

State Registration Number
P0677

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number
MI-ROP-P0677-2024

Kawasaki Motors Corp., USA

State Registration Number (SRN): P0677

Located at

5080 36th Street, Grand Rapids, Kent County, Michigan 49512

Permit Number: MI-ROP-P0677-2024

Staff Report Date: December 11, 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).

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DECEMBER 11, 2023 - STAFF REPORT

ROP Number

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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:	Kawasaki Motors Corp., USA 5080 36 th Street SE Grand Rapids, Michigan 49512
Source Registration Number (SRN):	P0677
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:	202300067
Responsible Official:	Dave Sugden, Vice President – R&D Engines 616-560-3111
AQD Contact – District Inspector:	April Lazzaro, Senior Environmental Quality Analyst 616-558-1092
AQD Contact – ROP Writer:	Matthew Karl, Senior Environmental Quality Analyst 517-282-2126
Date Application Received:	April 5, 2023
Date Application Was Administratively Complete:	April 5, 2023
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	December 11, 2023
Deadline for Public Comment:	January 10, 2024

Source Description

Kawasaki Motors Corp., USA (Kawasaki) operates an existing engine testing facility located at 5080 36th Street SE, Grand Rapids, Michigan. The facility is located in an industrial area to the southwest of I-96 and to the north of the Gerald R. Ford International Airport.

The facility conducts performance, endurance, durability and other testing (such as rain, climactic, chassis and anechoic) on small internal combustion engines up to 50 horsepower. The engines are fired with gasoline, ethanol and gasoline-ethanol blends. Equipment at the facility includes twenty (20) engine test cells, or dynamometers. The test cells are essentially a room with a dynamometer and additional test equipment. Storage tanks consist of a 2,000-gallon gasoline tank and a 125-gallon diesel tank. Other ancillary natural gas fired heating equipment were installed along with the test cells.

The emission control system utilizes a Pressure Controlled Oxidizer (PCO). The oxidizer is connected to the endurance test cells 1-9 and reduces carbon monoxide (CO) emissions. The facility installed the PCO emission control system to allow their permitted annual fuel throughputs to increase.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System (MAERS) for the year **2022**.

TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	24.06477
Lead (Pb)	0.00
Nitrogen Oxides (NO _x)	1.97423
PM10*	0.12804
Sulfur Dioxide (SO ₂)	0.088865
Volatile Organic Compounds (VOCs)	0.594975

* Particulate matter (PM) that has an aerodynamic diameter less than or equal to a nominal 10 micrometers.

The following table lists Hazardous Air Pollutant emissions as calculated by the stationary source for the year 2022 :

Individual Hazardous Air Pollutants (HAPs) **	Tons per Year
Benzene	0.02
1,3 Butadiene	0.01
Formaldehyde	0.01
Acetaldehyde	0.07
Total Hazardous Air Pollutants (HAPs)	0.11

**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.

The stationary source is in Kent County, which is currently designated by the United States 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 carbon monoxide (CO) exceeds 100 tons per year.

The stationary source is an area source of Hazardous Air Pollutant (HAP) emissions because the potential to emit of any single HAP regulated by Section 112 of the federal Clean Air Act is less than 10 tons per year and the potential to emit of all HAPs combined are less than 25 tons per year.

FG-TESTCELLS at the stationary source is subject to review under the Prevention of Significant Deterioration (PSD) regulations of 40 CFR 52.21 because at the time of New Source Review permitting (PTI No. 230-15) the source accepted legally enforceable permit conditions limiting the potential to emit of carbon monoxide (CO) to less than 250 tons per year. The source is considered a "synthetic minor" for PSD.

For FG-TESTCELLS, specific toxic air contaminant (TAC) limits exist because the Secondary Risk Screening Level was evaluated to demonstrate compliance with Michigan Air Pollution Control Rule 225 for each TAC. Daily fuel usage limits included in the ROP ensure compliance with TAC requirements.

EU-NATGASHEAT and EU-TANKS were installed as part of an overall project with the total project emissions greater than the significance level identified under Rule 278, and therefore were permitted in accordance with new source review. However, there are no specific applicable requirements associated with these emission units.

EU-TANKS at the stationary source is subject to the National Emission Standard for Hazardous Air Pollutants for Gasoline Dispensing Facilities promulgated in 40 CFR Part 63, Subparts A and CCCCC. The requirements apply to gasoline dispensing facility equipment, in this case gasoline storage tanks which dispense gasoline into test engines. The source is considered "new" equipment because it was installed after November 9, 2006. The equipment has monthly gasoline throughput <10,000 gallons per month and is located at an area source of hazardous air pollutants.

EU-EMERGENCYGEN 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.

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-TEST1 through 9 in FG-TESTCELLS	CO / 6.57 lb/gal	40 CFR 52.21(d)	PCO / Catalytic Oxidizer	Temperature / 600-650°F	FG-CAM-PCO	No
	CO / 180.7 tpy	R 336.1205(1)(a) & (3)				

*Presumptively Acceptable Monitoring (PAM)

The CAM plan covers the pressure-controlled oxidizer (PCO/catalytic oxidizer) that controls emissions from nine (9) test cells (EU-TEST1 through 9) used to perform durability/endurance testing on engines up to 50 horsepower (HP).

At the facility, the performance of the PCO/catalytic oxidizer is determined by continuously monitoring temperature. The temperature monitoring devices are installed in the inlet to and exit of the catalyst bed. The temperature across the catalyst is recorded hourly. The minimum PCO temperature required by the permit is 600°F. The permittee last demonstrated compliance with the CO emission limit on September 19, 2022, with a PCO temperature of 650°F. This testing demonstrated that the PCO meets the permit requirements of 90% reduction of CO emissions, and 95% reduction of VOC emissions. If the temperature of the PCO becomes lower than 600°F, engine operation will be stopped and prevented by an interlock system. The interlock system performance is tested once every two years. Catalyst cleaning is performed semiannually (every 6-months).

Additionally, the pressure drop across the catalyst bed is also continuously monitored and recorded every 15 minutes as an indicator of proper operation of the PCO. The system is designed to operate with a minimum pressure of -5.0" W.C. and a maximum pressure of 0.0" W.C. An alarm is set to sound at a minimum pressure drop of -4.5" W.C. and a maximum pressure of -0.1" W.C. to indicate to the operator a potential leak.

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-P0677-2018 are identified in Appendix 6 of the ROP.

PTI Number			
230-15	230-15A	230-15B	

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 Not in the Draft ROP

The following table lists PTI exempt processes that were not included in the Draft ROP pursuant to Rule 212(4). These processes are not subject to any process-specific emission limits or standards.

Emission Unit ID	Description of Emission Unit	Rule 212(4) Citation	PTI Exemption Rule Citation
EU-DIESEL-TANK	125-gallon diesel storage tank.	R 336.1214(4)(d)	R 336.1284(2)(g)(iii)

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 Julie Brunner, ROP Central Unit 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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RENEWABLE OPERATING PERMIT
JANUARY 11, 2024 - STAFF REPORT ADDENDUM

ROP Number
MI-ROP-P0677-2024

Purpose

A Staff Report dated December 11, 2023, 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:	Dave Sugden, Vice President – R&D Engines 616-560-3111
AQD Contact – District Inspector:	April Lazzaro, Senior Environmental Quality Analyst 616-558-1092
AQD Contact – ROP Writer:	Matthew Karl, Senior Environmental Quality Analyst 517-282-2126

Summary of Pertinent Comments

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

Changes to the December 11, 2023 Draft ROP

The USEPA has requested that annual compliance certifications be submitted electronically through the USEPA's Central Data Exchange (CDX) using the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through CDX (<https://cdx.epa.gov/>), unless it contains confidential business information. If confidential business information is included, continue to mail the submission to USEPA as specified in General Condition 19. General Condition 19 in all Renewable Operating Permits is being updated for electronic submissions to the USEPA as follows:

19. A Responsible Official shall certify to the appropriate AQD District Office and to the USEPA that the stationary source is and has been in compliance with all terms and conditions contained in the ROP except for deviations that have been or are being reported to the appropriate AQD District Office pursuant to Rule 213(3)(c). This certification shall include all the information specified in Rule 213(4)(c)(i) through (v) and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the certification are true, accurate, and complete. The annual compliance certification (pursuant to Rule 213(4)(c)) shall be submitted to the USEPA through the USEPA's Central Data Exchange (CDX) using the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through CDX (<https://cdx.epa.gov/>), unless it contains confidential business information then use the following address: USEPA, Air Compliance Data - Michigan, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604-3507. **(R 336.1213(4)(c))**