State Registration Number

A1641

## Michigan Department of Environmental Quality Air Quality Division RENEWABLE OPERATING PERMIT STAFF REPORT

ROP Number MI-ROP-A1641-2017

## **General Motors LLC - Lansing Grand River Assembly**

SRN: A1641

Located at

920 Townsend, Lansing, Michigan 48933

Permit Number: MI-ROP-A1641-2017

Staff Report Date: August 7, 2017

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).

August 7, 2017 STAFF REPORT	3
September 18, 2017 STAFF REPORT ADDENDUM	9

Michigan Department of Environmental Quality Air Quality Division

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RENEWABLE OPERATING PERMIT

August 7, 2017 STAFF REPORT

**ROP Number** 

MI-ROP-A1641-2017

#### <u>Purpose</u>

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.

Stationary Source Mailing Address:	920 Townsend
	Mail Code 489-066-600
	Lansing, Michigan 48933
Source Registration Number (SRN):	A1641
North American Industry Classification System	336111
(NAICS) Code:	
Number of Stationary Source Sections:	1
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	201600140
Responsible Official:	Steve Notar Donato, Plant Manager
	765-206-0999
AQD Contact:	Robert Byrnes, Senior Environmental Engineer
	517-284-6632
Date Application Received:	August 16, 2016
Date Application Was Administratively Complete:	August 30, 2016
Is Application Shield In Effect?	Yes
Date Public Comment Begins:	August 7, 2017
Deadline for Public Comment:	September 6, 2017

#### **General Information**

## Source Description

The Lansing Grand River Assembly Facility currently operates automobile painting and assembly operations. These operations consist of multiple emission units. 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 **2015**.

Pollutant	Tons per Year
Carbon Monoxide (CO)	3.5
Lead (Pb)	0
Nitrogen Oxides (NO <sub>x</sub> )	16.2
Particulate Matter (PM)	1.5
Sulfur Dioxide (SO <sub>2</sub> )	0.13
Volatile Organic Compounds (VOCs)	139.2

## TOTAL STATIONARY SOURCE EMISSIONS

The following table lists Hazardous Air Pollutant emissions as calculated for the year 2016 by General Motors LLC:

	Tons per Year
Total Hazardous Air Pollutants (HAPs)**	0.19

\*\*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 in tons per year of CO2e is 159,382. CO2e is a calculation of the combined global warming potentials of six Greenhouse Gases (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 nonapplicability 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 Ingham 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 of Volatile Organic Compounds exceeds 100 tons per year and the potential to emit of any single HAP regulated by the federal Clean Air Act, Section 112, 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 covered by PTI 134-99F 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.

FG-Storage Tanks at the stationary source are subject to the New Source Performance Standards for Volatile Organic Liquid Storage Vessels promulgated in 40 CFR, Part 60, Subparts A and Kb.

EU-Electrocoat, EU-Guidecoat, and FG-Topcoat at the stationary source are subject to the New Source Performance Standards for Automobile and Light Duty Truck Surface Coating Operations promulgated in 40 CFR, Part 60, Subparts A and MM.

EU-MethTank#1 at the stationary source is subject to the Maximum Achievable Control Technology Standards for Organic Liquid Distribution (non-gasoline) promulgated in 40 CFR, Part 63, Subparts A and EEEE.

EU-Electrocoat, Eu-Guidecoat, EU-Sealers&Adhes, EU-Deadener, EU-Foam, FG-Topcoat, FG-Solvents, and FG-Repair at the stationary source are subject to the Maximum Achievable Control Technology Standards for Surface Coating of Automobiles and Light-Duty Trucks promulgated in 40 CFR, Part 63, Subparts A and IIII.

EU-Emergency Generator LOC and EU-Emergency Generator Stamping at the stationary source are subject to the Standards of Performance for Spark Ignition Internal Combustion Engines promulgated in 40 CFR Part 60, Subparts A and JJJJ.

EU-Emergency Generator GA, EU-Emergency Generator Paint, EU-Emergency Generator Building 66, EU-Emergency Generator Elpo, EU-Emergency Generator Fire Pump LGR and EU-Emergency Generator Fire Pump Bldg 23 at the stationary source are 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.

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 emission limitation(s) or standard(s) for Volatile Organic Compounds from EU-Electrocoat, EU-Guidecoat, EU-Topcoat1 and EU-Topcoat2 at the stationary source is subject to the federal Compliance Assurance Monitoring rule under 40 CFR Part 64. These emission units have a control device and potential pre-control emissions of Volatile Organic Compounds greater than the major source threshold level.

Emission Unit ID	Pollutant/ Emission Limit	UAR(s)	Control Equipment	Monitoring	Presumptively Acceptable Monitoring?
EU- Electrocoat	VOC/264.3 tpy	R336.1225, R336.1702(a), R336.1901, 40 CFR 52.21	Thermal Oxidizer	Continuous Temperature Monitoring	No
EU- Guidecoat	VOC/264.3 tpy	R336.1225, R336.1702(a), R336.1901, 40 CFR 52.21	Carbon Adsorption/ desorption and Thermal Oxidizer	Continuous Temperature Monitoring	No

EU-Topcoat1	VOC/264.3 tpy	R336.1225, R336.1702(a), R336.1901, 40 CFR 52.21	Carbon Adsorption/ desorption and Thermal Oxidizer	Continuous Temperature Monitoring	No
EU-Topcoat2	VOC/264.3 tpy	R336.1225, R336.1702(a), R336.1901, 40 CFR 52.21	Carbon Adsorption/ desorption and Thermal Oxidizer	Continuous Temperature Monitoring	No

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-A1641-2017 are identified in Appendix 6 of the ROP.

PTI Number			
134-99F			

#### 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	5.3 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 5.3 pounds VOC per job is more stringent than 1.42 lbs VOC/GAC.
FG-Facility	1.2	5.3 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 5.3 pounds VOC per job is more stringent than 11.66 lbs VOC/GAC.

Emission Unit/Flexible Group ID	Condition Number	Streamlined Limit/ Requirement	Subsumed Limit/ Requirement	Stringency Analysis
FG-Facility	1.2	5.3 pounds of VOC per job.	1.47 kg VOC/LAC equivalent to 12.24 lbs VOC/GAC. Standards for Volatile Organic Compounds under 40 CFR 60.392(c)	The streamlined requirement of 5.3 pounds VOC per job is more stringent than 12.24 lbs VOC/GAC.
FG-Facility	VI.2	Records under SC VI.1 to calculate emissions on a monthly basis.	Performance test and Compliance provisions under 40 CFR 60.393.	The compliance provisions under SC VI.1 is equivalent to keeping a monthly record of VOC emissions under 40 CFR 60.393.
FG-Facility	III.3 & VI.4	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.2 & 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.

The following table demonstrates how GM conducted the equivalency analysis. Mass solids applied were calculated using the worst case minimum paint thickness for a vehicle. The apportioned VOC for each operation (e-coat, guidecoat and topcoat) was then divided by the worst case mass solids applied and compared to the NSPS standard as follows:

Operation	Lb VOC/job (contribution portion of 4.8)	Solids/job (GACS)	Stringency/Equivalent Limit (Ib/GACS)	NSPS Limit (Ib/GACS)
E-coat	0.08	0.61	0.13	1.42
Guidecoat	0.86	0.15	5.73	11.68
Topcoat	2.07	0.45	4.6	12.3
(basecoat+clearcoat)				

The equivalent limit is lower than the NSPS limit and therefore is more stringent. Streamlining/ subsuming conditions have been added to FG-FACILITY special conditions (SC) I.2, III.3, VI.2, VI.4 and VII.2.

#### 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

There were no processes listed in the ROP Application as exempt devices under Rule 212(4). Exempt devices are not subject to any process-specific emission limits or standards in any applicable requirement.

#### 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 Brad Myott, Lansing 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. Michigan Department of Environmental Quality Air Quality Division

State Registration Number

# RENEWABLE OPERATING PERMIT

**ROP Number** 

A1641

September 18, 2017 STAFF REPORT ADDENDUM MI-RO

MI-ROP-A1641-2017

#### Purpose

A Staff Report dated August 8, 2017, 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:	Steve Notar Donato, Plant Manager
	765-206-0999
AQD Contact:	Robert Byrnes, Senior Environmental Engineer
	517-284-6632

#### **Summary of Pertinent Comments**

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

#### Changes to the August 7, 2017 Draft ROP

No changes were made to the draft ROP.