

State Registration Number
N3294

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number
MI-ROP-N3294-2024

**Ottawa County Farms Landfill
and
Energy Developments Coopersville**

State Registration Number (SRN): N3294

Located at

15550 & 15362 68th Avenue, Coopersville, Ottawa County, Michigan 49404

Permit Number: MI-ROP-N3294-2024

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).

TABLE OF CONTENTS

DECEMBER 18, 2023 - STAFF REPORT	3
JANUARY 18, 2024 - STAFF REPORT ADDENDUM	9

State Registration Number

N3294

RENEWABLE OPERATING PERMIT

DECEMBER 18, 2023 - STAFF REPORT

ROP Number

MI-ROP-N3294-2024

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 Section 1 Mailing Address:	Ottawa County Farms Landfill 15550 68 th Avenue Coopersville, Michigan 49404
Stationary Source Section 2 Mailing Address:	Energy Developments Coopersville 2501 Coolidge Road, Suite 100 East Lansing, Michigan 48823
Source Registration Number (SRN):	N3294
North American Industry Classification System (NAICS) Code:	Section 1: 562212 – Solid Waste Landfill Section 2: 221100 – Electric Power Generation, Transmission and Distribution
Number of Stationary Source Sections:	2
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	202300080
Responsible Official Section 1:	Thomas Mahoney, General Manager 616-837-8195
Responsible Official Section 2:	Rocky Tondo, Head of Project Delivery & Technical Services 330-728-5266
AQD Contact:	Chris Robinson, Environmental Quality Analyst 616-286-0083
AQD Permit Writer:	Matt Karl, Senior Environmental Quality Analyst 517-282-2126
Date Application Received:	July 11, 2023
Date Application Was Administratively Complete:	July 11, 2023
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	December 18, 2023
Deadline for Public Comment:	January 17, 2024

Source Description

SECTION 1:

The Ottawa County Farms Landfill (OCFL) located at 15550 68th Avenue in Coopersville, Ottawa County, Michigan, is a municipal solid waste (MSW) landfill owned and operated by Republic Services Inc. The landfill is bordered by I-96 to the north, 68th Avenue to the west, Garfield Street to the south and 60th Avenue to the east. Downtown Coopersville is located to the northeast of the landfill.

The OCFL 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 1982 and is located on 246.13 acres. The solid waste boundaries contain 191.02 acres of disposal area with a waste storage design capacity of 13.0 million cubic meters. Approximately 30 acres have been certified closed and an additional 30 acres have reached final grades. As of March 2022, there were 25,020,424 cubic yards of waste in place leaving 31,954,576 cubic yards of capacity remaining of the total permitted capacity of 56,975,000 cubic yards. The landfill accepts asbestos containing materials; from August 2021 to July 2022 the company accepted 9,027 yards of asbestos waste.

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 (CH₄), carbon dioxide (CO₂), carbon monoxide (CO), hydrogen sulfide (H₂S), 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 87.97 megagrams per year (Mg/yr). This requires the facility to have an active landfill 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 enclosed flare control or to the Section 2 treatment systems. The enclosed flare has the capacity to burn 3,700 standard cubic feet per minute of LFG. The enclosed flare is used mainly as a backup for the Section 2 gas-to-energy plant in the event that those operations shutdown and cannot accept LFG.

The landfill also has one cold cleaner, which uses a solvent-based cleaning solution.

SECTION 2:

Energy Developments Coopersville (EDC) located at 15362 68th Avenue, in Coopersville, Ottawa County, Michigan is an LFG treatment and gas-to-energy facility. OCFL and EDC have a contractual agreement in which OCFL sells LFG to EDC for treatment and combustion in engines to produce electricity.

There are two LFG treatment systems where the gas is filtered, dewatered, compressed and cooled. The Plant 1 treatment system consists of a 36-inch diameter condensate/liquids knockout tank, a 42-inch diameter carbon steel scrubber tank, two AC compressors, two radiator-style aftercoolers, a 0.3-micron coalescing filter and a fuel gas dryer. The Plant 2 treatment system consists of a 24-inch diameter condensate/liquids knockout tank, a 42-inch diameter carbon steel scrubber tank, one AC compressor, one radiator-style aftercooler, a 0.3-micron coalescing filter and a fuel gas dryer. The treatment systems have no atmospheric vents.

Plant 1 contains five Caterpillar G3516LE reciprocating internal combustion engines, each rated at 1,148 bhp and 800 kW. Plant 2 contains one Caterpillar G3520C reciprocating internal combustion engine rated at 2233 bhp and 1600 kW. The engines operate 24 hours per day, 7 days per week. Emissions from the engines include carbon monoxide (CO), nitrogen oxides (NO_x), sulfur dioxide (SO₂), volatile organic compounds (VOC) and formaldehyde.

Any gas not routed to the engines is sent to an open flare which has a capacity of 1,300 scfm.

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)	172.3
Nitrogen Oxides (NO _x)	63.9
PM10*	19.3
Sulfur Dioxide (SO ₂)	23.3
Volatile Organic Compounds (VOCs)	36.2

* 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 the source:

Individual Hazardous Air Pollutants (HAPs) **	Tons per Year
Formaldehyde	22.6
Hydrogen Chloride (HCl)	1.5
Total Hazardous Air Pollutants (HAPs)	24.7

**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 Ottawa 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 CO and NOx exceeds 100 tons per year. Additionally, the potential to emit of any single HAP (formaldehyde) 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.

EUENGINE1, EUENGINE3, EUENGINE4, EUENGINE5, EUENGINE6, EUENGINE7 and EUOPENFLARE at the stationary source were subject to review under the Prevention of Significant Deterioration regulations of 40 CFR 52.21 because at the time of New Source Review permitting the potential to emit of CO was greater than 250 tons per year.

EUENGINE7 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.

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.

EUENGINE1, EUENGINE3, EUENGINE4, EUENGINE5, EUENGINE6, EUENGINE7 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, EUENCLOSEDFLARE, EUASBESTOS, EUOPENFLARE, EUTREATSYS1 and EUTREATSYS2 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."

The emission limitation(s) or standard(s) for CO and NOx at the stationary source with the underlying applicable requirement(s) of 40 CFR Part 60, Subpart JJJJ and 40 CFR Part 63, Subpart ZZZZ that apply to EUENGINE1, EUENGINE3, EUENGINE4, EUENGINE5, EUENGINE6, and EUENGINE7 exempt from the federal Compliance Assurance Monitoring (CAM) regulation pursuant to 40 CFR 64.2(b)(1)(i) because the CO and NOx emission limits 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-N3294-2019 are identified in Appendix 6 of the ROP.

PTI Number			
173-05	173-05A	108-08	203-10

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
EUPRESSURE WASHER[1]	Diesel powered pressure washer	R 336.1212(4)(d)	R 336.1282(2)(b)(ii)
EUPRESSURE WASHER[2]	One (1) back of truck pressure washer	R 336.1212(4)(d)	R 336.1282(2)(b)(ii)
EUDRUMS	55-gallon drums containing various materials	R 336.1212(4)(c)	R 336.1284(2)(d)
EUUSED OILTANK	One (1) 1,030 gallon and one (1) 600 gallon used oil tanks	R 336.1212(4)(d)	R 336.1284(2)(i)
EUEMERGEN1	One (1) CAT (25.4 KW) portable generator	R 336.1212(4)(e)	R 336.1285(2)(g)
EUEMERGEN2[a]	One (1) Honda portable generator	R 336.1212(4)(e)	R 336.1285(2)(g)
EUEMERGEN2[b]	One (1) Guardian (22 KW) backup generator	R 336.1212(4)(e)	R 336.1285(2)(g)
EUTANK	One (1) 300,000-gallon leachate tank	R 336.1212(4)(d)	R 336.1284(2)(i)
EUAIRCOMPRESS1	Four (4) portable air compressors	R 336.1212(4)(c)	R 336.1285(2)(g)
EUAIRCOMPRESS2	Air compressors for landfill liquid pumps	R 336.1212(4)(c)	R 336.1285(2)(g)
EUWATERPUMP	Four (4) portable water pumps	R 336.1212(4)(c)	R 336.1285(2)(g)
EUTANK2	Three (3) 1,000-gallon tank	R 336.1212(4)(c)	R 336.1284(2)(d)
EUTANK3	One (1) 5000-gallon water tank	R 336.1212(4)(c)	R 336.1284(2)(d)
EULEACHTANK	Six (6) 20,000-gallon leachate tanks	R 336.1212(4)(c)	R 336.1284(2)(d)
EUACIDTANK	Three (3) 500-gallon tanks	R 336.1212(4)(c)	R 336.1284(2)(d)
EUACIDTANK2	One (1) 6,650-gallon tank	R 336.1212(4)(c)	R 336.1284(2)(d)
EUPROPANE	One (1) 500 gallon and one (1) 300 gallon propane tanks located outside Plant 2	R 336.1212(4)(d)	R 336.1284(2)(b)

Emission Unit ID	Description of Emission Unit	Rule 212(4) Citation	PTI Exemption Rule Citation
EUNEWOIL	One (1) 1,000-gal tank and one (1) 250-gal tote	R 336.1212(4)(d)	R 336.1284(2)(c)
EUUSED OIL	One (1) 1,000-gal tank and one (1) 250-gal tote	R 336.1212(4)(d)	R 336.1284(2)(c)
EUHYDOIL	One (1) 400-gal tank one (1) 225-gal tank	R 336.1212(4)(d)	R 336.1284(2)(c)
EUCONDENSATE	Two (2) 400-gal tanks	R 336.1212(4)(d)	R 336.1284(2)(e)
EUMINOIL	One (1) 1,965-gal tank, one (1) 1,561-gal tank and one (1) 294-gal tank	R 336.1212(4)(d)	R 336.1282(2)(c)
EUFURNACE	One (1) 0.1 MMBTU/hr propane-fired furnace	R 336.1212(4)(c)	R 336.1282(2)(b)

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

N3294

RENEWABLE OPERATING PERMIT

JANUARY 18, 2024 - STAFF REPORT ADDENDUM

ROP Number

MI-ROP-N3294-2024

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 Section 1:	Thomas Mahoney, General Manager 616-837-8195
Responsible Official Section 2:	Rocky Tondo, Head of Project Delivery & Technical Services 330-728-5266
AQD Contact:	Chris Robinson, Environmental Quality Analyst 616-286-0083
AQD Permit Writer:	Matt 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))**