

State Registration Number  
N6011

**RENEWABLE OPERATING PERMIT  
STAFF REPORT**

ROP Number  
MI-ROP-N6011-2024

**Muskegon County Solid Waste Facility**

State Registration Number (SRN): N6011

Located at

9366 East Apple Avenue, Ravenna, Muskegon County, Michigan 49451

Permit Number: MI-ROP-N6011-2024

Staff Report Date: December 18, 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**

**DECEMBER 18, 2023 - STAFF REPORT**

ROP Number

MI-ROP-N6011-2024

**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:	Muskegon County Solid Waste Facility 9366 East Apple Avenue Ravenna, Michigan 49451
Source Registration Number (SRN):	N6011
North American Industry Classification System (NAICS) Code:	562212 – Solid Waste Landfill
Number of Stationary Source Sections:	1
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	202300107
Responsible Official:	Mark Eisenbarth, Muskegon County Administrator 231-724-6520
AQD Contact – District Inspector:	Chris Robinson, Environmental Quality Analyst 616-286-0083
AQD Contact – ROP Writer:	Matthew Karl, Senior Environmental Quality Analyst 517-282-2126
Date Application Received:	July 13, 2023
Date Application Was Administratively Complete:	July 13, 2023
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	December 18, 2023
Deadline for Public Comment:	January 17, 2024

## **Source Description**

The Muskegon County Solid Waste Facility (MCSWF) located at 9366 East Apple Avenue, Ravenna, Michigan is a municipal solid waste (MSW) landfill owned and operated by the County of Muskegon. The landfill is located on the north side of East Apple Avenue. It is to the south of the Muskegon County Wastewater Management System and is bordered along the north side by a water retention pond. Downtown Ravenna is located to the southwest of the landfill.

The MCSWF is classified as a Type II landfill or MSW landfill. In Michigan, the Materials Management Division (MMD) establishes standards for solid waste management. Rule 299.4104(d) defines a Type II landfill as:

“A landfill which receives household waste, municipal solid waste incinerator ash or sewage sludge and which is not a land application unit, surface impoundment, injection well, or waste pile. A municipal solid waste landfill also may receive other types of solid waste such as: construction and demolition waste, sewage sludge, commercial waste, nonhazardous sludge, hazardous waste from conditionally exempt small quantity generators, and industrial waste. Such a landfill may be publicly or privately owned.”

The site commenced operation in 1973 and has a maximum design capacity of 3.76 million megagrams (Mg). There are currently four (4) closed waste cells, and two (2) active waste cells. The source can accept asbestos containing waste materials. However, the County is not currently accepting asbestos containing waste materials.

Waste materials arrive in a variety of vehicles that have the potential to generate fugitive particulate matter (PM) emissions from the roads around the landfill. After waste is transported to the landfill, it is placed in one of the active working areas, known as cells, and is covered daily with soil or other cover materials. When a cell reaches its design capacity, a liner is installed to cover the waste. Over time, natural biological processes transform the waste materials and produce leachate and landfill gas (LFG). Initially, decomposition is aerobic until the oxygen supply is exhausted. Anaerobic decomposition of buried refuse creates most of the LFG. The LFG is comprised of methane (CH<sub>4</sub>), carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), hydrogen sulfide (H<sub>2</sub>S), volatile organic compounds (VOC) and non-methane organic compounds (NMOC). NMOC is the primary regulated air pollutant associated with LFG generation.

The uncontrolled mass emissions of NMOC calculated by the EPA Landfill Gas Model for 2022 was 23.68 megagrams per year (Mg/yr). As required by the landfill regulations at the time, the landfill conducted an initial (Tier I) NMOC calculation in October 1997. As a result of those calculations, it was determined that potential NMOC emissions were above 50 Mg per year. Since the NMOC emissions exceeded 50 Mg/year, the MCSWF was required to install a gas collection and control system (GCCS). The GCCS uses a series of interconnected vertical and horizontal gas extraction wells that are operating under negative pressure to collect LFG through the landfill and route the gas to a main header, which then routes the gas either to an open utility flare control or to an LFG treatment system. The open utility flare has the capacity to burn 1,200 standard cubic feet per minute of LFG.

The LFG treatment system allows the treated gas to be burned as fuel in off-site combustion units at Eagle Alloy and Sun Chemical. The treatment system consists of a knockout tank with a demister pad that removes liquid and moisture from the gas stream. A filter removes particulate matter. An electric compressor compresses gas to 20 psig. The gas is cooled with an air-to-air heat exchanger. Additional liquids are removed by a moisture separator cyclone. A refrigeration dryer and refrigeration system further dry and cools the gas. Treated gas is transported to end users via a pipeline.

The source also has two emergency generator and engine sets used to provide backup power to the maintenance and office buildings.

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)	18.0
Nitrogen Oxides (NO <sub>x</sub> )	4.0
PM10*	3.8
Sulfur Dioxide (SO <sub>2</sub> )	6.7
Volatile Organic Compounds (VOCs)	0.37
NMOC	6.5

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

This source is an area source of hazardous air pollutant (HAP) emissions pursuant to Section 112(b) of the federal Clean Air Act. No HAP emissions data is reported.

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 Muskegon 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 source was subject to 40 CFR Part 62, Subpart OOO that requires a 40 CFR Part 70 permit. The source met the criteria of having a design capacity of 2.5 million megagrams and 2.5 million cubic meters. With the construction of the new cells west of Cell 1 for the new lateral expansion, which began on March 21, 2023, the source became subject to 40 CFR Part 60, Subpart XXX which supersedes the Subpart OOO requirements.

The stationary source is an area source of 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.

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 no emission units at the source have undergone New Source Review (NSR).

Although EULANDFILL, EUACTIVECOLL, EUTREATMENTSYS, EUOPENFLARE, EUEMERGEN1 and EUEMERGEN2 were installed after August 15, 1967, this equipment was exempt from New Source Review (NSR) permitting requirements at the time it was installed.

EUASBESTOS 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.

EUEMERGEN1 and EUEMERGEN2 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.

EULANDFILL, EUACTIVECOLL, EUTREATMENTSYS, and EUOPENFLARE at the stationary source are subject to the Standards of Performance for Municipal Solid Waste Landfills that commenced construction, reconstruction, or modification after July 17, 2014, promulgated in 40 CFR Part 60, Subparts A and XXX.

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 60, Subpart XXX and 40 CFR Part 63, Subpart AAAA are similar but not identical. Where applicable, similar citations are grouped together.

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. For EULANDFILL, the EPA Landfill Gas Model (LandGEM) was used to determine uncontrolled mass emissions of NMOC for 2022 as 26.10 tons per year, which is below major source thresholds. The control device, EUOPENFLARE, had an exemption demonstration submitted that showed that emissions from the flare were not subject to PSD or new-NSR, and that the emissions did not exceed significance thresholds. Currently, there are no applicable emission limits for the landfill. However, future emission limits for the landfill would be covered by 40 CFR Part 60, Subpart XXX and 40 CFR Part 63, Subpart AAAA which meet the CAM exemption for NSPS or MACT proposed after November 15, 1990.

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-N6011-2019 are identified in Appendix 6 of the ROP.

PTI Number			
NA	NA	NA	NA

### **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.

<b>Emission Unit ID</b>	<b>Description of Emission Unit</b>	<b>Rule 212(4) Citation</b>	<b>PTI Exemption Rule Citation</b>
EUDIESEL	500-gallon diesel tank	R 336.1212(4)(c)	R 336.1284(2)(d)
EUDIESEL2	5,000-gallon diesel tank	R 336.1212(4)(c)	R 336.1284(2)(d)
EUDRUMS	55-gallon drums containing various materials	R 336.1212(4)(c)	R 336.1284(2)(d)
EUTANK	250-gallon water tank	R 336.1212(4)(c)	R 336.1284(2)(h)
EUWATERPUMPS	Two mobile gasoline powered water pumps	R 336.1212(4)(c)	R 336.1282(2)(g)
EUFUELTANK	100-gallon mobile fuel tank (back of pickup)	R 336.1212(4)(c)	R 336.1284(2)(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 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.

State Registration Number

N6011

## RENEWABLE OPERATING PERMIT

**JANUARY 18, 2024 - STAFF REPORT ADDENDUM**

ROP Number

MI-ROP-N6011-2024

### Purpose

A Staff Report dated December 18, 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:	Mark Eisenbarth, Muskegon County Administrator 231-724-6520
AQD Contact – District Inspector:	Chris Robinson, Environmental Quality Analyst 616-286-0083
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 18, 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))**