P0317
MANILA

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

P031750256

FACILITY: Ameresco Woodland Meadows Romulus LLC		**SRN / ID:** P0317
LOCATION: 4620 Hannan Rd		**DISTRICT:** Detroit
CITY: CANTON TWP		**COUNTY:** WAYNE
CONTACT: Stevia Smith , Sr. Environmental Compliance Specialist		**ACTIVITY DATE:** 07/25/2019
STAFF: Jill Zimmerman	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Target Inspection		
RESOLVED COMPLAINTS:		

DATE OF INSPECTION : July 25, 2019
TIME OF INSPECTION : 1:00 pm
INSPECTED BY : Jill Zimmerman
PERSONNEL PRESENT : Tony Shifflet, Lead Operator
FACILITY PHONE NUMBER : 734-595-8789
FACILITY EMAIL : smiths@ameresco.com

FACILITY BACKGROUND

Amerseco Woodland Meadows Romulus, LLC operates a landfill gas cleaning facility, and is located on the same property as Woodland Meadows landfill. Ameresco treats the landfill gas through processing equipment for subsequent sale to a third-party end user. Ameresco was selling the gas to Ford; however, in May 2017 Ford was given notice that Ameresco would no longer be supplying gas. Ameresco has installed a new gas process to treat the gas through deoxidizer and other processes so that the resulting gas can be sold for distribution through DTE natural gas pipeline.

REQUIRED PPE

During the onsite inspection, steel toed shoes, a hard hat and a brightly colored safety vest were required to be worn.

COMPLAINT/COMPLIANCE HISTORY

No complaints have been received regarding this facility since the last onsite inspection. No violations have been issued regarding this facility since the last onsite inspection.

PROCESS EQUIPMENT AND CONTROLS

Landfill gas is piped to the facility from Woodland Meadows Landfill to the Ameresco site for treatment. The treatment system consists of moisture removal, filtration to remove particles in the gas and a multi-stage compression. This is followed by refrigeration. The cleaned gas will then be sold and transported through a pipeline. Untreated gas or gas that does not meet the quality required by DTE will then be flared in either an enclosed flare or a candlestick flare, which is maintained by Ameresco. Woodland Meadows also maintains an enclosed flare and a candlestick flare that had been used to burn off gas that was unused by Ameresco under the old process. Woodland Meadows also have four additional flares that are not associated with Ameresco.

INSPECTION NARRATIVE

In May 2017, Ameresco shut down the ability to receive landfill gas from Woodland Meadows, the installation of the new gas processing equipment began. The equipment was installed by November 2017. The old equipment is still onsite, though it is no longer receiving gas, and can no longer operate. The facility plans to dismantle the old equipment and sell it once the

new equipment is farther along in the installation process, and there is more physical room at the plant.

Mr. Shifflet explained the process using the real time flow charts to show what was happening during the onsite inspection. The goal of the process is to remove the imperfections from the landfill gas, leaving the remaining methane that can be used by the energy company in the pipeline. The landfill gas will pass through many different pressurized vessels and compressors to remove imperfections. The gas will then travel through a pipe to the edge of the property, where it will become the property of DTE. The finished gas will need to meet the specifications required by DTE before the gas will be accepted by DTE. Any gas that is not accepted by DTE will be piped back to Ameresco via a flush of natural gas from DTE to Ameresco where the unaccepted gas will be flared in one of two flares maintained by Ameresco. Ameresco does not add any odorant to the processed gas.

Though Ameresco and Woodland Meadows Landfill qualify as a single stationary source per the AQD rules, the two facilities requested, and were given, two separate SRNs and two ROPs more than five years ago. During my last inspection in 2017, I explained that when the ROP is renewed, the two sources would be combined into one source with two sections, to reflect the single source nature of the process. Ameresco has submitted in writing a request for each source to remain two independent sources. A decision is pending regarding whether Ameresco and Woodland Meadows are two independent sources or one stationary source with Ameresco dependent on the landfill gas produced by Woodland Meadows.

On Tuesday September 10, 2019 I received a call from Ms. Stevia Smith. Ms. Smith stated that Ameresco discovered the temperature monitor for the enclosed flare (EUHBTUENCL) was not calibrated since it was installed in November 2017. Ameresco calibrated the temperature monitor on September 10, 2019. Therefore, the temperature monitor was not calibrated for 22 months. The facility is required to calibrate the temperature monitor annually to confirm accuracy.

APPLICABLE RULES/PERMIT CONDITIONS

Ameresco is currently operating under the Renewable Operating Permits (ROP) MI-ROP-P0317-2012a. This permit was issued on December 12, 2012 and was revised on February 2, 2016 to reflect a facility name change. The renewal application has been received on time and is being processed. This ROP covers three emission units, EUGASTREAT, EUOILSEPARATOR, and EUCOLDCLEANER. However, this equipment is currently not operating and is in the process of being decommissioned by the facility. It will be replaced by the equipment permitted by PTI 61-16, which was issued on August 29, 2017.

Below is the evaluation of Permit 61-16:
EUHBTUENCL: A 2,600 CFM enclosed flare used for the destruction of the process CO_2 tail gas stream. This flare was installed in November 2017.

I. Emission Limits
   1. NMOC – Compliance. Based on the results from the May 17, 2018 stack test, the NMOC emissions were 1.69 ppmvd at 3% O_2, which is less than the permit limit of 20 ppmvd at 3% O_2.
   2. SO_2 – Based on the stack test from May 17, 2018 the SO_2 emission rate was 12.7 lbs per hour which was less than the permit limit of 16.8 lbs per hour.

3. SO_2 – Compliance. Based on the MAERs submitted by the company, the enclosed flare emitted 29.44 tons of SO_2 during 2018 which is less than the permit limit of 73.7 tpy.

II. Material Limits – NA

III. Process/Operational Restrictions

1. Undetermined – The facility is required to equip and maintain a temperature monitor. On September 9, 2019 Ms. Smith informed me that the temperature monitor had not been calibrated in approximately 22 months. Therefore I am unable to determine whether this equipment was operating properly during the onsite inspection.
2. Noncompliance – The facility failed to calibrate the temperature monitor between the installation of the temperature monitor in November 2017 and September 10, 2019. The facility is required to calibrate the temperature monitor annually to confirm accuracy.
3. Noncompliance – On September 9, 2019 I received a notification from Ms. Stevia Smith of a temperature recording deviation. On September 5, 2019 between 2:11 pm and 2:34 pm the gas flow and gas combustion temperature data for the enclosed flare was lost due to malfunction of the onsite data recording equipment. The duration of the data loss was 23 continuous minutes.
4. Compliance – EUHBTUENCL operates continuously when the collected gas is routed to this flare. During the malfunction of the temperature monitoring equipment, the flare operated continuously.
5. Compliance – An undated start-up, shutdown, malfunction abatement (SSM) plan was submitted May 13, 2019. At this time, the plan does not need to be amended.

IV. Design/Equipment Parameter(s)

1. Compliance – The facility has installed a flowmeter to record the flowrate of the landfill gas burned. This device was last calibrated on April 16, 2019.
2. Compliance – The design capacity of EUHBTUENCL is 2,600 CFM as specified by the manufacturer and has not been modified.

V. Testing/Sampling

1. Noncompliance - The facility failed to record H2S concentration for the month of November 2018. The facility reported that this was a one-time error and has maintained a record of the H2S testing using a Draeger tube.
2. Compliance – The stack test was performed on May 17, 2018. This test verified that the NMOC outlet concentration was 1.69 ppmv which is less than the permitted limit of 20 ppmv.
3. Compliance – The stack test was performed on May 17, 2018. This test verified that the SO2 emission rate was 12.7 lbs / hr which is less than the permitted limit of 16.8 lbs / hr.

VI. Monitoring/Recordkeeping

1. Noncompliance—During a phone conversation with Ms. Smith, I was informed that the facility failed to calibrate the temperature monitor since it was installed in November 2017. This unit is required to be calibrated at least once per year. At the time of the phone conversation on September 9, 2019 about 22 months had passed without the temperature monitor being calibrated.
2. Compliance—The facility maintains instantly recorded data on the temperature and flow rate electronically. This system was reviewed during the onsite inspection as part of the process flowchart. The facility also maintains a binder

with contains all required recordkeeping. A startup, shutdown malfunction report is sent to the department semiannually. This report was last received on March 11, 2019.

3. Compliance - The facility maintains flare temperature electronically and was reviewed during the onsite inspection. The facility maintains written records of NMOC reduction and temperature onsite in a facility binder. This information was reviewed during the onsite inspection.
4. Compliance – A binder was maintained onsite which contained all exceedances. This binder was reviewed during the onsite inspection
5. Compliance – The facility maintains SO2 emission rate on both a monthly and 12 month rolling average. The highest monthly emissions of 4.39 tons occurred during December 2018. The highest 12 month rolling time period emissions of 42.45 tons occurred between September 2018 and August 2019. These records are attached to this report.

VII. Reporting

1. Compliance – The SSM plan report was received on March 11, 2019 and covered the time period between July 1, 2018 and December 31, 2018.
2. Compliance – A letter was sent to the department dated December 1, 2017. The enclosed flare initial start-up was November 19, 2017.

VIII. Stack / Vent Restriction(s) – Compliance. The stack diameter is 72 inches and the height is 40 feet based on information reported in MAERS.

IX. Other Requirements

1. Compliance – The facility is complying with all requirements of 40 CFR Part 60 Subpart A and WWW for municipal solid waste landfills.
2. Compliance – The facility is complying with all requirements of 40 CFR Part 63 subparts A and AAAA for municipal solid waste landfills.

EUHBTUOPEN – 1,440 CFM open flare used for the destruction of the N2 tail gas.

I. Emission Limits – Compliance. On May 17, 2018 the facility performed visible emission testing of the open flare. The average opacity for the duration of the test was 0%.

II. Material Limits

1. Compliance – The testing which occurred on May 17, 2018 verified the net heating value of the landfill gas was greater than 200 Btu/scf for non-assisted flares.

III. Process/Operational Restrictions

1. Compliance – The open flare operates in compliance with 40 CFR 60.18.
2. Compliance – The open flare operates continuous when the collected gas is routed to it.
3. Compliance – During the May 17, 2018 test, the opacity was records to be 0%. During the onsite inspection, no visible emissions were observed from the open flare.
4. Compliance – The pilot light for the open flare operates continuously.
5. Nondetermined – The open flare was not operating with steam-assisted or air assisted during the onsite inspection.
6. Nondetermined – The open flare was not operating with steam-assisted or air assisted during the onsite inspection.
7. Nondetermined – During the onsite inspection the flare was not operating with air-assistance.
8. Compliance – The flare complies with 40 CFR Part 60 Subpart A.
9. Compliance – The facility operates the flare such that if a problem occurs, the

gas can be sent back to Woodland Meadows, who would then flare the gas.
10. Compliance—An updated SSM plan was received on May 13, 2019.

IV. Design / Equipment Parameters
1. Compliance – The open flare was designed to be 1,440 CFM as specified by the equipment manufacturer.

V. Testing / Sampling
1. Compliance – The performance testing was performed on May 17, 2018. The net heating value was found to be 548 Btu/scf.
2. Compliance – The performance testing was performed on May 17, 2018. The visible emissions were found to be 0% opacity.

VI. Monitoring / Recordkeeping
1. Compliance – The facility has a sensor to ensure that the pilot light is operating continuously.
2. Compliance – A binder is maintained onsite the stores all required records. Data is also captured electronically onsite and was viewed during the onsite inspection
3. Compliance – During the onsite inspection, the records were reviewed in the facility binder
4. Compliance – During the onsite inspection, the records were reviewed in the facility binder. Electronically, the flow rate, temperature and other operational data was viewed on screen.
5. Compliance – The facility maintains a record of the average monthly and 12 month rolling time period heat input. A copy of this record is attached to this report. The highest monthly heat input of 25,465 MMBtu in December 2018. The highest 12 month rolling time period heat input of 264,612 MMBtu occurred between July 2018 and June 2019.
6. Compliance – All heat input calculations are maintained onsite.
7. Compliance – A record of the SO_2 emissions from the open flare are attached to this report. The facility states that nearly all sulfur compounds present in the landfill gas are removed by the CO_2 PSA system and sent to the enclosed flare. Negligible amounts of sulfur reach the N_2 tail gas open flare. The facility assumes 100% of sulfur compounds are emitting through the enclosed flare.

VII. Reporting
1. Compliance – The SSM report was submitted on May 11, 2019 for the time period between July 1, 2018 and December 31, 2018. This report was received on time.
2. Compliance – A letter was sent to the department dated December 1, 2017. The open flare initial start-up was November 30, 2017.

VIII. Stack / Vent Restrictions – Compliance. The stack in installed based on the proposed specifications and has not been modified.

IX. Other Requirements
1. Compliance – The SSM plan was followed properly.
2. Compliance – The facility appears to be operating in compliance with 40 CFR Part 63, Subpart AAAA was determined during the performance testing on May 17, 2018.
3. Compliance – The facility is complying with all requirements of 40 CFR Part 60 Subpart A and WWW for municipal solid waste landfills.
4. Compliance – The facility is complying with all requirements of 40 CFR Part 63 subparts A and AAAA for municipal solid waste landfills.

MAERS REPORT REVIEW

This report was received on time. The emissions seem to have increased as a result of the new system that was put into place during 2017. 2018 was the first full year of operation of the gas processing plant.

FINAL COMPLIANCE DETERMINATION

Amerseco Woodland Meadows Romulus, LLC does not appear to be operating in compliance with PTI 61-16 as documented above. The conditions of the ROP were not evaluated since the equipment is no longer operating, and no landfills gas can be processed by this equipment. A violation notice (VN) will be issued to this facility to address the noncompliance items.

NAME Jill Zimmerman DATE 9/27/19 SUPERVISOR JK