DEPARTMENT OF ENVIRONMENTAL QUALITY AIR QUALITY DIVISION ACTIVITY REPORT: On-site Inspection

N386272719		
FACILITY: WEXFORD COUNTY LANDFILL		SRN / ID: N3862
LOCATION: 990 North Mackinaw Trail, MANTON		DISTRICT: Cadillac
CITY: MANTON		COUNTY: WEXFORD
CONTACT: Christopher Gee, Operations Manager		ACTIVITY DATE: 06/04/2024
STAFF: Lindsey Wells	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MAJOR
SUBJECT: FY24 FCE; On-site inspection and records review		
RESOLVED COMPLAINTS:		

On Tuesday, June 4, 2024, Lindsey Wells and Tammie Puite of the Department of Environment, Great Lakes, and Energy (EGLE) – Air Quality Division, conducted a scheduled field inspection of Wexford County Landfill (SRN: N3862), located at 900 North Mackinaw Trail in Manton, Wexford County, Michigan (zipcode 49663). The field inspection was conducted to determine compliance with renewable operating permit MI-ROP-N3862-2022. AQD staff were accompanied by Chris Gee and the new site manager, Jeff, of Wexford County Landfill, which is currently operated by GFL (Green for Life).

Summary:

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The on-site inspection and records review indicates that the facility operates in general comformance with MI-ROP-N3862-2022 with the following exception. The facility's Tier 2 reporting and federal plan requirements (40 CFR 62 OOO) require further evaluation and will be addressed in a separate report. A status of non-compliance was entered for this evaluation as records review indicate that the facility's 2022 NMOC calculations were not performed in accordance with the methods specified in the ROP and federal plan.

General Site Information:

The facility accepts municipal solid waste (MSW), construction and demolition waste, special wastes, and asbestos containing waste. The MSW is transported to the facility and then to an active area, called a cell, where it is deposited on the working surface. The deposited waste is compacted and then covered with soil or other suitable cover such as auto shredder fluff (the soft material byproducts of vehicle scrapping/shredding) at the end of each day. When a cell reaches its design capacity, a liner is installed to permanently cover the waste. Over time, the waste decomposes, which produces landfill gas (LFG). The LFG is comprised of methane, carbon dioxide, carbon monoxide, and non-methane organic compounds (NMOCs). MSW initially undergoes aerobic microbial activity producing predominately nitrogen gas and carbon dioxide. As oxygen levels decline, gas composition changes to a mixture of methane and carbon dioxide. LFG typically contains a small percentage of non-methane organic compounds (NMOC). The NMOC fraction consists of various organic hazardous air pollutants (HAPs), greenhouse gases (GHGs), and volatile organic compounds (VOCs).

Landfill gas is collected at Wexford County Landfill by an active gas collection and control system (GCCS). This system consists of vertical extraction wells that are installed in the depths of the landfill refuse. The wells are connected by a common 18" header pipe that surrounds the perimeter of the landfill hill. A vacuum is applied to the header from a blower system which routes the collected landfill gas to a flare for combustion.

On-Site Inspection:

Upon arrival to the site, weather conditions were overcast with approximately 10 mile per hour (mph) winds from the westsouthwest, temperature 67 degrees Fahrenheit, humidity 65%, and barometric pressure 28.83 inches. No odors were observed outside of the fenceline, but note that staff travelled to the site from an upwind direction on Mackinaw Trail.

Staff met with Chris and Jeff in a conference room inside the scale house for the on-site records review portion of the inspection. Chris provided a copy of the 2023 annual design capacity report (from RETRAC, a waste tracking software used by EGLE Materials Management Division MMD). The facility inputs waste-in-place data on a quarterly basis after which the software calculates an estimated remaining waste capacity. Chris and Jeff answered general staff questions on the basic construction of a landfill and landfill gas collection wells. A large map of the landfill was available for review. Per the facility, active gas collection and control system (GCCS) has been installed on all capped cells (B, C, D, E, F, G1, G2, J) of the landfill, as well as cell G-3, which is currently active. GCCS has not yet been installed on active cell H. Cell I is still in the process of being excavated. The facility has the ability to install cassions prior to placing waste. Cassions, also called slip casings, are protective casings that surround the gas collection well casing.

Any wastes except municipal or non-asbestos construction and demolition categories are profiled prior to arrival to obtain information on the generator, hauler, description of waste, color, form, and chemical components as necessary. The landfill's intake specialist verifies that the requested materials can be accepted at the landfill.

The facility reports discontinuing the use of their on-site solidifier due to odor issues. These materials will now be solidified at another facility in a unit capable of neutralization as well as solidification. They can then be received at the landfill as solidified materials. The facility has also implemented receipt cut off times for non-municipal solid wastes of 2pm on weekdays and 12pm on fridays to ensure compaction and additional material coverage of these wastes.

The facility is subject to 40 CFR 61 (Asbestos NESHAP) by virtue of accepting asbestos containing material (ACM) wastes. Generators of asbestos waste must provide required information such as generator and hauler contact information, waste quantity, origin, color, and form with the landfill's asbestos intake specialist in advance of their arrival at the landfill. Each load is accompanied by a manifest that includes a unique waste profile number, assigned to the particular job. Upon receipt at the landfill, the scale ticket number is recorded in the bottom margin of the manifest, along with northing, easting, and elevation of where the waste is placed. The deputy weighmaster also notes the date that the generator's copy of the completed manifest is return mailed. The transporter receives their copy of the manifest prior to departure. The facility reports that the operator will dig into the waste column, place the ACM waste, and cover with 6 inches of non-ACM waste. The facility's asbestos records binder was available for staff review during the discussion.

Per the facility, approximately 75% of the incoming waste is from transfer station trailers, and the tons per day increase by approximately 50% during summer seasons. Incoming vehicles are weighed on the truck scale next to the scale house, near the main gate. Each truck periodically records an empty 'tare' weight. The Retrac software utilizes conversion factors to convert tons to cubic yards based on the type of waste. This information is used to track the amount of waste-in -place. The facility also hires a contractor to perform aerial topographical surveys of the landfill multiple times per year to assess remaining capacity based on observed elevation and height of hill restrictions.

Staff then proceeded with Chris and Jeff to tour the site by vehicle. We proceeded to the active fill area. The facility reports that cover is applied to the active face at a depth of 2' thick, at the end of each working day. Soil and/or auto fluff (the non-metal by-products of auto shredding such as seats, carpet) are often used as daily cover materials. The active fill area is enclosed on 3 sides by high fencing. Chris and Jeff pointed out various pieces of equipment and their function during the tour, such as the compactor, grader, gas collection wells, the deep well leachate tank and injection system. Staff noted that at 12:20pm the gas flowrate at the flare control panel read 399 standard cubic feet per minute (scfm) and 1265 degrees Fahrenheit.

After the site tour staff communicated the plan to request additional records via email and to request clarification on annual NMOC reporting which had not yet been received at the time of the on-site inspection.

Compliance Evaluation MI-ROP-N3862-2022:

The facility operates under MI-ROP-N3862-2022 which became effective November 1, 2022. AQD purposefully sent two records requests, a general request and a Tier 2 records request. General records were received on 6/11/24 and the revised 2023 Tier 2 report was received on 6/28/24.

EULANDFILL<34

The landfill is categorized as 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.

There are no emission limits, material limits, process/operational restrictions, design equipment parameters, therefore these sections do not apply.

Testing and Sampling, LANDFILL

The permittee is required by federal regulations to determine the NMOC emissions rate from the landfill by a type of testing called Tier testing. The NMOC emission rate is calculated using the amount and age of the waste in place, NMOC concentration, methane generation potential, and a methane generation rate constant based on regional precipitation trends. Tiers 1, 2 and 3 utilize a single equation, the inputs of which change from rule specified values to site-specific values as the facility progresses from Tier 1 to 2 to 3. Tier 1 utilizes site specific amount of age and waste in place only. Tier 2 changes to site specific NMOC concentration. Tier 3 changes to site specific methane generation potential. The calculation is performed by an EPA developed model called LandGem, which is publicly available. LandGem has the ability to manually enter the methane concentration, but a default value of 50% must be used for compliance demonstrations. The LandGem model predicts the uncontrolled NMOC emissions on an annual basis for in general 80 years from the first operating year of the landfill.

Condition V.1 requires the facility to submit a Tier test protocol 30 days prior to testing, perform Tier testing in accordance with ROP appendices 5 and 7, and submit a report of the test results within 60 days of the test. The facility met the

timelines for the protocol, testing, and reporting activities. As noted in the summary of this report, staff are completing further evaluation of the calculations used for annual Tier 2 reporting.

Condition V.1a requires the facility to compare the calculated NMOC emission rate to a federal standard of 34 MG/yr. If the results are greater than or equal to 34, the facility may perform the next higher tier test, or submit within one year, a gas collection and control system design plan that meets the requirements of the federal standard (40 CFR 62 OOO). The facility notified AQD on 6/28/24 of their intent to submit a control system design plan within a year. The facility's 2023 annual NMOC report, received 6/28/24, reported NMOC emissions of 42.51 MG/yr. This condition also requires that the control system be installed and operated within 30 months.

The facility has fulfilled the requirement to perform Tier 2 testing every 5 years as required by condition V.c, and the condition to recalculate NMOC emission results annual as required by V.b. The most recent Tier 2 test was performed 3/28/22 and reported a 2022 NMOC emission rate of 32.44 MG/yr. The prior Tier 2 test performed 1/29/21 reported annual NMOC emissions of 35.81 MG/yr.

At the time of report preparation the facility has not notified AQD of an intent to perform Tier 3 and/or Tier 4 testing, thus conditions V.d though g are not applicable at this time.

The facility has not notified AQD of a USEPA approved alternative methods for Tier 2 methodologies, thus condition V.2 is not applicable at this time.

The facility is also required to compare the calculated NMOC emission rate to a federal MACT standard (40 CFR 63 AAAA), of 50 MG/yr. If the results

Monitoring and Recordkeeping, LANDFILL

Federal regulations require the landfill to maintain readily accessible on-site records of the design capacity report, the current amount of solid waste in place, and the year-by-year waste acceptance rate in either paper copy or electronic format. Records can also be maintained offsite if they can be obtained within 4 hours. The records reviewed on-site on 6/5/24 conformed to this requirement. The facility provided the current design capacity plan that includes current waste in place in paper copy form. The facility can generate these records as needed from the state's RETRAC software. Waste acceptance rates are maintained from the landfill's opening date in 1977 to present day, as these are LandGem model inputs for Tier reporting. The facility submits this data annually for both Tier reporting and annual emissions reporting to the Air Quality Division.

As mentioned above, compliance with condition VI.2 (Tier 2 calculations and reporting) is being further evaluated and will be addressed in a separate report.

The landfill remains open at the time of report preparation thus condition VI.3 related to landfill closure is not currently applicable.

Reporting, LANDFILL

District file review indicates that the facility has fulfilled the reporting obligations of conditions VI, VI.2, and VI.3. As mentioned above, compliance with conditions VII.4, VII.5, VII.6 (Tier 2 calculations and reporting) is being further evaluated and will be addressed in a separate report.

Other Requirements, LANDFILL

At the time of report preparation, the facility has notified AQD of intent to submit a control system design plan, which fulfills what is required by IX.1 at the time of report preparation. The facility has not notified AQD of plans to conduct Tier 4 surface emission monitoring. The requirement to apply for permit revision within 90 days is currently under review.

Condition IX.2 is not currently applicable as the landfill has not yet demonstrated that the current control system complies with 40 CFR 62 OOO.

As mentioned above, compliance with IX.3 (federal plan requirements) is being further evaluated and will be addressed in a separate report.

EUASBESTOS

These conditions apply to the landfill which is actively accepting asbestos waste, often referred to as asbestos containing waste material (ACWM)).

There are no emission limits or material limits associated with EUASBESTOS.

Process and Operational Restrictions, Asbestos

The permittee complies with III.1.a and c by covering ACWM at the end of each operating day with 6 inches of compacted non-ACWM. The facility reports that ACWM is covered when placed. The facility has not requested an alternative emissions control method thus III.1.d is not applicable.

Previous inspections of record note that the perimeter fencing and natural barrier were determined to adequately deter access by the general public in conformance with condition III.1.b.

Design and Equipment Parameters, Asbestos

Compliance will be assessed with IV.1 upon receipt of the required control system design plan.

Testing, Asbestos

There are no testing requirements associated with EUASBESTOS.

Monitoring and Recordkeeping, Asbestos

The facility's ACWM waste shipment records (also called manifests), generally conform to the requirements in VI.1. The facility reports no observations of improperly covered/sealed waste entering the landfill, and no discrepancies in quantities received. The return mail date of the signed generator's copy is noted on the landfill's copy of the manifest. The asbestos records reviewed conformed to the return mail within 30-day requirement.

The facility site records conform to the requirements in VI.2. The landfill maintains records of the location, depth and area, and quantify of ACMW both in map format and in the asbestos log which includes a unique disposal number, date, northing, easting, elevation, quantity in yards and/or tons, and the profile number which appears on the waste shipment manifests.

Compliance with VI.3 related to any areas excluded from collection will be assessed upon receipt of the required control system design plan.

The facility's records conform to option B of VI.4 regarding receipt of asbestos waste.

Reporting, Asbestos

Conditions VII.1, 2 and 3 were addressed above in EULANDFILL.

Condition VII.4 is not currently applicable as the facility is operating. During the on-site inspection, the facility displayed the asbestos map, and provided a copy of the asbestos log.

The facility conformed to the requirement to furnish records upon request during the 6/5/24 on-site inspection.

Review of district files for the evaluation period indicates that the facility submitted a required notification of disturbance of ACWM on February 2, 2024. The notification detailed that ACWM may be encountered during the expansion of the gas control system, and it would be wetted, covered, and transported to the designated active asbestos disposal area. The project is reported to last through the end of 2024. District staff also confirmed with AQD asbestos staff in the Technical Programs Unit that the facility submitted the required notifications in the state's asbestos notification system (ANS).

There are no stack/vent restrictions or other requirements for EUASBESTOS.

Other evaluations

In addition to assessing compliance with the ROP, staff noted the following in file review. No violations notices were issued or ongoing during the review period. The facility has responded promptly to inquiries about activities occurring at the landfill if odor complaints are received. The facility's 2023 annual emissions report was received timely and complete.

The facility appears to operate in general conformance with MI-ROP-N3862-2022 with the exceptions detailed in the opening summary. As previously noted, federal plan requirements are being further evaluated and will be addressed in a separate report.

DATE 7-30-24

hane, Wixon SUPERVISOR