

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

N363452660

FACILITY: HARLAND SANITARY LANDFILL/MANISTEE COUNTY LANDFILL		SRN / ID: N3634
LOCATION: 3890 CAMP ROAD, MANISTEE		DISTRICT: Cadillac
CITY: MANISTEE		COUNTY: MANISTEE
CONTACT: Justin Obermeyer, Environmental Manager		ACTIVITY DATE: 02/04/2020
STAFF: Rob Dickman	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled inspection of this major source.		
RESOLVED COMPLAINTS:		

Harland's Sanitary Landfill is classified as a Type II sanitary landfill, also known as a Municipal Solid Waste (MSW) Landfill. The facility currently accepts petroleum contaminated soils, sludge, municipal household waste, and other waste. It does not accept any asbestos containing waste.

Landfill gas is collected at Harland's Sanitary Landfill by an active gas collection system. This system consists of vertical extraction wells that are installed in the depths of the landfill refuse and which remove landfill gas by vacuum that is applied to the well from the blower. The collected landfill gas is then routed to a flare for combustion. In 2019, the facility performed testing that indicated Non-methane Organic Compound (NMOC) emissions will be greater than 50 megagrams (Mg) per year in 2020. Upon reaching this threshold, the facility's landfill gas collection system will be required rather than voluntary.

The facility has also installed a sulfur removal system prior to the waste flare designed to remove hydrogen sulfide from the collected landfill gas. The gas is reduced to a low concentration and then converted to sulfur dioxide when burned in the flare.

I performed an inspection at this landfill per ROP number MI-ROP-N3634-2015. No odors were noted downwind and outside of the facility. All haul roads, the plant yard, and the active parts of the landfill had no noticeable visible emissions during the inspection and appeared to be in good repair. An internal records review of the facility indicated no complaints received by the AQD in the last 12 months. Following are the rest of the findings of the inspection:

EULANDFILL<50 - This emission unit is the landfill. This landfill has a design capacity greater than 2.5 million megagrams and 2.5 million cubic meters. Additionally, the landfill has received a volume expansion (increased the design capacity) permit from the Department of Environmental Quality, since May 30, 1991. These two parameters make it subject to NSPS 40 CFR 60, Subpart WWW. Collected landfill gas is controlled by a sulfur removal system and flare.

Emissions Limits

Sulfur Dioxide (SO₂) emissions from the flare are limited to 36 tons per year based on a 12-month rolling time period. As of December of 2019, SO₂ emissions were approximately 10.2 tons based on a 12-month rolling time period. Records regarding this were reviewed on site and appeared complete and up to date.

Material Limits

Landfill gas Hydrogen Sulfide (H₂S) concentration is limited to 400 ppm post treatment. In the last 12 months, the outlet concentration to the flare was <400 ppm except during periods of malfunction.

Records regarding this were reviewed on site and appeared complete and up to date. Malfunction events have been previously reported, reviewed, and documented by AQD staff.

Process or Operational Restrictions

The facility is only allowed to burn treated landfill gas in the flare except as provided in the approved malfunction abatement/operation and maintenance plan. The MAP for this facility was submitted in September of 2010 and approved in November of 2010. The only time untreated gas was sent to the flare is during periods of malfunction and shutdown of the treatment system.

The flare is to be operating at all times except during periods of maintenance and malfunction. At no time in the last 12 months was there an incident of this nature except during periods of maintenance and malfunction. These periods have been previously reported, reviewed, and documented by AQD staff.

Design or Equipment Parameters

There are no design or equipment parameters associated with the landfill.

Testing or Sampling

The facility has performed Tier 2 testing to determine annual NMOC emissions. Tier 2 testing was performed in August of 2019. NMOC emissions at that time were 49.7 Mg per year and were modelled to be greater than 50 Mg in 2020. At this point, the facility's landfill gas collection system will be required per 40 CFR 60, Subpart WWW.

Monitoring and Recordkeeping.

The facility is required to keep on-site records of the design capacity report, the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Records regarding this were reviewed on site and appeared complete and up to date.

The facility shall calculate the annual NMOC emission rate using the most recent version of USEPA's Landfill Gas Emissions Model (LandGEM). NMOC emissions based on LandGEM modelling was 50.5 Mg for 2020.

The facility is required to install, calibrate, and maintain a gas flow measuring device that shall continuously record the total actual flow of landfill gas to the flare. This device was in place and appeared to be operating correctly.

The facility is required to monitor and record on a monthly basis the average Btu content of the landfill gas burned in the flare. Based on 1000 BTU per cubic foot of methane, the BTU content of the landfill gas averaged 394 BTU per cubic foot for December of 2019.

The facility is required to keep monthly and 12-month rolling SO₂ emission calculations for the flare. These calculations are being performed and were available for review. As of December, SO₂ emissions were approximately 10.2 tons based on a 12-month rolling time period. Records regarding this were reviewed on site and appeared complete and up to date.

The facility is required to monitor and record, on a weekly basis, the hydrogen sulfide concentration of the treated landfill gas. This is performed at least weekly both at the inlet and outlet of the treatment system. In the last 12 months, the outlet concentration to the flare was <400 ppm except during periods of malfunction. Records regarding this were reviewed on site and appeared complete and up to date.

The facility is required to keep records of the date and time the sulfur removal system is not operated due to malfunctions or maintenance. Records regarding this were reviewed on site and appeared complete and up to date. Records of periods of maintenance and malfunction have been previously reported, reviewed, and documented by AQD staff.

Reporting

All semi-annual and annual deviation reporting has been reported, reviewed, and documented by AQD staff.

The facility is required to submit an annual NMOC emission rate report to the District Supervisor. This emissions rate report is through the MAERS reporting system. This reporting has been performed annually and has been previously reviewed.

The facility is required to notify the Department of any testing being performed at the facility per department guidelines. The only testing performed at the facility was completed in August of 2019. All required notifications were submitted in a timely manner.

Stack and Vent Restrictions

The stack for the sulfur treatment system appears in compliance with criteria listed in the ROP and does not appear to have been recently altered.

Other requirements

The facility is required to implement and maintain an AQD approved MAP for the sulfur treatment system and flare. Any modifications to this plan must be submitted to and approved by the District Supervisor, AQD prior to implementation or changes. The MAP for this facility was submitted in September of 2010 and approved in November of 2010. No amendments to it have been made.

If the NMOC emission rate is calculated to be equal to or greater than 50 megagrams per year, the facility is required to install a collection and control system. As of the 2019 Tier 2 testing, the facility has declared it is required to install active gas collection pursuant to 40 CFR 60, Subpart WWW. An engineer certified landfill gas collection plan was received regarding this in December of 2018 and was approved by AQD and MMD staff in March of 2019. The facility has existing gas collection that meets the provisions of the Subpart. The ROP renewal application includes provisions and requirements for landfills that have NMOC emissions greater than 50 Mg per year. All applicable monitoring and reporting by this facility per these changes has been completed in a timely and correct manner.

The facility is required to comply with all applicable provisions of 40 CFR Part 60 Subpart A and WWW, "Standard of Performance for Municipal Solid Waste Landfills", as they apply to the flare. This facility is in compliance with the Subpart.

FGCOLDCLEANERS

Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278 and Rule 281(h) or Rule 285(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979. The only cold cleaner located at this facility was replaced by an aqueous based cleaner. This FG is no longer applicable.

At the time of the inspection, this facility was in compliance with their applicable air permitting.

NAME DATE 3/4/20SUPERVISOR 