

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

N600649734

FACILITY: Waste Management of Michigan, Inc. – Autumn Hills		SRN / ID: N6006
LOCATION: 700 56th Ave., ZEELAND		DISTRICT: Grand Rapids
CITY: ZEELAND		COUNTY: OTTAWA
CONTACT: Matt Rosser , Landfill Operations Manager		ACTIVITY DATE: 07/31/2019
STAFF: David Morgan	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Autumn Hills RDF (Section 1) Inspection		
RESOLVED COMPLAINTS:		

At 9:00 A.M. on July 31, 2019, Air Quality Division staff Dave Morgan conducted a scheduled inspection of the Autumn Hills Recycling and Disposal Facility (RDF) located at 700 56th Avenue in Zeeland. The purpose of the inspection was to determine the facility's compliance with state and federal air pollution regulations as well as Renewable Operating Permit (ROP) No. MI-ROP-N6006-2018. Accompanying AQD staff on the inspection was Matt Rosser, Operations Manager; and Chad Dammen, Landfill Gas Technician for Waste Management.

FACILITY DESCRIPTION

Autumn Hills RDF is a municipal solid waste landfill owned and operated by Waste Management Inc. Autumn Hills was modified after July 17, 2014 and has a design capacity greater than 2.5 million cubic meters, and is therefore subject to the New Source Performance Standard (NSPS) for Municipal Solid Waste Landfills promulgated in 40 CFR Part 60, Subparts A and XXX. Because the non-methane organic compound (NMOC) emissions are greater than 34 megagrams per year, the company is required to install a landfill gas collection and control system.

The site is also subject to the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Municipal Solid Waste Landfills promulgated in 40 CFR Part 63, Subparts A and AAAA. This is primarily because the landfill meets the criterion of 40 CFR 63.1935(3) due to the landfill having NMOC emissions greater than 34 Megagrams per year. It is noted that the requirements under 40 CFR Part 60, Subpart WWW also apply to the stationary source because 40 CFR Part 63, Subpart AAAA adopts Subpart WWW requirements by reference. It is noted that because both Subpart WWW and XXX apply and have similar requirements, the company will have to comply with the more restrictive requirements in the standards until a federal rule change is made.

Landfill gases are either controlled by a flare or are treated for subsequent reuse. The site also includes a solidification process and a composting operation. The facility has discontinued leachate recirculation.

North American Natural Resources Inc. (NANR), which treats the landfill gas for Autumn Hills is located adjacent to Autumn Hills RDF. NANR is subject to the NSPS under 40 CFR Part 60, Subpart XXX because it controls emissions from an NSPS affected source. The NANR facility is also permitted under ROP No. MI-ROP-N6006-2018.

Formerly, the two companies were operating under separately issued ROPs, but have been combined into one ROP due to an AQD policy change.

COMPLIANCE EVALUATION

Landfill (FGLANDFILL-WWW and FGLANDFILL-XXX):

The landfill has a design capacity of 20 million cubic yards. As of June 30, 2019 the facility has approximately 13,288,943 million cubic yards of waste in place according to the most recent site survey.

Records pertaining to maximum design capacity, year-by-year acceptance rate, and amount of waste in place are maintained on site in accordance with the NSPS.

Surface Monitoring:

Cover integrity and necessary cover repairs are done on a monthly basis and recorded. The company was using a new process of cover documentation which included locations and pictures of problem areas. These records were reviewed on site. Several leachate outbreaks and washouts were documented and addressed:

The surface concentration of methane is monitored at 30 meter intervals, using a TVA-1000 (FB) organic vapor analyzer, on a quarterly basis in accordance with the NSPS and the ROP. Surface monitoring records for 2018 and 2019 were reviewed on site; the following table is a summary:

Quarter	Results > 500 ppm	Response	Compliance
---------	-------------------	----------	------------

3rd 2018	no exceedances	NA	Y
4th 2018	2 exceedances (range 800 - 1,000 ppm)	Tuned/replaced wells	Y
1st 2019	1 exceedance (1,835 ppm)	Bentonite added	Y
2nd 2019	2 exceedances (616-1,766 ppm)	Tuned wells/added dirt	Y

Corrective actions were taken and re-monitoring was conducted within required timeframes. No additional wells needed to be added to the system to address exceedances. Required calibrations were conducted in accordance with the NSPS and ROP prior to the surface monitoring events, this included a response time under 10 seconds and a stable span concentration with a less than 10% deviation.

It is noted that surface emission monitoring of all cover penetrations as required by Subpart XXX will begin with the 3rd Quarter monitoring event.

Active Landfill Gas Collection System (FGACTIVECOLL-WWW and FGACTIVECOLL-XXX):

Gas generated by the landfill is collected through a series of vertical and horizontal gas extraction wells that are piped to a main header. The gas collection and control system (GCCS) is designed and constructed in accordance with NSPS requirements. Approval of the GCCS design plan submitted in accordance with Subpart XXX is pending. On a monthly basis, in accordance with the ROP, the company monitors the vacuum pressure of the collection header, as well as the oxygen concentration, temperature and pressure at each wellhead using a Landtec GEM monitoring device. By design each wellhead has a thermometer and sampling port installed. All data collected is uploaded to a centralized company database. According to company records, there are 123 total active collection devices with 113 subject to NSPS monitoring, as of the inspection date. Autumn Hills provides updated GCCS maps to document placement of existing wells.

According to company records for July 2018 through June 2019 the following table summarizes well parameter exceedances identified during monthly monitoring events. All wells were returned to compliance after the required recheck. Records are attached.

Month	O2 > 5%	Temp >131°F	Positive Pressure
Jul 2018 through Dec 2018	-	-	-
Jan 2019	69R, H23	-	14R2
Feb 2019	13R2, 14R2, HC16	-	-
Mar 2019	100R2	-	-
Apr 2019	-	-	52
May 2019	13R2, H17, LCR6C	-	-
Jun 2019	-	-	-

AQD staff observed wells HC12, GW118, GW103R, GW58R, and GW30R. All wells were installed with required equipment and operating properly. Most of these wells had low flow and according to Chad Dammen, the valves are wide-open. Landfill gas odor was observed around GW30R. This well was recently raised to accommodate more waste. According Mr. Dammen, it takes about half a day to raise the well, but may take another week to make all the electrical and lateral connections. This well would be connected to the GCCS prior to the next monthly monitoring event.

Open Flare (FGOPENFLARE-WWW and FGOPENFLARE-XXX):

In general, most of the landfill gas generated from the landfill is routed to an off-site treatment system, owned and operated by NANR, that treats the gas for subsequent reuse. Any remaining portion of landfill gas generated is routed to an open flare with a rated capacity to burn 3,000 scfm of landfill gas. The flare is equipped with an infrared detection sensor that continuously monitors flame presence. The flame controller shuts the blower down and the main well field valve upon detection of flame absence. There is also a backup thermocouple which monitors flame temperature and will shut the flare down if the temperature falls below the set point. Automatic attempts are made to reignite the flame if extinguished. The company continuously monitors and records the temperature of the flare.

There is an interlock between the flame controller and the flow valve to insure that gas will not flow to the flare without a flame present. Gas flow to the flare is monitored and recorded on a continuous basis. Gas flow to the flare was verified. When there is no flow to the flare either ZFS or the NANR engine plant is taking all the gas or the flare is not igniting.

During the inspection, there was approximately 432 scfm of gas going to the flare. Typically flow to the flare is under 500 scfm with the remainder of gas flow going to the treatment system. Approximately 1,800 scfm of gas was going to the NANR plant. The company does not have a bypass line to the atmosphere. Flare temperature was around 938°F. No visible emissions were observed from the flare.

Startup, Shutdown, Malfunction:

The company has developed and is implementing a startup, shutdown, malfunction plan in accordance with 40 CFR Subpart 63, Subpart AAAAA. Waste Management is maintaining the necessary documentation of startup, shutdown, malfunction events in accordance with the ROP. All SSM events are addressed in accordance with the SSM plan. Most of the shutdowns were the result of well-field upgrades or power outages. During these shutdowns, gas was burned in the open flare or the blower to the collection system was shutdown. SSM records were reviewed on site. In July and October 2018, there were three shutdown events due to loss of power and construction activities. In March, April, and July 2019, there were four shutdown events due to loss of power and training. It is noted that a significant power outage occurred at both the landfill and the NANR plant in July due to storms.

Asbestos Waste (EUASBESTOS):


Asbestos waste is usually received in small quantities and immediately covered over once placed in the landfill. All disposal of waste is plotted on a site map (attached). The company is maintaining all required records including the date of receipt, generator, transporter, location within the landfill (northing and easting coordinates), elevation, and amount. Records were obtained during the inspection and are attached. For the past 12 months approximately 7,641 yards of friable asbestos waste was received. It is noted that the company provides notification to AQD prior to construction activities in or near asbestos areas in accordance with the NESHAP. The company generally tries to avoid digging in asbestos areas.

Parts Washer (FGCOLDCLEANERS):

The company has one small maintenance cold cleaner, using mineral spirits, in which no non-compliance issues were identified. At the time of inspection, the lid was closed.

EVALUATION SUMMARY

Autumn Hills RDF appears to be in compliance with all applicable requirements. Records of well monitoring data for July 2018 through June 2019 have been written to CD and are attached to this report.

NAME  DATE 8/12/19 SUPERVISOR 