

State Registration Number
N6034

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number
MI-ROP-N6034-2023a

Wood Island Waste Management Sanitary Landfill

State Registration Number (SRN): N6034

Located at

10081 State Highway M-28 East, Wetmore, Alger County, Michigan 49896

Permit Number: MI-ROP-N6034-2023a

Staff Report Date: May 8, 2023

Amended Date: October 16, 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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State Registration Number

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RENEWABLE OPERATING PERMIT

MAY 8, 2023 - STAFF REPORT

ROP Number

MI-ROP-N6034-2023

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:	Wood Island Waste Management Sanitary Landfill 10081 State Highway M-28 East Wetmore, Michigan 49896
Source Registration Number (SRN):	N6034
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:	202200223
Responsible Official:	Mike Stoeckigt, Regional VP - Midwest 920-676-8750
AQD Contact:	Lauren Luce, Environmental Quality Analyst 906-202-0943
Date Application Received:	December 6, 2022
Date Application Was Administratively Complete:	December 6, 2022
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	May 8, 2023
Deadline for Public Comment:	June 7, 2023

Source Description

Wood Island Sanitary Landfill (WISL) is owned and operated by Green For Life (GFL). The facility is located at E10081 State Highway M-28, Wetmore, Alger County, Michigan. The landfill is approximately 3.2 miles east of the City of Munising and 3.5 miles south of Pictured Rocks National Lakeshore. There is a campground, a hotel, and a handful of small commercial businesses directly to the north on State Highway M-28 and a log home manufacturer directly to the west, sharing a property line with the landfill. The area with the highest number of residential dwellings is located in Wetmore, one mile to the west of the landfill.

WISL was initially permitted in 1992 and was considered exempt from obtaining a Permit to Install (PTI) under R 336.1285(2)(aa). However, since the facility has accepted and handled asbestos containing material waste, it has always been subject to 40 CFR Part 61 National Emission Standard for Hazardous Air Pollutants (NESHAP) Subpart M and has been regularly monitored by AQD district staff for compliance.

WISL is classified as a Type II landfill or Municipal Solid Waste (MSW) landfill. A landfill consists of an area of land or an excavation in which wastes are placed for permanent disposal. The process begins with collected waste being transported to the landfill where it is dumped into an area (cell). A synthetic liner, such as high-density polyethylene, is used at the bottom to prevent contamination of leachate and landfill gas (LFG) with ground water and soil. Heavy equipment then spreads the waste, compacts it, covers the waste with soil or alternate daily cover materials, and further compacts it on a daily basis. When a cell is full, it is covered permanently with a liner cap and compacted soil.

On January 15, 2016, the site received a construction permit for expansion which increased the permitted design capacity of the landfill. WISL commenced construction for the expansion in June 2016, subjecting the facility to the federal New Source Performance Standards (NSPS) under 40 CFR Part 60, Subpart XXX for New MSW Landfills. The current permitted design capacity is 4,265,923 cubic yards. WISL accepts approximately 60,000 tons of waste per year.

The landfill, EULANDFILL, currently accepts sludge, asbestos containing waste, fly ash, industrial waste, and miscellaneous solids, along with municipal household waste. Natural biological processes occurring in landfills transform the waste's constituents (above listed waste) producing leachate and LFG. LFG is generated through bacterial decomposition of organic materials contained in solid waste. Initially, decomposition is aerobic until the oxygen supply is exhausted. With the solid waste being insulated from the atmosphere, decomposition then occurs anaerobically producing most of the LFG. LFG consists of 50% methane, 50% carbon dioxide, and less than 1% non-methane organic compounds (NMOC). The NMOC fraction consists of various organic hazardous air pollutants (HAP), greenhouse gases, and volatile organic compounds (VOC). The NMOC is the primary regulated air pollutant associated with LFG generation, which is promulgated as a regulated air pollutant under the Standards of Performance for New Stationary Sources, Subpart XXX - Standards of Performance for MSW Landfills (NSPS, Subpart XXX).

LFG can be collected through one of two methods: active and passive gas collection systems. WISL utilizes a passive system that relies on the pressure gradient created by the generation of LFG in the cells. Pipes in the cells collect the gas and move it from an area of high pressure to low pressure where it is emitted to the atmosphere through vents. There are 20 vents and 8 solar spark flares at the landfill. Cells 1-10 are capped. The landfill is currently operating in cells 11 and 12.

The current passive system can be operated by the landfill until the landfill's actual NMOC emissions reach 34 Megagrams (Mg) per year. Based on the most recent Tier 2 testing that was completed in March 2022, the NMOC emissions at the LWISL were approximately 12.10 Mg/year in 2022 and a site specific NMOC concentration of 257.07ppm as hexane was obtained. NMOC emissions for the next five years expect to remain well below 34 Mg/yr assuming an annual future waste acceptance rate of 300,000 tons/yr.

WISL operates EUWOODBOILER, a Central Boiler (Model CL 6048) 1.25 MMBTU/hr biomass fired boiler for seasonal space heating in the shop during the winter months. This emission unit does not utilize air pollution control devices and vents directly to the atmosphere via a single stack.

The facility operates a five-gallon parts washer and is proposing to add FGCOLDCLEANERS to the ROP with applicable state requirements.

For leachate storage, the facility utilizes a system of storage receptacles, including a 75,000 gallon above ground storage tank and a 660,000 gallon lagoon for emergency use. The leachate is pumped and hauled daily to wastewater treatment facilities.

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)	3.99
Lead (Pb)	NA
Nitrogen Oxides (NO _x)	1.16
PM10	1.98
Particulate Matter 2.5 (PM2.5)	<1
Sulfur Dioxide (SO ₂)	<1
Volatile Organic Compounds (VOCs)	<1
NMOC	4.25

* 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 Alger 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 60, Subpart XXX which requires affected facilities with a design capacity equal to or greater than 2.5 million cubic meters and 2.5 million megagrams to obtain a Part 70 permit.

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.

EULANDFILL at the stationary source is 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 because it is a MSW landfill having a design capacity equal to or greater than 2.5 million megagrams or cubic meters.

MSW landfills are regulated under National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills promulgated in 40 CFR Part 63, Subparts A and AAAA. However, EULANDFILL is not currently subject to this standard. Although it has a design capacity of greater than 2.5 million megagrams and 2.5 million cubic meters, it has uncontrolled NMOC emissions of less than 50 megagrams per year.

EULANDFILL-ASBESTOS 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.

EUWOODBOILER at the stationary source is subject to the National Emission Standard for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources promulgated in 40 CFR Part 63, Subparts A and JJJJJJ because it is an industrial, commercial, or institutional boiler that is located at, or is part of, an area source of hazardous air pollutants.

The source is proposing to add EUCOLDCLEANER, a five-gallon parts washing station, to the ROP. The AQD's Rules 287 and 290 were revised on December 20, 2016. FGRULE287(2)(c) and FGRULE290 are flexible group tables created for emission units subject to these rules. Emission units installed before December 20, 2016, can comply with the requirements of Rule 287 and Rule 290 in effect at the time of installation or modification as identified in the tables. However, emission units installed or modified on or after December 20, 2016, must comply with the requirements of the current rules as outlined in the tables.

The source has identified a 75,000 gallon above ground leachate storage tank with non-applicable requirements. The 75,000 gallon above ground leachate storage tank is not subject to the provisions of 40 CFR 60 Subpart Kb -Volatile Organic Liquid Storage Vessels, even though landfill leachate does contain small quantities of compounds that are volatile and/or hazardous air pollutants. Subpart Kb has three applicability thresholds. Tanks with a capacity of less than 19,815 gallons (75 m³) are not subject to the NSPS. Tanks larger than 19,815 gallons but less than 39,894 gallons (151 m³) are not affected if the VOC vapor pressure is less than 15.0 kPa (112.5 mmHg). Tanks larger than 39,894 gallons are affected if the VOC vapor pressure is greater than 3.5 kPa (26.26 mm Hg). The existing leachate storage tank is 75,000 gallons. The leachate VOC vapor pressure for the 75,000 gallon tank was calculated and demonstrates that NSPS Subpart Kb does not apply since vapor pressure is below the 3.5 kPa limit based on tank size. The vapor pressure of leachate that is stored in the tank is 6.89 x 10⁻⁵ kPa, based on concentrations of VOCs that are present in the leachate (using site-specific leachate analytical data). Calculations were included with the application and staff agrees with the determination of non-applicable requirements.

The source received a consent order, AQD No. 2018-14, in 2018 for violations of the asbestos NESHAP. WISL was required to pay a stipulated fine. All conditions of the consent order were followed and the order was terminated on August 18, 2022.

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-N6034-2018 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 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
Propane Heater #1	One 249,000 BTU/hr propane heater used for comfort heating in maintenance garage.	R 336.1212(4)(c)	R 336.1282(2)(b)(i)
Propane Heater #2	One 49,800 BTU/hr propane heater for space heating in main RAP building room.	R 336.1212(4)(c)	R 336.1282(2)(b)(i)
Propane Heater #3	One 30,000 BTU/hr propane heater for space heating in smaller RAP building room.	R 336.1212(4)(c)	R 336.1282(2)(b)(i)
Diesel Tank	10,000 gallon Diesel Tank & associated vehicle refueling activities.	R 336.1212(4)(d)	R 336.1284(g)(ii)
Propane Tanks (2)	Two (2) 500 gallon propane tanks (one per building) for fueling propane comfort heaters.	R 336.1212(4)(d)	R 336.1284(2)(b)
Used Oil Heater	170,000 BTU/hour used oil heater for comfort heating in shop.	R 336.1212(4)(c)	R 336.1282(2)(b)(iv)

PTI Exempt Emission Unit ID	Description of PTI Exempt Emission Unit	Rule 212(4) Citation	PTI Exemption Rule Citation
Groundwater Capture System	9 pumping wells treated for manganese. Includes infrastructure and infiltration area.	R 336.1212(4)(d)	R 336.1284(2)(i)
Multiple portable internal combustion engines	Internal combustion engines that have less than 10 MMBTU/hr heat input.	R 336.1212(4)(e)	R 336.1285(2)(g)
Used Oil Tank	1,000 gallon used oil tank.	R 336.1212(4)(d)	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 Michael Conklin, Marquette 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
N6034

RENEWABLE OPERATING PERMIT
JUNE 20, 2023 - STAFF REPORT ADDENDUM

ROP Number
MI-ROP-N6034-2023

Purpose

A Staff Report dated May 8, 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:	Mike Stoeckigt, Regional VP - Midwest 920-676-8750
AQD Contact:	Lauren Luce, Environmental Quality Analyst 906-202-0943

Summary of Pertinent Comments

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

Changes to the May 8, 2023 Draft ROP

No changes were made to the draft ROP.

State Registration Number

N6043

RENEWABLE OPERATING PERMIT

OCTOBER 16, 2023 - STAFF REPORT FOR RULE 216(2) MINOR MODIFICATION

ROP Number

MI-ROP-N6034-2023a

Purpose

On August 17, 2023, the Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), approved and issued Renewable Operating Permit (ROP) No. MI-ROP-N6034-2023 to Wood Island Waste Management Sanitary Landfill pursuant to Rule 214 of the administrative rules promulgated under Act 451. Once issued, a company is required to submit an application for changes to the ROP as described in Rule 216. The purpose of this Staff Report is to describe the changes that were made to the ROP pursuant to Rule 216(2).

General Information

Responsible Official:	Mike Stoeckigt, Regional VP - Midwest 920-676-8750
AQD Contact:	Caryn Owens, Senior Environmental Engineer 231-878-6688
Application Number:	202300137
Date Application for Minor Modification was Submitted:	September 27, 2023

Regulatory Analysis

The AQD has determined that the change requested by the stationary source meets the qualifications for a Minor Modification pursuant to Rule 216(2).

Description of Changes to the ROP

Minor Modification number 202300137 was to remove EUWOODBOILER and FGMACTJJJJJJ references from the ROP, since EUWOODBOILER has been decommissioned and permanently removed from the facility on August 18, 2023.

Compliance Status

The AQD finds that the stationary source is expected to be in compliance with all applicable requirements associated with the emission unit(s) involved with the change as of the date of approval of the Minor Modification to the ROP.

Action Taken by EGLE

The AQD proposes to approve a Minor Modification to ROP No. MI-ROP-N6034-2023, as requested by the stationary source. A final decision on the Minor Modification to the ROP will not be made until any affected states and the United States Environmental Protection Agency (USEPA) has been allowed 45 days to review the proposed changes to the ROP. The delegated decision maker for the AQD is the District Supervisor. The final determination for approval of the Minor Modification will be based on the contents of the permit application, a judgment that the stationary source will be able to comply with applicable emission limits and other requirements, and resolution of any objections by any affected states or the USEPA.