

State Registration Number

A5262

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number

MI-ROP-A5262-2021

General Motors LLC - Milford Proving Ground

State Registration Number (SRN): A5262

Located at

3300 General Motors Road, Milford, Oakland County, Michigan 48380

Permit Number: MI-ROP-A5262-2021

Staff Report Date: February 1, 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

FEBRUARY 1, 2021 - STAFF REPORT

ROP Number

MI-ROP-A5262-2021

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 - Milford Proving Ground 3300 General Motors Road Milford, Michigan 48380
Source Registration Number (SRN):	A5262
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:	202000122
Responsible Official:	Mary Wiesen, Operations Group Manager 810-853-1507
AQD Contact:	Kerry Kelly, Senior Environmental Quality Analyst 586-506-9817
Date Application Received:	August 13, 2020
Date Application Was Administratively Complete:	August 13, 2020
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	February 1, 2021
Deadline for Public Comment:	March 3, 2021

Source Description

General Motors LLC - Milford Proving Ground is a motor vehicle research and testing facility located on the western border of Oakland County. The facility is bordered to the east and south by rural residential properties. There are two lakes, Sloan and Pickett, along the north/northwest border of the property.

The ROP includes applicable requirements for four boilers, 33 emergency generator engines, 10 engine dynamometers, gasoline storage tanks, paint booths, soil remediation equipment, a thermal testing process, and other miscellaneous equipment/processes.

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

Pollutant	Tons per Year
Carbon Monoxide (CO)	24
Lead (Pb)	NA
Nitrogen Oxides (NO _x)	28
Particulate Matter (PM)	2
Sulfur Dioxide (SO ₂)	0.37
Volatile Organic Compounds (VOCs)	5.2

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

Individual Hazardous Air Pollutants (HAPs) **	Tons per Year
Ethyl benzene	0.1
Ethylene glycol	2.6
Glycol ethers	0.7
Hexane	0.5
Hydrochloric acid	0.4
Methanol	0.1
Toluene	0.2
Xylenes	0.4
Total Hazardous Air Pollutants (HAPs)	5.2

**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 carbon monoxide and nitrogen oxides exceeds 100 tons per year.

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 major source with respect to Prevention of Significant Deterioration (PSD) because the potential to emit of nitrogen oxides is greater than 250 tons per year. No emission units at the stationary source were subject to the Prevention of Significant Deterioration regulations of Part 18, Prevention of Significant Deterioration of Air Quality of Act 451, because at the time of New Source Review permitting, no physical or operational changes were made that would constitute a major permitting action.

EU-BOILER6 at the stationary source is subject to the Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units promulgated in 40 CFR Part 60, Subparts A and Dc.

FG-BACKUPGENS (EU-DRUPS1, EU-DRUPS2, EU-DRUPS3, EU-DRUPS4, EU-DRUPS5, EU-DRUPS6, EU-DRUPS7, EU-DRUPS8, EU-GENERATOR1, EU-GENERATOR2, EU-GENERATOR3, EU-GENERATOR4) and **FG-SUBPARTIII** (EU-GEN14a, EU-GEN15a, EU-GEN18, EU-GEN23, EU-GEN24, EU-GEN-25) 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.

FG-SUBPARTJJJJ (EU-GEN14a, EU-GEN15a, EU-GEN20, EU-GEN30, EU-GEN31) 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 JJJJ.

EU-GEN19, FG-BACKUPGENS (EU-DRUPS1, EU-DRUPS2, EU-DRUPS3, EU-DRUPS4, EU-DRUPS5, EU-DRUPS6, EU-GENERATOR1, EU-GENERATOR2, EU-GENERATOR3, EU-GENERATOR4), **FG- RICEACT** (EU-GEN1, EU-GEN2, EU-GEN3, EU-GEN4, EU-GEN6, EU-GEN7, EU-GEN8, EU-GEN9, EU-GEN10, EU-GEN11, EU-GEN12, EU-GEN21, EU-GEN22) 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. Per 40 CFR 63.6590(c)(1), EU-GEN19 must meet the requirements of 40 CFR Part 63, Subpart ZZZZ by meeting the requirements of 40 CFR Part 60, Subpart JJJJ, however, 40 CFR Part 60, Subpart JJJJ does not apply to EU-GEN19 because the engine does not meet the applicability criteria in 40 CFR 60.4230(a)(4). FG-BACKUPGENS, per 40 CFR 63.6290(c)(1), must meet the requirements of 40 CFR Part 63, Subpart ZZZZ by meeting the requirements of 40 CFR Part 60, Subpart IIII.

FG-GASTANKS at the stationary source is subject to the National Emissions Standards for Hazardous Air Pollutants for Gasoline Dispensing Facilities promulgated in 40 CFR Part 63, Subparts A and CCCCC. The ROP contains requirements from 40 CFR Part 63, Subparts A and CCCCC. The AQD is not delegated the regulatory authority for this area source MACT.

FG-MACT6H (EU-PAINTBOOTH1, EU-PAINTBOOTH2, EU-PAINTBOOTH3) at the stationary source is subject to the National Emissions Standards for Hazardous Air Pollutants for Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources promulgated in 40 CFR Part 63, Subparts A and HHHHHH. The ROP contains requirements from 40 CFR Part 63, Subparts A and HHHHHH. The AQD is not delegated the regulatory authority for this area source MACT.

AQD issued a notice of violation to General Motors LLC - Milford Proving Ground on August 17, 2016 conducting open burning on four pounds of vehicle bumpers in May of 2016. A PTI for this process was approved on September 11, 2018. The violation was resolved by the AQD on August 12, 2019.

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-REMEDICATION	VOC =10 TPY	R 336.1205 R 336.1702(a)	Catalytic Oxidizer	Inlet temperature to the catalytic oxidizer. Minimum inlet temperature of 600°F based on a 15-minute average.	EU-REMEDICATION	No

*Presumptively Acceptable Monitoring (PAM)

The catalytic oxidizer inlet temperature was selected because it is indicative of the VOC reduction occurring within the oxidizer and is a widely accepted method of monitoring. If the inlet temperature decreases significantly, then VOC oxidization by the catalyst 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 current ROP under monitoring/recordkeeping requirements for EU-REMEDICATION.

The selected indicator for the RTO is the minimum inlet temperature of 600°F which is required to meet 98% destruction efficiency. This minimum temperature is specified in the current ROP under process/operational restriction(s) for EU-REMEDICATION.

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-A5262-2015 are identified in Appendix 6 of the ROP.

PTI Number			
186-15	109-15*	194-12A	97-12
10-07			

*PTI 109-15 was a HAP opt-out permit. The HAP opt-out limits are now in PTI 186-15.

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.

PTI Exempt Emission Unit ID	Description of PTI Exempt Emission Unit	Rule 212(4) Citation	PTI Exemption Rule Citation
EU-HVACTEST	Test chamber that uses dust to test vehicle HVAC systems	Rule 212(4)(i)	Rule 291
Propane Tanks	Seven 1,000 gallon tanks, four 500 gallon tanks, and one 1,850 gallon tank	Rule 212(4)(d)	Rule 284(2)(b)
Windshield washer fluid	One 6,000 gallon tank at Bldg. #43, one 350 gallon tote at Bldg. #70, one 300 gallon tank at Bldg. #43, and one 500 gallon tank at Bldg. #32	Rule 212(4)(d)	Rule 284(2)(n)
Portable Cutting Torches	Used for maintenance purposes around site	Rule 212(4)(e)	Rule 285(2)(a)
Liquid Nitrogen tanks	3,000 gallon tank, 6,000 gallon tank	Rule 212(4)(d)	Rule 284(2)(j)
Liquid Oxygen tanks	4,400 gallon tank and 2,400 gallon tank	Rule 212(4)(d)	Rule 284(2)(j)

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

A5262

RENEWABLE OPERATING PERMIT

MARCH 4, 2021 - STAFF REPORT ADDENDUM

ROP Number

MI-ROP-A5262-2021

Purpose

A Staff Report dated February 1, 2021, 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:	Mary Wiesen, Operations Group Manager 810-853-1507
AQD Contact:	Kerry Kelly, Senior Environmental Quality Analyst 586-506-9817

Summary of Pertinent Comments

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

Changes to the February 1, 2021 Draft ROP

No changes were made to the draft ROP.

State Registration Number

A5262

RENEWABLE OPERATING PERMIT

APRIL 20, 2021 - STAFF REPORT ADDENDUM

ROP Number

MI-ROP-A5262-2021

Purpose

A Staff Report dated February 1, 2021, 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 45-day EPA comment period as described in Rule 214(3). In addition, this addendum describes any changes to the proposed ROP resulting from these pertinent comments.

General Information

Responsible Official:	Mary Wiesen, Operations Group Manager 810-853-1507
AQD Contact:	Kerry Kelly, Senior Environmental Quality Analyst 586-506-9817

Summary of Pertinent Comments

No pertinent comments were received during the 45-day public comment period.

During the 45-day comment period, AQD discovered an error in the Regulatory Analysis portion of the Staff Report dated February 1, 2021. The Staff Report incorrectly states that EU-GEN14a and EU-GEN15a at the stationary source are part of the flexible group FG-SUBPARTIIII and 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-GEN14a and EU-GEN15a are not included in FG-SUBPARTIIII in the ROP and are not subject to 40 CFR Part 60, Subparts A and IIII because they are spark-ignition internal combustion engines (propane-fired).

Changes to the March 4, 2021 Proposed ROP

No changes were made to the proposed ROP.