

State Registration Number
N6010

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number
MI-ROP-N6010-2023

Northern Oaks Recycling and Disposal Facility

State Registration Number (SRN): N6010

Located at

513 North County Farm Road, Harrison, Clare County, Michigan 48625

Permit Number: MI-ROP-N6010-2023

Staff Report Date: August 14, 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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AUGUST 14, 2023 - STAFF REPORT

ROP Number

MI-ROP-N6010-2023

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:	513 North County Farm Road Harrison, Michigan 48625
Source Registration Number (SRN):	N6010
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:	202300013
Responsible Official:	James Palmer, District Manager Phone: 517-202-8940 Email: jpalmer@wm.com
AQD Contact:	Nathanael Gentle, Environmental Quality Analyst Phone: 989-778-0025 Email: GentleN@Michigan.gov
Date Application Received:	January 31, 2023
Date Application Was Administratively Complete:	January 31, 2023
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	August 14, 2023
Deadline for Public Comment:	September 13, 2023

Source Description

The Northern Oaks Recycling and Disposal Facility (Northern Oaks) is owned by Waste Management of Michigan Inc. The Type II facility is located in Clare County near the City of Harrison, and the primary standard industrial code is 4953 (Municipal Solid Waste Landfill). The stationary source includes an active municipal solid waste landfill (MSW) with an active landfill gas collection system, a landfill gas treatment system, a leachate evaporator, and a single reciprocating internal combustion engine (RICE), all of which are operated year-round. The leachate evaporator is a skid mounted system designed to evaporate 30,000 gallons of leachate per day utilizing approximately 600 scfm of landfill gas adjusted to 50% methane by volume. The actual production and fuel consumption will vary as site conditions warrant. Landfill gas generated at the site is treated and burned to generate electricity. If the gas collected exceeds the gas needed to operate the engine, the existing enclosed flare system will ensure control of all the gas collected by burning off the excess gas. The landfill gas from Northern Oaks is treated and combusted in the RICE, which drives an associated generator set to produce electricity. The RICE is subject to 40 CFR Part 60, Subpart JJJJ.

The landfill serves as the final disposal point for general and household waste and inert wastes such as construction and demolition debris, foundry sand, ash and low level contaminated soils, and asbestos waste. Solid waste arrives in a variety of vehicles that potentially generate fugitive dust emissions. The solid waste is transported to the facility to a cell where it is deposited on the working surface. The stationary source has a design capacity of 11,633,572 cubic yards, per their 2001 construction permit. The deposited waste is covered with soil or other EGLE approved alternate daily cover materials (ADCM) on a daily basis. When a cell reaches its design capacity, a liner is installed, covering the waste. Natural biological processes occurring in landfills decompose the waste, producing leachate and landfill gas. Initially, decomposition is aerobic until the oxygen supply is exhausted. Anaerobic decomposition of buried refuse creates most of the landfill gas. Landfill gas consists mainly of methane, carbon dioxide, and a small percentage of non-methane organic compounds (NMOC). The NMOC fraction consists of various organic hazardous air pollutants (HAP), greenhouse gases, and volatile organic compounds (VOC).

The landfill gas is collected at Northern Oaks by an active gas collection system. This system consists of vertical extraction wells that are installed into the depths of the landfill refuse, and which remove landfill gas by vacuum that is applied to the well from a blower. Excess gas that is not used in the engine is then routed to a flare for emission control. The landfill gas-to-energy facility operates using a Malfunction, Abatement/Preventative Maintenance Plan (Northern Oaks Landfill GTE Facility Operation and Maintenance Plan, Dated August 2010, Revised January 2023).

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)	65.53
Lead (Pb)	Not Reported
Nitrogen Oxides (NO _x)	28.52
PM10*	6.32
Sulfur Dioxide (SO ₂)	19.32
Volatile Organic Compounds (VOCs)	14.46

* 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 Northern Oaks Recycling and Disposal Facility:

Individual Hazardous Air Pollutants (HAPs) **	Tons per Year
NMOC (HAP Surrogate per 40 CFR Part 63, Subpart AAAA)	1.85
Total Hazardous Air Pollutants (HAPs)	1.85

**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 Clare 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 is subject to 40 CFR Part 62, Subpart OOO Federal Plan Requirements for Municipal Solid Waste Landfills that requires a 40 CFR Part 70 permit. Northern Oaks is a Municipal Solid Waste (MSW) landfill that commenced construction, reconstruction, or modification on or before July 17, 2014, and has accepted waste at any time since November 8, 1987. The MSW landfill has a design capacity greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters, but actual NMOC emissions less than 34 Mg per year. The stationary source has a total design capacity of 8.9 million cubic meters. Tier 2 testing for NMOC emissions was last performed on August 30, 2021. Results showed a NMOC emission rate of 12.5 Mg/yr.

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 at the time of New Source Review permitting the potential to emit of each criteria pollutant was less than 250 tons per year.

EUICENGINE1 at the stationary source is subject to the Standards of Performance for Stationary Spark Ignition Internal Combustion Engines promulgated in 40 CFR Part 60, Subparts A and JJJJ.

EUICENGINE1 at the stationary source is 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.

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.

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 landfill under the Federal Plan. Michigan is not currently the delegated authority and is implementing and enforcing this regulation through the ROP.

The stationary source is subject to 40 CFR Part 63, Subpart AAAA. The facility is a Municipal Solid Waste (MSW) landfill that has accepted waste at any time since November 8, 1987. The MSW landfill has a design capacity greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters, and actual NMOC emissions less than 50 Mg per year as calculated according to 40 CFR 63.1959.

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-N6010-2018 are identified in Appendix 6 of the ROP.

PTI Number			
240-09			

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
EUGAS	500 Gallon gasoline tank	R 336.1212(4)(c)	R 336.1284(2)(d)
EUDIESEL	500 Gallon diesel tank	R 336.1212(4)(c)	R 336.1284(2)(d)
EUUSED OIL	365 Gallon used oil tank	R 336.1212(4)	R 336.1284(2)(d)

Emission Unit ID	Description of Emission Unit	Rule 212(4) Citation	PTI Exemption Rule Citation
EUUSED OIL2	350 Gallon used oil tank	R 336.1212(4)	R 336.1284(2)(i)
EUOIL	360 Gallon new oil tank	R 336.1212(4)(c)	R 336.1284(2)(d)
EUOIL2	315 Gallon new oil tank	R 336.1212(4)(c)	R 336.1284(2)(d)
EUOIL3	150 Gallon landfill gas engine oil	R 336.1212(4)(c)	R 336.1284(2)(d)
EUDRUMS	Drums containing various oils	R 336.1212(4)(c)	R 336.1284(2)(d)
EULEACHATE	30,000 Gallon leachate tank	R 336.1212(4)(c)	R 336.1284(2)(d)
EULEACHATE2	15,000 Gallon leachate tank	R 336.1212(4)(c)	R 336.1284(2)(d)
EULEACHATE3	14,700 Gallon leachate tank	R 336.1212(4)(c)	R 336.1284(2)(d)
EULEACHATE4	3,000 Gallon leachate tank	R 336.1212(4)(c)	R 336.1284(2)(d)

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
N6010

RENEWABLE OPERATING PERMIT
OCTOBER 4, 2023 - STAFF REPORT ADDENDUM

ROP Number
MI-ROP-N6010-2023

Purpose

A Staff Report dated August 14, 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:	James Palmer, District Manager Phone: 517-202-8940
AQD Contact:	Nathanael Gentle, Environmental Quality Analyst 989-778-0025

Summary of Pertinent Comments

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

Changes to the August 14, 2023 Draft ROP

No changes were made to the draft ROP.