

State Registration Number
N6004

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number
MI-ROP-N6004-2023

City of Midland Utilities Division

State Registration Number (SRN): N6004

Located at

4311 East Ashman Street, Midland, Midland County, Michigan 48642

Permit Number: MI-ROP-N6004-2023

Staff Report Date: September 25, 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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RENEWABLE OPERATING PERMIT

SEPTEMBER 25, 2023 - STAFF REPORT

ROP Number

MI-ROP-N6004-2023

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:	City of Midland Utilities Division 4311 East Ashman Street Midland, Michigan 48642
Source Registration Number (SRN):	N6004
North American Industry Classification System (NAICS) Code:	562212
Number of Stationary Source Sections:	1
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	202300085
Responsible Official:	Scott O’Laughlin, Landfill Superintendent 989-839-6989
AQD Contact:	Gina McCann, Environmental Quality Specialist 989-439-2282
Date Application Received:	May 11, 2023
Date Application Was Administratively Complete:	May 11, 2023
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	September 25, 2023
Deadline for Public Comment:	October 25, 2023

Source Description

City of Midland Utilities Division (Landfill) is a municipal solid waste (MSW) landfill with an active gas collection and treatment system and a landfill gas-to-energy facility. The Landfill is located in Midland, Michigan, and owned and operated by the City of Midland. This ROP is being issued for the active Type II sanitary landfill, including the active landfill gas collection system, treatment system, two spark ignition reciprocating internal combustion engines each with a 1.6 megawatt gross electrical output, and a 2,000 scfm open flare. The Landfill has a design capacity greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters and has estimated uncontrolled emissions equal to or greater than 50 megagrams per year (Mg/yr) of non-methane organic compounds. The Landfill was modified since May 30, 1991, but has not been modified on or after July 17, 2014. Landfill gas (LFG) generated at the site is treated and burned off-site or the gas is burned in an open flare.

In addition to MSW, the Landfill accepts inert wastes such as construction and demolition debris, low level contaminated soils, and asbestos containing waste. The solid waste is transported to the facility to an area (cell) where it is deposited on the working surface. Solid waste is handled by a variety of vehicles that potentially generate fugitive dust emissions. The deposited waste is covered daily with soil or other EGLE approved alternate cover. When a cell reaches its designed final grades, final cover is installed covering the waste.

MSW initially undergoes aerobic microbial activity, which produces predominately nitrogen gas and carbon monoxide. As oxygen levels decline, gas composition changes to a mixture of methane and carbon dioxide. LFG typically contains a small percentage of non-methane organic compounds (NMOC). The NMOC fraction consists of various organic hazardous air pollutants (HAPs) and volatile organic compounds (VOCs).

The Landfill has an on-site gas treatment system which filters, dewateres, compresses, and cools the LFG prior to sending it via pipeline to reciprocating internal combustion engines (RICE) located at the City of Midland wastewater treatment plant (WWTP). The RICE burn the LFG and gas from the WWTP anaerobic solids digester. The RICE are owned and operated by the City of Midland. The Landfill, LFG treatment system, and the RICE are part of the same stationary source.

There are no atmospheric vents or emissions from the landfill gas treatment system; any gas not conditioned in the system is burned in the open flare at the Landfill. The RICE use the conditioned gas as fuel for the generation of electricity for the power grid.

The stationary source also has three (3) generators that provide power during total power failure. EULANDFILLOFFICEGENERATOR provides power to the landfill office during total power failure; EUCOMPRESSORGENERATOR provides power to landfill compressor during total power failure; and EUWWTPGENERATOR provides power to the wastewater treatment plant (WWTP) during total power failure.

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)	59.34
Lead (Pb)	0.00
Nitrogen Oxides (NO _x)	13.78
PM10*	3.03
Sulfur Dioxide (SO ₂)	6.51
Volatile Organic Compounds (VOCs)	2.55

* 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 for the year 2022 by City of Midland Utilities Division:

Individual Hazardous Air Pollutants (HAPs) **	Tons per Year
NMOC (HAP surrogate per 40 CFR Part 63, Subpart AAAA)	3.97
Total Hazardous Air Pollutants (HAPs)	3.97

**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 Midland 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 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 and the source is subject to 40 CFR Part 62, Subpart OOO and 40 CFR Part 63, Subpart AAAA that requires a 40 CFR Part 70 permit.

The stationary source was subject to the Standards of Performance for Municipal Solid Waste Landfills promulgated in 40 CFR Part 60, Subparts A and WWW. On June 21, 2021, the facility became subject to the Federal Plan Requirements for Municipal Solid Waste Landfills that commenced construction on or before July 17, 2014, and have not been modified or reconstructed since July 17, 2014, as specified in 40 CFR Part 62, Subpart OOO. The stationary source is considered a legacy controlled landfill under the Federal Plan. Michigan is not currently the delegated authority and is implementing and enforcing the Federal Plan through the ROP.

The stationary source is subject to the National Emissions Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills as promulgated in 40 CFR Part 63, Subparts A and AAAA. The permittee has opted to comply with the provisions for the operational standards in 40 CFR 63.1958 (as well as the provisions in 40 CFR 63.1960 and 40 CFR 63.1961) for a Municipal Solid Waste Landfill with a gas collection and control system. The regulatory language in 40 CFR Part 62, Subpart OOO and 40 CFR Part 63, Subpart AAAA are similar but not identical. Where applicable, similar citations are grouped together.

No emission units at the stationary source were subject to the Prevention of Significant Deterioration regulations of the Michigan Air Pollution Control Rules Part 18, Prevention of Significant Deterioration of Air Quality of Act 451 or 40 CFR 52.21 because at the time of New Source Review permitting the potential to emit of each criteria pollutant was less than 250 tons per year.

EUCENGINE1 and EUCENGINE2 at the stationary source are subject to the New Source Performance Standards for spark ignition reciprocating internal combustion engines promulgated in 40 CFR Part 60, Subparts A and JJJJ. A Best Available Control Technology (BACT) evaluation performed during the

issuance of Permit to Install (PTI) No. 45-10B determined that the emission limit of 1.0 g/bhp-hr VOC specified in NSPS JJJJ is BACT for this source.

EUCENGINE1, EUCENGINE2, EULANDFILLOFFICEGENERATOR, EUCOMPRESSORGENERATOR, and EUWWTPGENERATOR at the stationary source are subject to the Maximum Achievable Control Technology Standards for Reciprocating Internal Combustion Engines (RICE) promulgated in 40 CFR Part 63, Subparts A and ZZZZ. The potential to emit any single HAP, formaldehyde, regulated by Section 112 of the federal Clean Air Act, is equal to or more than 10 tons per year single.

EULANDFILLOFFICEGENERATOR and EUCOMPRESSORGENERATOR at the stationary source are subject to the New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines promulgated in 40 CFR Part 60, Subparts A and IIII. These generators are used as backup electrical supply during emergency situations.

EULANDFILL at the stationary source is subject to the National Emission Standard for Hazardous Air Pollutants for Asbestos promulgated in 40 CFR Part 61, Subparts A and M.

EUGASOLINE1 at the stationary source is subject to the National Emissions Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities promulgated in 40 CFR Part 63, Subpart CCCCCC with a monthly throughput less than 10,000 gallons of gasoline.

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-N6004-2019 are identified in Appendix 6 of the ROP.

PTI Number			
179-11	366-07*	179-17	45-10
45-10A	45-10B		

* Process/equipment discontinued and/or dismantled. PTI not in the draft ROP.

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
Propane Storage Tanks-Landfill	Two (2) propane storage tanks located at the City of Midland Landfill - a 500 gallon tank adjacent to the landfill office and a 1,000 gallon tank located adjacent to maintenance building.	R 336.1212(4)(d)	R 336.1284(2)(b)
Propane Space Heaters - Landfill Maintenance Building	Four (4) propane space heaters located in the landfill maintenance building - one (1) Aire-Flo 80AF gas furnace: 110,000 BTU/hr; three (3) Trane model GHND010ADF2000A: 100,000 BTU/hr.	R 336.1212(4)(c)	R 336.1282(2)(b)(i)
Natural Gas Boilers-WWTP	Two (2) natural gas fired boilers with heat input of 4,850,000 BTU/hr	R 336.1212(4)(c)	R 336.1282(2)(b)(i)
Propane Hot Water Heater-landfill Maintenance Building	One (1) propane hot water heater located in the maintenance building with heat input of 30,000 BTU/hr.	R 336.1212(4)(c)	R 336.1282(2)(b)(i)
Propane Furnaces-Landfill Office	Three (3) propane furnaces used for zone heating of the landfill office building each with heat input of 100,000 BTU/hr.	R 336.1212(4)(c)	R 336.1282(2)(b)(i)
Composting operations	Grinding and composting of yard waste	R 336.1212(4)(i)	R 336.1291
Crankcase breather	Vents for engine plant equipped with filters/mist collectors	R 336.1212(4)(i)	R 336.1291
Used Oil Tank	Three (3) 1,000 gallon used oil tanks	R 336.1212(4)(d)	R 336.1284(2)(i)
Used Oil Tank	One (1) 100 gallon tank in maintenance building	R 336.1212(4)(d)	R 336.1284(2)(i)
Used Oil Tank	One (1) 1,000 gallon used oil tank in GTE plant	R 336.1212(4)(d)	R 336.1284(2)(i)
Diesel Storage Tank	80 gallon tank for office emergency generator	R 336.1212(4)(d)	R 336.1284(2)(g)
Diesel Storage Tank	80 gallon tank for portable emergency generator	R 336.1212(4)(d)	R 336.1284(2)(g)
Diesel Storage Tank	4,000 gallon tank near maintenance building	R 336.1212(4)(d)	R 336.1284(2)(g)
Diesel Storage Tank	656 gallon tank for compressor emergency generator	R 336.1212(4)(d)	R 336.1284(2)(g)

Emission Unit ID	Description of Emission Unit	Rule 212(4) Citation	PTI Exemption Rule Citation
Diesel Storage Tank	1,000 gallon tank near active face of landfill	R 336.1212(4)(d)	R 336.1284(2)(g)
Gasoline Storage Tank	One (1) 500 gallon gasoline storage tank near maintenance building	R 336.1212(4)(d)	R 336.1284(2)(g)

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 Chris Hare, Bay City 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
N6004

RENEWABLE OPERATING PERMIT
NOVEMBER 2, 2023 - STAFF REPORT ADDENDUM

ROP Number
MI-ROP-N6004-2023

Purpose

A Staff Report dated September 25, 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:	Scott O’Laughlin, Landfill Superintendent 989-839-6989
AQD Contact:	Gina McCann, Environmental Quality Specialist 989-439-2282

Summary of Pertinent Comments

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

Changes to the September 25, 2023 Draft ROP

No changes were made to the draft ROP.