizer. The facility also utilizes 5 landfill gas engines to generate electricity and is also a significant source of CO. Descriptions of each emission unit are included in the attached Renewable Operating Permit.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System (MAERS) for the year **2018**.

TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	104.1
Lead (Pb)	0.0
Nitrogen Oxides (NO _x)	52.5
Particulate Matter (PM)	5.2
Sulfur Dioxide (SO ₂)	13.2
Volatile Organic Compounds (VOCs)	57.3

The Hazardous Air Pollutant emissions are not required to be calculated on an annual basis:

Pollutant	Tons per Year
Individual Hazardous Air Pollutants (HAPs)**	Not Calculated
Total Hazardous Air Pollutants (HAPs)**	Not Calculated

**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.

Oakland 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 Volatile Organic Compounds, Nitrogen Oxide and Carbon Monoxide 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.

All emission units included within FG-Facility 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 Volatile Organic Compounds was greater than 250 tons per year.

EU-Three Wet and EU-Ecoat at the stationary source is subject to the Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations promulgated in 40 CFR, Part 60, Subparts A and MM.

EU-Emergency Engine Natural Gas at the stationary source is subject to the Standards of Performance for Stationary Spark Ignition Internal Combustion Engines promulgated in 40 CFR, Part 60, Subparts A and JJJJ.

EU-NEWFIREPUMPA48 at the stationary source is subject to the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines promulgated in 40 CFR, Part 60, Subparts A and IIII.

EU-Ecoat, EU-SealerAdh, EU-Three Wet, EU-Sound Damp, Eu-Glass Install, EU-Final Repair, and EU-Purge&Clean, at the stationary source is subject to the National Emission Standard for Hazardous Air Pollutants for Surface Coating of Automobiles and Light Duty Trucks promulgated in 40 CFR, Part 63, Subparts A and IIII.

EU-Emergency Engine 1, EU-Emergency Engine 2, EU-Emergency Engine 3, EU-Emergency Engine 4, EU-Emergency Engine 5, EU-Fire Pump 48, EU-Fire Pump PH, EU-NEWFIREPUMPA48 and EU-Emergency Engine Natural Gas at the stationary source is subject to the National Emission Standard for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines promulgated in 40 CFR, Part 63, Subparts A and ZZZZ.

EU-Boiler 1, EU-Boiler 2, EU-Lochinvar Boiler East and EU-Lochinvar Boiler West at the stationary source are subject to the National Emission Standard for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers and Process Heaters and promulgated in 40 CFR, Part 63, Subparts A and DDDDD.

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."

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-Ecoat	VOC/748.5 tpy, 4.6 lbs VOC per job	R336.1225(1) (b), R336.1702(a)	A Regenerative Thermal Oxidizer (RTO)	RTO temperature shall be at a minimum temperature of 1400 degrees Fahrenheit	EU-ECOAT/FG-CONTROLS	No
EU-Three Wet	VOC/748.5 tpy, 4.6 lbs	R336.1225(1) (b),	A Regenerative	RTO temperature	EU-THREE WET/FG-	No

Emission Unit/Flexible group ID	Pollutant/ Emission Limit	UAR(s)	Control Equipment	Monitoring (Include Monitoring Range)	Emission Unit/Flexible Group for CAM	PAM? *
	VOC per job	R336.1702(a)	Thermal Oxidizer (RTO)	shall be at a minimum temperature of 1400 degrees Fahrenheit	CONTROLS	

*Presumptively Acceptable Monitoring (PAM)

The RTO combustion chamber temperature was selected because it is indicative of the VOC destruction occurring within the RTO and is a widely accepted method of monitoring. If the chamber temperature decreases, the complete combustion may not occur, reducing the destruction efficiency. Therefore, the requirement to monitor temperature and maintain appropriate records is a justification for assuring VOC destruction efficiency. Temperature monitoring is specifically identified in the monitoring/recordkeeping requirements under the ROP Emission Unit(s), EU-ECOAT and EU-THREE WET.

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.

Streamlined/Subsumed Requirements

The following table lists explanations of any streamlined/subsumed requirements included in the ROP pursuant to Rules 213(2) and 213(6). All subsumed requirements are enforceable under the streamlined requirement that subsumes them.

Emission Unit/Flexible Group ID	Condition Number	Streamlined Limit/ Requirement	Subsumed Limit/ Requirement	Stringency Analysis
FG-Facility	1.2	4.6 pounds of VOC per job	1.4 kg VOC/LAC equivalent to 1.42 lbs VOC/GAC. Standards for Volatile Organic Compounds under 40 CFR 60.392(b).	The streamlined requirement of 4.6 pounds VOC per job is more stringent than 1.42 lbs VOC/GAC.
FG-Facility	1.2	4.6 pounds of VOC per job	1.4 kg VOC/LAC equivalent to 11.66 lbs VOC/GAC. Standards for Volatile Organic Compounds under 40 CFR 60.392(b).	The streamlined requirement of 4.6 pounds VOC per job is more stringent than 11.66 lbs VOC/GAC.
FG-Facility	1.2	4.6 pounds of VOC per job.	1.47 kg VOC/LAC equivalent to 12.24 lbs VOC/GAC.	The streamlined requirement of 4.6 pounds VOC per job is

Emission Unit/Flexible Group ID	Condition Number	Streamlined Limit/ Requirement	Subsumed Limit/ Requirement	Stringency Analysis
			Standards for Volatile Organic Compounds under 40 CFR 60.392(c)	more stringent than 12.24 lbs VOC/GAC.
FG-Controls	VI.1	Continuous temperature monitoring for thermal oxidizers and desorption gas temperature for concentrators.	Monitoring of emissions and operations under 40 CFR 60.394.	Continuous temperature monitoring for the control equipment is equivalent to the continuous temperature monitoring requirements of 40 CFR 60.394.
FG-Facility	VI.1	Recordkeeping under SC VI.1	Recordkeeping requirements under 40 CFR 60.393.	Recordkeeping of emissions is more stringent as it contains the data which is necessary to perform the calculations in the auto protocol.
FG-Facility	VII.2	Semi-annual reporting of deviations under SC VII.2	Reporting and recordkeeping requirements under 40 CFR 60.395.	Semi-Annual reporting of deviations is equivalent as it has more detailed information than simply reporting emissions are over or under the limit.

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.

PTI Exempt Emission Unit ID	Description of PTI Exempt Emission Unit	Rule 212(4) Citation	PTI Exemption Rule Citation
EU-Gas Tank	550 gallon gasoline tank	Rule 212(4)(d)	Rule 284(2)(g)
EU-Portable Heaters	Seven portable diesel #2 space heaters rated at < 250,000 Btu/hr	Rule 212(4)(c)	Rule 282(2)(b)(ii)
EU-Portable Torches	Non-production portable torches used for maintenance and repair	Rule 212(4)(e)	Rule 285(2)(j)(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 Joyce Zhu, Warren 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.

State Registration Number
B7227

RENEWABLE OPERATING PERMIT
AUGUST 5, 2020 - STAFF REPORT ADDENDUM

ROP Number
MI-ROP-B7227-
2020

Purpose

A Staff Report dated June 29, 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. John Urbanic, Plant Director 517-719-9802
AQD Contact:	Robert Byrnes, Senior Environmental Engineer 517-275-0439

Summary of Pertinent Comments

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

Changes to the June 29, 2020 Draft ROP

No changes were made to the draft ROP.

State Registration Number
B7227

RENEWABLE OPERATING PERMIT
JUNE 29, 2023 - STAFF REPORT FOR RULE 216(2)
MINOR MODIFICATION

ROP Number
MI-ROP-B7227-2020a

Purpose

On September 22, 2020, the Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), approved and issued Renewable Operating Permit (ROP) No. MI-ROP-B7227-2020 to General Motors LLC - Orion Assembly 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:	James Quick, Plant Director 517-719-9802
AQD Contact:	Caryn Owens, Senior Environmental Engineer 231-878-6688
Application Number:	202300092
Date Application for Minor Modification was Submitted:	June 1, 2023

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

This Minor Modification was to incorporate PTI No. 86-13B, which was for an administrative change regarding the performance testing methods in FGEngines and sampling for H₂S. PTI No. 86-13B was not required to go through the Public Participation process. The changes in the PTI were administrative and did not trigger NSR or PSD review.

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-B7227-2020, 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.