

State Registration Number
N6039

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number
MI-ROP-N6039-2022

K and W Landfill, Inc.

State Registration Number (SRN): N6039

Located at

11877 Highway M-38, Ontonagon, Ontonagon County, Michigan 49953

Permit Number: MI-ROP-N6039-2022

Staff Report Date: May 9, 2022

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

MAY 9, 2022 - STAFF REPORT	3
JUNE 23, 2022 - STAFF REPORT ADDENDUM	8

State Registration Number

N6039

RENEWABLE OPERATING PERMIT

MAY 9, 2022 - STAFF REPORT

ROP Number

MI-ROP-N6039-2022

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:	K and W Landfill, Inc. 11877 Highway M-38 Ontonagon, Michigan 49953
Source Registration Number (SRN):	N6039
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:	202100137
Responsible Official:	Clayton Hella, Operations Manager 906-883-3504
AQD Contact:	Lauren Luce, Environmental Quality Analyst 906-202-0943
Date Application Received:	August 20, 2021
Date Application Was Administratively Complete:	August 20, 2021
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	May 9, 2022
Deadline for Public Comment:	June 8, 2022

Source Description

K and W Landfill, Inc. (Landfill) is located at 11877 Highway M-38, Ontonagon, Michigan. Mr. Clayton Hella is the designated Responsible Official.

The Landfill is owned and operated by Waste Management. The Landfill is a Type II Municipal Solid Waste (MSW) landfill that was initially permitted in 1988 and has been actively accepting waste since 1992. The Landfill accepts sludge, asbestos containing material waste, fly ash, industrial waste, miscellaneous solids, and municipal household waste.

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.

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 OOO - Standards of Performance for MSW Landfills (NSPS, Subpart OOO).

LFG can be collected through one of two methods: active and passive gas collection systems. The Landfill 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 29 vents and 4 flares at the Landfill.

The current passive system and future active system can be operated by the Landfill until 30 months after the Landfill's actual NMOC emissions reach 34 Megagrams (Mg). When emission calculations show NMOC emissions > 34 Mg/year, the Landfill has the option of either installing an active gas collection and control system (GCCS) within 30 months or conducting Tier 2 and/or Tier 3 testing within 6 and 12 months, respectively. Tier 2 testing utilizes site-specific NMOC concentrations and Tier 3 testing utilizes site-specific methane generation rate. If Tier 2 and/or Tier 3 NMOC mass emission rate is < 34 Mg/year, the Landfill resumes annual submittal of NMOC emission rate reports, using Tier 2 or 3 data, until such time as either calculations show NMOC mass emission rate is greater than or equal to 34 Mg/year, triggering installation of a GCCS, or the Landfill permanently closes. Based on the most recent Tier 2 testing that was completed in June 2021, the NMOC emissions at the Landfill are approximately 1.05 Mg/year.

If the Landfill's annual NMOC mass emission rate is equal to or greater than 34 Mg/year, the Landfill has 12 months to submit an approvable LFG collection and control design plan that satisfies the requirements of NSPS Subpart OOO. Some of the requirements of NSPS Subpart OOO require the design plan to specify equipment that can fulfill specific capture and destruction efficiencies that includes reduction of NMOC from a control system by 98%, or an outlet concentration of less than 20 parts per million by volume. It is expected that this design plan will include an active LFG collection system that will be routed to a LFG combustion device. An active system mechanically pulls the LFG from the Landfill, instead of allowing it to freely migrate to the collection points like a passive system. The equipment specified by the approved design plan shall be installed and operating properly within 30 months after the first annual emission rate report showing NMOC greater than or equal to 34 Mg/year.

The Landfill operates a 500,000-gallon leachate storage tank from which leachate is circulated back into the Landfill or transported and treated at a wastewater treatment plant to minimize liquid levels in the Landfill cells. The leachate and associated storage tanks are exempt from inclusion into the ROP under Rule 212(3)(f)). With estimated potential VOC emissions of 0.05 tons per year, the leachate is considered a non-VOC containing liquid however these emissions are still reported to the Michigan Air Emissions Reporting System (MAERS). PM10 and PM2.5 fugitive dust emissions resulting from waste transport vehicles are annually reported to MAERS using AP-42 equations.

The following table lists stationary source emission information as reported to the MAERS for the year 2020.

TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	1.974
Lead (Pb)	0
Nitrogen Oxides (NO _x)	NA
Particulate Matter (PM)	<1
Sulfur Dioxide (SO ₂)	NA
Volatile Organic Compounds (VOCs)	<1
NMOC	1.025

This source is a true minor source of HAPs; thus no HAP emissions data is listed.

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 Ontonagon 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 the New Source Performance Standards for MSW Landfills promulgated in Title 40 of the Code of Federal Regulations (CFR) Part 62, Subpart OOO. The stationary source is subject to Title 40 of the CFR, Part 70, because its design capacity exceeds 2.5 million Mg and 2.5 million cubic meters; however, no pollution control equipment is required at this time because actual NMOC emissions are less than 34 Mg/year. Additionally, the Landfill is subject to the asbestos regulations found in 40 CFR 61.154, because the Landfill accepts asbestos containing waste (asbestos requirements are found in Table EUASBESTOS).

The stationary source is a minor 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 are currently subject to the Prevention of Significant Deterioration regulations of Part 18, Prevention of Significant Deterioration of Air Quality of Act 451

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 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-N6039-2012 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
EUPROPANE-HTRS	Propane fired space heaters for building service heat, each with rated heat input capacity < 200,000 Btu/h	R 336.1212(4)(b)	R 336.1282(2)(b)(i)
EURICE	Various small, mobile, non-road portable reciprocating internal combustion engines	R 336.1212(4)	R 336.1285(2)(g)

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 Ed Lancaster, 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
N6039

RENEWABLE OPERATING PERMIT
JUNE 23, 2022 - STAFF REPORT ADDENDUM

ROP Number
MI-ROP-N6039-2022

Purpose

A Staff Report dated May 9, 2022, 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:	Clayton Hella, Operations Manager 906-883-3504
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 9, 2022 Draft ROP

No changes were made to the draft ROP.