

State Registration Number
N6010

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

ROP Number
MI-ROP-N6010-2018

Northern Oaks Recycling and Disposal Facility

SRN: N6010

Located at

513 North County Farm Road, Harrison, Michigan 48625

Permit Number: MI-ROP-N6010-2018

Staff Report Date: May 14, 2018

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).

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MAY 14, 2018 - 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 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.

General Information

Stationary Source Mailing Address:	Northern Oaks Recycling and Disposal Facility 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:	201800006
Responsible Official:	Terry Nichols, District Manager 989-539-6111
AQD Contact:	Gina McCann, Senior Environmental Quality Analyst 989-439-2282
Date Application Received:	January 4, 2018
Date Application Was Administratively Complete:	January 4, 2018
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	May 14, 2018
Deadline for Public Comment:	June 13, 2018

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 MDEQ 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, August 2010).

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System (MAERS) for the year **2017**.

TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	73.06
Lead (Pb)	Not Reported
Nitrogen Oxides (NO _x)	36.90
Particulate Matter (PM)	6.22
Sulfur Dioxide (SO ₂)	2.04
Volatile Organic Compounds (VOCs)	21.00

The following table lists Hazardous Air Pollutant emissions as calculated for the year 2017 by Northern Oaks:

Individual Hazardous Air Pollutants (HAPs) **	Tons per Year
NMOC (HAP Surrogate per 40 CFR Part 63, Subpart AAAA)	3.83
Total Hazardous Air Pollutants (HAPs)	3.83

**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 located in Clare 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 it is subject to the New Source Performance Standards (NSPS) for Municipal Solid Waste (MSW) Landfills promulgated in Title 40 of the Code of Federal Regulations, Part 60, Subpart A and Subpart WWW. The stationary source currently has a total design capacity of 8.9 million cubic meters. Subpart WWW requires that a Part 70, Renewable Operating Permit (ROP), be submitted for all new and existing landfills with a design capacity equal to or exceeding 2.5 million megagrams and 2.5 million cubic meters. This regulation requires the State to review and approve all design plans for gas collection and control systems for landfills where the NMOC emissions are equal to or greater than 50 megagrams per year (Mg/yr). NSPS required Tier 2 testing for NMOC emissions was performed on August 30, 2016. The NMOC emissions were calculated to be 28.05 Mg/year.

The stationary source is considered to be a minor source of HAP emissions because the potential to emit of any single HAP regulated by the federal Clean Air Act, Section 112, 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 are currently subject to the Prevention of Significant Deterioration regulations of Part 18, Prevention of Significant Deterioration of Air Quality of Act 451, 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 New Source Performance Standards for Stationary Compression Ignition and Spark Ignition Internal Combustion Engines promulgated in 40 CFR Part 60, Subparts A and JJJJ.

EUICENGINE1 at the stationary source is subject to the Maximum Achievable Control Technology Standards for Stationary Reciprocating Internal Combustion Engines promulgated in 40 CFR Part 63, Subparts A and ZZZZ.

On July 14, 2016, notification of construction commencement pursuant to 40 CFR 60.7(a)(1) and 40 CFR 60.4245(c) was received for replacement of EUICENGINE1. EUICENGINE1 was replaced as part of a routine maintenance practice with a new, identical engine. Replacement of these units with identical engines is exempt from PTI requirements under R 336.1285(b)(vi).

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.

On October 24, 2017, the facility was cited for violating 40 CFR Part 61, Subpart M, the National Emission Standard for Hazardous Air Pollutants for Asbestos. There were several loads of asbestos received that were not identified on the site map according to 40 CFR 61.154(f). The facility resolved the violation.

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 under 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-N6010-2013 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 in Application Not Identified in Draft ROP

The following table lists processes that were included in the ROP Application as exempt devices under Rule 212(4). These processes are not subject to any process-specific emission limits or standards in any applicable requirement.

PTI Exempt Emission Unit ID	Description of PTI Exempt Emission Unit	Rule 212(4) Citation	PTI Exemption Rule Citation
EUGAS	500 Gallon gasoline tank	R 336.1212(4)(c)	R 336.1284(d)
EUDIESEL	500 Gallon diesel tank	R 336.1212(4)(c)	R 336.1284(d)
EUUSED OIL	365 Gallon used oil tank	R 336.1212(4)	R 336.1284(d)
EUUSED OIL2	350 Gallon used oil tank	R 336.1212(4)	R 336.1284(i)

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

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ROP Number
MI-ROP-N6010-20XX

JUNE 18, 2018 - STAFF REPORT ADDENDUM

Purpose

A Staff Report dated May 14, 2018, 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:	Terry Nichols, District Manager 989-539-6111
AQD Contact:	Gina McCann, Senior Environmental Quality Analyst 989-439-2282

Summary of Pertinent Comments

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

Changes to the May 14, 2018 Draft ROP

No changes were made to the draft ROP.

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AUGUST 6, 2018- STAFF REPORT ADDENDUM

Purpose

A Staff Report dated May 14, 2018, 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 45-day EPA comment period as described in R 336.1214(3). In addition, this addendum describes any changes to the proposed ROP resulting from these pertinent comments.

General Information

Responsible Official:	Terry Nichols, District Manager 989-539-6111
AQD Contact:	Gina McCann, Senior Environmental Quality Analyst 989-439-2282

Summary of Pertinent Comments

No pertinent comments were received during the 45-day EPA comment period.

Changes to the June 18, 2018 Proposed ROP

No changes were made to the proposed ROP.