

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

N591026377

FACILITY: Venice Park RDF		SRN / ID: N5910
LOCATION: 9536 Lennon Rd., LENNON		DISTRICT: Lansing
CITY: LENNON		COUNTY: SHIAWASSEE
CONTACT: Lori Winters, P.E., Division Engineer and Compliance Manager		ACTIVITY DATE: 08/12/2014
STAFF: Daniel McGeen	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled inspection, a Partial Compliance Evaluation (PCE) activity, conducted as part of a Full Compliance Evaluation (FCE).		
RESOLVED COMPLAINTS:		

Owner	Emission unit	Description	Applicable federal regulation	Permit no./ exemption from R 201	Operating status
WM	EULANDFILL(TREAT)	MSW landfill	NSPS: Cc, WWW, NESHAP: AAAA	MI-ROP-N5910-2010	C
WM	Engines 1-2	Two CAT 3516 engines, east plant	NESHAP: ZZZZ	PTI No. 166-11; Rule 285(a)(vi)	C
WM	EUACTIVECOLL	Active landfill gas collection system	NSPS: CC, WWW, NESHAP: AAAA	MI-ROP-N5910-2010	C
NANR	EUTREATMENTSYS	Processing equipment that treats collected landfill gas	NSPS: CC, WWW, NESHAP: AAAA	MI-ROP-N5910-2010	C
WM	EUOPENFLARE	Open combustor without enclosure or shroud	NSPS: CC, WWW, NESHAP: AAAA	MI-ROP-N5910-2010	Not operating
WM	EUASBESTOS	Any active or inactive asbestos disposal site	NESHAP: M	MI-ROP-N5910-2010	C
WM	FGCOLDCLEANERS	Any cold cleaner that is grandfathered, or exempted by Rules 281(h) or 285(r)(iv)		MI-ROP-N5910-2010	C
WM	FGRULE290	Any emission unit that is exempt pursuant to Rule 278 and 290		MI-ROP-N5910-2010	C
WM	Waste solidification process	Mixing liquid non-haz. waste with dry materials		Rule 285(aa)	C
NANR	Engine 3	CAT 3516, west plant	40 CFR 52, Subpart A, approval of implementation plans NESHAP: ZZZZ	MI-ROP-N5910-2010	Not operating, at time
NANR	Engine 4	CAT 3516, west plant	40 CFR 52 Subpart A NESHAP: ZZZZ	MI-ROP-N5910-2010	C
NANR	Engine 5	CAT 3516, west plant	40 CFR 52, Subpart A NESHAP: ZZZZ	MI-ROP-N5910-2010	C
NANR	Engine 6	CAT 3516, west plant	40 CFR 52, Subpart A NESHAP: ZZZZ	MI-ROP-N5910-2010	C
NANR	Engine 7R	CAT 3520C, west plant	40 CFR Section 52.21; NSPS: JJJJ; NESHAP: ZZZZ	PTI No. 123-11A, order AQD No. 30-2013	Not operating, at time
NANR	Engine 8R	CAT 3520C, west plant	40 CFR Section 52.21; NSPS: JJJJ; NESHAP: ZZZZ	PTI No. 123-11A, order AQD No. 30-2013	Not operating, at time
NANR	Engine 9	CAT G3520C, west plant	40 CFR Section 52.21; NSPS: JJJJ;	PTI No. 123-11A, order AQD	

			NESHAP: ZZZZ	No. 30-2013	
NANR	Engine 10	CAT G3520C, west plant	40 CFR Section 52.21; NSPS: JJJJ; NESHAP ZZZZ	PTI No. 123-11A, order AQD No. 30-2013	

On 8/12/2014, the Department of Environmental Quality (DEQ), Air Quality Division (AQD) conducted a scheduled inspection of Venice Park Recycling and Disposal facility (RDF).

Environmental contacts:

Lori Winters, P.E., Division Engineer & Compliance Manager, Waste Management, of Michigan, Inc. (WM); 517-294-3907; lwinters@wm.com

Bette Marvin, North American Natural Resources, Inc. (NANR); 517-347-4048; bettemarvin@nanr.net

Facility description:

Venice Park Recycling and Disposal Facility (RDF) is a Municipal Solid Waste (MSW) landfill, with two associated gas-to-energy plants. The landfill is owned and operated by Waste Management of Michigan, Inc. (WM). At the two energy plants, WM owns two engines, and the remaining eight are owned by NANR.

Regulatory overview:

This facility is considered a major source for carbon monoxide (CO). It is also major for the Hazardous Air Pollutant (HAP) formaldehyde, which has the potential to be emitted in amounts greater than 10 tons per year (TPY). This facility is regulated under its ROP, MI-ROP-N5910-2010, which will expire in 2015 and be renewed. Additionally, Permit to Install (PTI) No. 166-11 was issued to WM, to allow for replacement of two existing caterpillar 3516 engines with like units, and for legally enforceable restrictions on the open flare. PTI No. 123-11A was issued to NANR to allow for replacement of one CAT G3516 engine (ICE 7) and one CAT G3512 engine (ICE 8) with two new CAT G3520C engines (ICEs 7R and 8R, respectively).

Consent Order No. AQD 30-2013 was issued to resolve instances where stack testing of a NANR G3512LE engine (ICE 7) and G3516 engine (ICE 6) resulted in slight formaldehyde exceedances. NANR replaced the G3512LE engine, retested the G3516 engine, and replaced another G3516 engine (ICE 7) under PTI No. 123-11A, as stated above.

Applicable federal regulations for the site:

Prevention of Significant Deterioration (PSD): the stationary source is subject to Prevention of Significant Deterioration (PSD) regulations, under 40 CFR 52.21, because the source's Potential to Emit (PTE) of at least one criteria pollutant, CO, is greater than 250 TPY. Additionally, NANR's engines 7R, 8R, 9, and 10, were determined to be subject to PSD for significant emissions increases for CO, Nitrogen Oxides (NOx), and Particulate Matter smaller than 2.5 microns (PM2.5). They were not subject to PSD for other criteria pollutants, nor for greenhouse gases.

40 CFR Part 60, Subpart Cc, Emissions Guidelines and Compliance Times for Municipal Solid Waste Landfills: this landfill is subject because its design capacity exceeds 2.5 million Megagrams and 2.5 million cubic meters.

40 CFR Part 60, Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills: this landfill is subject to the requirements of WWW, Section 60.752, for the landfill gas collection and control system. This is because the landfill gas curve which they have calculated, with site-specific data from landfill gas sampling, shows that they are over the threshold of 50 Megagrams (Mg) per year of Non-

Methane Organic Compounds (NMOC).

40 CFR Part 60, Subpart JJJJ, Standards of Performance for Stationary Spark Internal Combustion Engines: NANR's G3520C lean-burn ICEs numbers 9 and 10 are subject to this, because they were ordered after 6/12/2006. Subpart JJJJ sets emission limits for NOx, CO, and VOCs-minus-formaldehyde, and requires stack testing to demonstrate compliance.

40 CFR 61 Subpart M, National Emission Standard for Asbestos: the facility occasionally receives asbestos containing material, for proper disposal.

40 CFR 63 Subpart AAAA, National Emission Standards for Hazardous Air Pollutants for Municipal Solid Waste Landfills: the landfill is subject to this, for the landfill gas collection and control system, as it is a major source of HAPs.

40 CFR Part 63 Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines: this applies to major and area sources of HAPs which operate Reciprocating ICEs (RICEs) rated for 500 brake horsepower (bhp) or greater. Venice Park is considered a major source for formaldehyde, as previously mentioned, because the Potential to Emit for this single HAP exceeds 10 TPY.

Recent history:

As mentioned earlier in this report, PTI No. 123-11A and Consent Order No. AQD 30-2013 were issued to resolve formaldehyde exceedances during stack testing by ICEs 6 (a 3516 engine) and 8 (the only 3512 engine at the site). ICE 6 passed subsequent retesting for formaldehyde. ICEs 7R and 8R, which are G3520C engines, replaced the original ICEs 7 and 8. They were scheduled to undergo stack testing starting on 8/26/2014, pursuant to PTI No. 123-11A, and also 40 CFR Part 63, Subpart JJJJ. Engines 9 and 10 will also be stack tested at that time, pursuant to JJJJ, and PTI No. 123-11A.

On 5/13-14/2014, WM's two ICEs were stack tested, per AQD's request, for NOx, CO, NMOC, particulate matter smaller than 2.5 microns (PM2.5), and formaldehyde. All emission limits were met. On 6/13/2014, Ms. Lori Winters, P.E., Division Engineer & Compliance manager for WM sent me an e-mail (attached) explaining that EUWMENGINE1 recently underwent a bearing failure, and it was subsequently removed, with an identical make and model engine expected to be installed by the end of the day.

Arrival:

This was an announced inspection, as Ms. Lori Winters, P.E., Division Engineer & Compliance Manager for Waste Management of Michigan, Inc. (WM) is not always at this site. Unfortunately, I forgot to notify NANR's environmental contact, Ms. Bette Marvin, of the inspection, and so she was unable to attend. I arrived and met with Ms. Winters.

As I approached the landfill from the east, on Lennon Road, I noticed a barely detectable odor of refuse/garbage, as I reached the east property line of the landfill. The working face of the landfill is on the east side of the landfill. Weather conditions were mostly cloudy, 68 degrees F, and humid, with winds 0-5 miles per hour, out of the southwest.

I arrived at 9:28 AM. I met with Ms. Winters, and with Mr. Paul Basgall, of WM. I brought along a copy of the DEQ brochure "Environmental Inspections: Right and Responsibilities," but Ms. Winters had already received a copy from AQD in a previous inspection.

EULANDFILL:

Cell 6 is the active landfill cell. Since I was onsite 5/13 for stack test observation, 4 horizontal collectors have been installed in 2 trenches, for cell 6. As we drove around the landfill, paved landfill roads looked clean, as if they had been recently swept. Unpaved landfill roadways were damp, from rains of about 1/2 inch, the previous day. They use their stormwater pond as a water source, for watering roadways.

Their compost piles are turned once or twice per quarter. The compost area drains to a compost pond, which is allowed to evaporate.

EUOPENFLARE;

The flare was not running, at this time. It is used very rarely, as backup for the engines. It is located next to the east and west electric plants.

EUASBESTOS:

They receive asbestos containing materials (ACM) on infrequent occasions. For friable ACM, they require it to be double bagged, and wetted. They also require customers to call ahead, before bringing it in, so a trench can be prepared. They do not puncture, compact, or otherwise disturb friable ACM. If a load of mixed waste comes in, with some friable ACM, they treat the entire load as friable ACM. For nonfriable ACM, they are able to handle this like construction and demolition (C & D) waste.

WM engines 1 and 2 (EUWMWENGINE1 and EUWMENGINE2); PTI No. 166-11:

EUWMENGINE1 was scheduled to be replaced with an identical replacement unit on 6/13/2014. The replacement unit was manufactured before 1/1/2008, and so is not subject to 40 CFR Part 60 Subpart JJJJ. The current EUWMENGINE2 was also built in 1994, well before 1/1/2008, and is therefore not subject to JJJJ. WM submitted an exemption demonstration via e-mail that they were installing the new EUWMENGINE1 under the Rule 285(a)(vi) exemption, and AQD has recently agreed to accept like for like engine swaps as exempt. WM believes neither engine has requirements under 40 CFR Part 63 Subpart ZZZZ, the RICE MACT.

EUWMENGINE1 and 2 are in the original (east electric plant). WM verified that the stack were 63 feet tall, as required by PTI No. 166-11, and stated this in a 5/16/2014 e-mail; please refer to facility file. There were no visible emissions from the exhaust stacks during the inspection. Engine data was collected at 10:15 AM. The landfill gas flow reading is for both of the WM ICES combined, and can be divided by 2 to represent each unit:

WMRE landfill gas fuel flow: 584.9 scfm

EUWMENGINE1 turbocharger 1: 795 degrees F

EUWMENGINE1 turbocharger 2: 820 degrees F

EUWMENGINE2 turbocharger 1: 846 degrees F

EUWMENGINE2 turbocharger 2: 836 degrees F

EUWMENGINE1: 800 kW

EUWMENGINE2: 811 kW

Landfill gas fuel data:

O2 content: 0.40%

Methane content: 52.3%

Nitrogen content: 6.8%

CO2: 40.3%

Mr. Basgall provided information on EUWMENGINE1:

Serial #: 4 EK 00234

Built: 6/17/1994

Every May 1, WM performs top end work on their two ICEs, usually finishing in one day.

NANR ICEs (engines 3-10):

There were no visible emissions from the exhaust stacks for any NANR ICEs. NANR staff were not onsite at the moment, so we did not enter the west plant, where NANR engines 4-10 are, without permission. NANR engines 7R, 8R, 9, and 10 were scheduled to be stack tested for NOx, CO, VOC, and PM2.5, starting on 8/26, so this would provide an opportunity to observe them.

I was informed by WM staff that NANR ICE 3 was not running, as it was undergoing top end maintenance, to install new cylinder heads. I was also informed that NANR ICEs 7R and 8R were not running currently, as there is not enough landfill gas fuel to power them. Landfill gas production is expected to increase, over time.

NANR stack height was 65 feet tall for ICEs 3-6, Ms. Bette Marvin of NANR indicated, in a 5/19/2014 e-mail. PTI 123-11A requires a minimum height of 63 feet for these ICEs. She also indicated that stack height for ICEs 7R-10 was 75 feet. PTI 123-11A requires 75 feet for ICEs 7R and 8R, and 73 feet for ICEs 9 and 10. The actual appearance of the stacks was consistent with these values.

WM solidification process; Rule 285(aa):

This process was operating, and we observed it up close up. In this process, non-hazardous liquid wastes, such as certain paint sludges, are mixed in a large open bin, with flyash, and/or "auto fluff" to solidify it. The flyash is wood flyash from Genesee Power Station. The auto fluff consists of shredded hoses, dashboards, and electrical components from scrapped cars. If too much liquid waste was put into a landfill, there could be a risk of slumping, hence the need to solidify waste. This process once had a PTI associated with it, but the permit was voided, as the Rule 285(aa) landfill exemption has been determined by WM to apply.

Mr. John Gall of WM was operating a large bulldozer, and moving flyash and/or autofluff into a modified metal roll-off box. The box is 60 yards in capacity, with thicker sides and bottom than conventional roll-off boxes. After the materials are mixed, they are taken to the working face, for disposal. I could not see any fugitive dust. No odors were detected from the solidification process.

Facility recordkeeping:

Semi-Annual Deviation Reports, Startup, Shutdown and Malfunction Reports, an NSPS-required report, and MACT reports are reviewed as they are received, throughout the year. This is documented in MACES, under "Reports Received."

Conclusion:

I could not find any instances of noncompliance, nor any areas of concern. Facility staff were very knowledgeable and professional. AQD was not able to record operating data on NANR ICEs 3-10 today, other than noting there was 0% opacity from them. However, AQD will be able to observe them, during the upcoming stack testing of engines 7R, 8R, 9, and 10, scheduled to begin on 8/26/2014.

NAME



DATE

9/17/2014

SUPERVISOR





