N5986
MANUAL

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

N598644961

FACILITY: CARLETON FARMS LANDFILL		**SRN / ID:** N5986
LOCATION: 28800 CLARK RD, NEW BOSTON		**DISTRICT:** Detroit
CITY: NEW BOSTON		**COUNTY:** WAYNE
CONTACT: J. Bobby Reese , Environmental Manager		**ACTIVITY DATE:** 06/21/2018
STAFF: Jonathan Lamb	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Targeted inspections of Carleton Farms Landfill and Sumpter Energy, FY 2018		
RESOLVED COMPLAINTS:		

Carleton Farms:
DATE OF INSPECTION: June 21, 2018
INSPECTED BY: Jonathan Lamb, AQD; Joe Goeddeke, AQD-Asbestos
PERSONNEL PRESENT: J. Bobby Reese, Environmental Manager - Republic Services; Dana Oleniacz, Consultant - Air Quality Specialists, Inc.; Brian Josupeit, Operations Manager - Republic Services
CONTACT PHONE NUMBER: 734-271-6147 (Mr. Reese); 248-887-7565 (Ms. Oleniacz)
FACILITY WEBSITE: www.RepublicServices.com

Sumpter Energy:
DATE OF INSPECTION: June 19, 2018
INSPECTED BY: Jonathan Lamb, AQD
PERSONNEL PRESENT: Jason Neumann, Mid West Regional Manager – Aria Energy; Emily Zambuto, Manager of Environmental Programs – Aria Energy; David Bailey, Lead Operator – Aria Energy
FACILITY PHONE NUMBER: 734-654-2820
CONTACT PHONE NUMBER: 586-749-3581 (Mr. Neumann); 585-278-4773 (Ms. Zambuto)
FACILITY WEBSITE: www.ariaenergy.com

FACILITY BACKGROUND:

Carleton Farms Landfill consists of two facilities, Republic Services of Michigan I, LLC – Carleton Farms Landfill (Carleton Farms) and Sumpter Energy Associates at the Carleton Farms Landfill (Sumpter Energy), whose operations comprise a single stationary major source subject to the Title V permitting program. The facility was issued Renewable Operating Permit (ROP) No. MI-ROP-M5986-2015 on July 22, 2015.

Republic Services, Inc. owns and operates the solid waste landfill and is permitted under Section 1 of the ROP; this facility will be referred to as "Carleton Farms" in this report. The landfill started accepting waste in 1993 and was originally owned by City Management. Waste Management took over operations in 1997 until it was forced to divest itself of the site in 1999, at which time it was purchased by Republic Waste Services (now known as Republic Services, Inc.)

The landfill is in a largely rural area along the southern edge of Wayne County, bordering Monroe County. The property consists of 467 acres, though currently only 242 acres are permitted to use for landfill. The landfill is permitted for a capacity of 72,940,868 megagrams (Mgs) of waste; at the time of inspection, the facility had 15,993,896 Mgs of waste in place through 2017. Since the facility has a design permit which was modified after May 31, 1991, and a design capacity over 2.5 million Mgs, the facility is subject to 40 CFR 60, Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills and 40 CFR 63, Subpart AAAA – National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills; the facility is not currently subject to 40 CFR 60, Subpart XXX since it has not received a modification in design capacity after July 17, 2014. Since the non-methane organic compounds (NMOC) emissions were estimated to be greater than 50 Mgs per year, the facility was required to install a landfill gas (LFG) collection system and control system, pursuant to Subpart WWW. The facility is also subject to 40 CFR 61, Subpart M – National Emission Standard for

Asbestos.

Sumpter Energy Associates owns and operates a landfill-to-gas energy facility at Carleton Farms Landfill; these operations are permitted under Section 2 of the ROP and will be referred to as "Sumpter Energy" in this report. Gas produced by the degradation of waste in the landfill is treated and then burned as fuel in gas engines to produce electricity. Sumpter Energy Associates is wholly owned by LES Project Holdings, LLC, which is a wholly-owned subsidiary of Aria Energy, LLC. Most of the engines operated by Sumpter Energy at Carleton Farms are subject to 40 CFR, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

PROCESS DESCRIPTION/INSPECTION NARRATIVE:

The landfill (EULANDFILL) currently accepts waste loads from 6 AM to 6 PM, Monday through Friday, and 6 AM to 1 PM on Saturday; the facility receives roughly 8,500 tons of waste per day. Waste is currently being disposed of in Cell 212 and Cell 213, located in the northwest section of the landfill. These cells are anticipated to be filled by early 2020; construction of the next cell to be filled, Cell 214, is expected to begin sometime in 2019. Cell 214 is west of Cell 212. Of the waste received, approximately 45% is municipal solid waste and approximately 10% demolition waste. The remainder of the waste received is industrial waste from various sources; the main source of industrial waste is slag and baghouse dust from U.S. Steel. The facility is permitted to accept asbestos waste, and asbestos-containing waste is accepted daily. Asbestos waste is disposed of throughout the landfill, not in any single segregated location. The disposal location and depth of all asbestos-containing waste is tracked using GPS and plotted on a map. The facility no longer accepts municipal wastewater sludge but does accept some industrial sludge. "Auto fluff" (material from shredded automobiles) and soil is used for daily cover for erosion and odor control.

There are two segregated disposal areas adjacent to the main landfill. To the southeast of the landfill is the ash monofill, which is currently used to dispose of non-hazardous fly ash from First Energy in Oxbow, Ohio. The facility stopped adding fly ash waste to the landfill because it created exothermic reactions, causing temperature exceedances in the wells. Just southwest of the landfill is a 14-acre area where the facility stores and composts yard waste.

Leachate collected from the landfill is stored in either the "east leachate tanks" (two 80,000-gallon tanks) or the "north leachate tank" (a 500,000-gallon tank); these tanks are exempt per R.284(i). Most of the leachate is trucked off-site for disposal; a small portion of leachate is used on site for dust suppression. At the time of inspection, the facility was having issues managing the flow of leachate due to the amount of rain during the spring; the facility was hiring haulers to remove 200,000 gallons of leachate per day and still could not keep up with the leachate being produced. During the inspection, I observed leachate in the two 80,000 tanks overflowing into the secondary containment area. The failure to properly manage leachate was cited by MDEQ-WMRP on June 14, 2018, during an inspection of the facility on June 8, 2018. In its response to the Violation Notice, the facility listed actions being taken to address the immediate leachate management issues as well as long-term leachate management solutions.

The landfill uses a gas collection and control system (GCCS), which consists of a system of vertical and horizontal wells installed throughout the landfill which collect landfill gas (LFG) produced during the decomposition of waste material. At the time of inspection, there were 285 active wells installed at the landfill. LFG collected by the wells is routed to a header system via a series of laterals from the wells. The header system sends the LFG to the Gas Treatment System for treatment prior to being used a fuel in the engines. The GCCS is permitted as EUACTIVECOLL.

The LFG Treatment System (EUTREATMENTSYS) consists of two identical systems, one for each phase of the engine plant, which conditions the LFG prior to combustion in the engines. The LFG Treatment System is included under Section 1 of the ROP and is owned by Republic Services, but the daily operation and maintenance is handled by Sumpter Energy. To begin treatment, the collected

LFG passes through the primary filters to remove larger particulates and water from the gas stream. The filtered LFG is then compressed and cooled to remove more water before it is passed through a polishing filter, which removes any remaining particles down to 10 microns in diameter. At this point, the LFG is suitable to be burned as fuel in the engines.

The LFG engines are housed in two adjacent buildings known as Phase 1 and Phase 2. Phase 1 contains eight engines and is permitted as FGICENGINES1-8, and Phase 2 contains 6 engines and is permitted as FGICENGINES9-14; both engine groups normally run concurrently, and each phase has a flow meter to monitor the flow of LFG combusted in each phase. All 14 engines are identical models: Caterpillar G3516, which is a 1138 horsepower/800 kilowatt spark-ignited, 4-stroke lean burn, reciprocating internal combustion engine. LFG is used as fuel by the engines to produce electricity for the grid. Engines which are subject to Subpart ZZZZ have additional requirements under FGRICEMACT, though the facility operates all engines in accordance with Subpart ZZZZ.

Engines are routinely replaced when they reach a certain number of operating hours; Sumpter Energy replaces engines after 80,000 operating hours. Engines may also be replaced due to catastrophic failure or major maintenance. Per "Air Quality Division Policy and Procedure AQD-023", effective June 10, 2016, engines may be replaced with a "like-kind" engine of identical operating specifications without going through permitting under Rule 285(a)(vi), as long as the replacement activity was conducted as part of a normal maintenance program; engines replaced due to catastrophic events or engine failures would not qualify for this exemption. A detailed list of all engines currently on site, including model/serial number, specifications, and date of manufacture and installation/replacement was provided during the inspection and can be found in the orange facility file. I verified the serial number and total hours of operation of each engine during my walk-through of the facility. [Note: EUICENGINE_4 and EUICENGINE_5 were down for maintenance and under a tarp during this time, so I was unable to verify the serial number or operating hours]:

PHASE 1				
Engine	Serial No.	Replacement Date	Manufacture Date	Total Operating Hours
EUICENGINE_1	4EK01552	02/28/2017	10/08/1997	62,900
EUICENGINE_2	4EK00960	03/07/2015	09/11/1992	26,232
EUICENGINE_3	CLT00337	06/08/2012	05/24/2002	63,431
EUICENGINE_4	4EK01543	10/14/2011	10/04/1997	Engine under maintenance
EUICENGINE_5	4EK01605	NA	10/31/1997	Engine under maintenance
EUICENGINE_6	3RC00389	08/24/2016	06/20/1997	10,863
EUICENGINE_7	3RC00661	07/22/2014	09/11/1992	29,174
EUICENGINE_8	4EK01591	09/05/2012	10/27/1997	7,259

PHASE 2				
Engine	Serial No.	Replacement Date	Manufacture Date	Total Operating Hours
EUICENGINE_9	4EK01537	07/06/2015	10/01/1997	20,951
EUICENGINE_10	4EK01299	05/08/2018	04/08/1997	3,324
EUICENGINE_11	3RC00437	09/06/2013	09/12/1991	37,059
EUICENGINE_12	4EK00283	04/26/2013	08/18/1994	39,580
EUICENGINE_13	4EK01546	03/29/2018	10/06/1997	1,351
EUICENGINE_14	CLT00341	03/12/2012	11/25/1991	2,566

Any landfill gas not burned in the engines is sent to either the open flare (EUOPENFLARE) or the enclosed flare (EUENCLOSEDFLARE) for combustion to control non-methane organic compounds (NMOCs); the open flare is also referred to as the "utility flare" in facility documents. The engine plant has a capacity to burn up to 5280 scfm when all 14 engines are running, but the landfill usually produces LFG at a lower rate, so the engines burn almost all the landfill gas produced; the average

LFG flow rate for May 2018 was 4210 scfm. The flares are mainly used when the engine plant is down or if there is a spike in LFG flow during construction. Based on operating records for 2017, the open flare was used for 172 hours while the enclosed flare was used for 72 hours.

The engine plant has two tanks, sized 4,400 gallons and 2,600 gallons, respectively, for the storage of engine lube oil; these tanks are exempt per R.284(2)(c).

APPLICABLE RULES/ PERMIT CONDITIONS:

Carleton Farms Landfill was issued ROP No. MI-ROP-N5986-2015 on July 22, 2015. The ROP has two sections. Section 1 was issued to Republic Services of Michigan I, LLC – Carleton Farms Landfill for the processes related to the landfill operations, including gas treatment and flares. Section 2 was issued to Sumpter Energy Associates at the Carleton Farms Landfill for the landfill gas engines.

Carleton Farms Landfill was issued PTI No. 241-10 on March 3, 2011, for an enclosed flare. This flare was never installed and the permit was voided on October 22, 2014.

Sumpter Energy Associates was issued PTI No. 293-04A on June 29, 2011, for two LFG-fired engines and electric generator sets. This equipment was never installed and the permit was voided on October 22, 2014.

For this inspection, records from June 2016 through May 2018 were reviewed in determining Carleton Farms' and Sumpter Energy's compliance with the conditions of ROP No. MI-ROP-N5986-2015 and any other applicable State and federal air regulations. Copies of these records can be found in the facility file.

ROP No. MI-ROP-N5986-2015, applicable conditions:

SECTION 1: Republic Services of Michigan I, LLC – Carleton Farms Landfill

C. Emission Unit Conditions

EULANDFILL – Municipal Solid Waste (MSW) Landfill

I. Emission Limits
1. IN COMPLIANCE. Facility performs quarterly surface monitoring of the landfill to determine methane emissions. A review of the quarterly monitoring reports shows some readings of methane levels above 500 ppm over background levels, but these exceedances have been resolved following corrective actions. Per 40 CFR 60.755, if appropriate corrective actions are taken after an exceedance, the exceedance is not considered a violation of operational requirements. The following is a list of the quarterly monitoring methane exceedances and results of follow-up monitoring and/or corrective actions taken during the compliance period:

2016, Q2: 2 exceedances. 1 exceedance was resolved within 1 month; 1 exceedance was resolved within 120 days after expansion of the wellfield.
2016, Q3: 11 exceedances, all resolved within 120 days after expansion of the wellfield.
2016, Q4: 4 exceedances. 1 resolved within 1 month of initial exceedance; 3 exceedances were resolved within 120 days of expansion of the wellfield.
2017, Q1: 30 exceedances, all resolved within 120 days of expansion of the wellfield.
2017, Q2: 2 exceedances. 1 exceedance was resolved within 1 month; 1 exceedance was resolved within 120 days after expansion of the wellfield.
2017, Q3: 1 exceedance, which was resolved within 120 days after expansion of the wellfield.
2017, Q4: 16 exceedances, all were resolved within 120 days of expansion of the wellfield.
2018, Q1: 4 exceedances. 1 resolved within 1 month of initial exceedance; 3 exceedances resolved within 120 days of expansion of the wellfield.
2018, Q2: 4 exceedances. 2 resolved within 1 month of initial exceedance; at the time of writing this

report, the facility was still within the 120-day limit to resolve the exceedances through expansion of the wellfield.

Since the appropriate re-monitoring and corrective actions were taken to resolve the exceedances in accordance with the requirements of 40 CFR 60.755, this condition is determined to be in compliance.

III. Process/Operational Restrictions
1. IN COMPLIANCE. Facility complies with the requirements in 40 CFR 63.1955(b) and 40 CFR 63.1960 through 63.1980. Compliance is demonstrated through testing and monitoring of the LFG collection system, continuous monitoring of the control device, recordkeeping, and reporting.

IV. Design/Equipment Parameters
1. IN COMPLIANCE. LFG collection and control system is installed and maintained.
2. IN COMPLIANCE. Collected LFG is routed to a control system. Most of the gas is sent to Sumpter Energy and burned in the engines. Any excess gas not combusted in the engines is burned in the flares.

V. Testing/Sampling
1. IN COMPLIANCE. Surface emission monitoring is conducted quarterly to determine if methane concentrations exceed 500 ppm above background.
2. IN COMPLIANCE. Surface emission monitoring for methane is conducted in accordance with the procedures outlined in 40 CFR 60.753(d). Readings over 500 ppm above background are marked as exceedances and corrective actions are taken. The facility is then required to re-monitor the area and take additional corrective actions, if necessary, until the methane levels measure below 500 ppm. If the facility follows the corrective action and monitoring procedures within the time periods listed in this condition, then the exceedance is not a violation of the operational requirements of 40 CFR 60.753(d). During this compliance period, the facility appears to be in substantial compliance with these requirements.
3. IN COMPLIANCE. Surface emission monitoring for methane is done with the instrumentation specifications and procedures required by 40 CFR 60.755(c).
4. IN COMPLIANCE. All required records of quarterly surface monitoring area are maintained, as required. These records include: the route traversed during monitoring; areas not monitored and the reason why they were not monitored; visual observations indicating elevated levels of LFG; location and concentration of any reading above 500 ppm above background; and meteorological conditions at time monitoring was performed.
5. NOT APPLICABLE. This condition applies to closed landfills. Carleton Farms is an active landfill with no closed cells.

VI. Monitoring/Recordkeeping
1. IN COMPLIANCE. Facility implements a program to monitor cover integrity on a monthly basis and make repairs as needed. Records are maintained and were provided to AQD during this inspection. The most frequent issue noted in the monthly records was erosion in various areas throughout the landfill, which I also visually observed during the inspection.
2. IN COMPLIANCE. Facility maintains up-to-date records of design capacity, amount of solid waste in-place, and yearly waste acceptance rate. These records were provided during the inspection. The design capacity is 72,940,868 Mgs; through 2017, the facility had 15,993,896 Mgs (17,593,286 short tons) of waste in place. The facility accepted 1,014,915 Mgs of waste in 2016 and 1,103,722 Mgs of waste in 2017.
3. NOT APPLICABLE. This condition applies to landfills trying to demonstrate a capacity less than 2.5 million megagrams or 2.5 million cubic meters. Carleton Farms Landfill's design capacity is greater than 2.5 million megagrams/2.5 million cubic meters.
4. IN COMPLIANCE. NMOC emission rate is calculated and recorded on an annual basis. Facility reported NMOC emissions of 27.33 tons in 2017 and 25.84 tons in 2016 in its MAERS submittals.
5. NOT APPLICABLE. No other liquids than leachate was added to the waste during the compliance period.

VII. Reporting
1. IN COMPLIANCE. Deviations are reported pursuant to GC 21 and 22 of Part A.
2. IN COMPLIANCE. Semi-annual reports of monitoring and deviations are submitted by March 15 (for reporting period July 1 through December 31) and September 15 (for reporting period January 1 through June 30) each year, as required per GC 23 of Part A.
3. IN COMPLIANCE. Annual compliance certification is submitted by March 15 for the previous calendar year, as required per GC 19 and 20 of Part A.
4. NOT APPLICABLE. Facility has not removed or ceased operation of any control equipment.
5. NOT APPLICABLE. This condition applies to landfills which are closing. Carleton Farms Landfill is an active landfill.
6. IN COMPLIANCE. Semi-annual methane exceedance reports are submitted by March 15 and September 15 of each year.
7. IN COMPLIANCE. Semi-annual SSM Reports are submitted by March 15 and September 15 of each year.

IX. Other Requirements
1. NOT APPLICABLE. No capping or removal of the collection and control system was performed during the compliance period.
2. IN COMPLIANCE. If surface monitoring shows methane exceedances, corrective actions are taken. If corrective actions are taken, the monitored exceedance is not a violation of the operational requirements, per 40 CFR 60.755.
3. IN COMPLIANCE. Alternatives to the operational standards requested by the facility were evaluated and either approved or denied by AQD in accordance with 40 CFR 60.752(b)(2). These requests and AQD's responses can be found in the orange facility file.
4. IN COMPLIANCE. Facility conducted operations, monitoring, testing, reporting, and recordkeeping in accordance with the requirements of 40 CFR Part 60, Subpart WWW.
5. IN COMPLIANCE. Facility conducted operations, monitoring, testing, reporting, and recordkeeping in accordance with the requirements of 40 CFR Part 63, Subpart AAAA.
6. NOT APPLICABLE. Facility is required to apply controls as specified in 40 CFR 60.752(b)(2)(v) of Subpart WWW; therefore, the facility remains subject to 40 CFR Part 63, Subpart AAAA.

EUACTIVECOLL – Active landfill gas collection system at the landfill that uses gas mover equipment to draw landfill gas from the wells and moves the gas to the control equipment.

III. Process/Operational Restrictions
1. IN COMPLIANCE. If the collection or control system is inoperable, the gas mover system is automatically shut off and all valves contributing to venting of gas to atmosphere are closed within one hour. Records are maintained in the event this occurs.
2. IN COMPLIANCE. Gas collection and control system operates in all active cells with waste in place for 5 or more years and closed cells with waste in place for 2 or more years. Details are maintained in the GCCS Design Plan.
3. IN COMPLIANCE. Wellheads are monitored monthly to verify that the gas control and collection system is operating under negative pressure. If wells demonstrate positive pressure, the wells are reported to AQD and corrective actions are taken to return the well to compliance. If the facility is unable to return the well to compliance within the required timeframes in 40 CFR 60.755, the facility may make a request to AQD for an extended timeline to get the well into compliance or expand the wellfield.
4. IN COMPLIANCE. Interior wellheads are monitored monthly to verify they are operating at a LFG temperature less than 55°C and an oxygen level less than 5%. If a well exceeds either of these parameters, the facility records and reports the date, duration, and suspected cause of the exceedance. If the facility is unable to return the well to compliance within the required timeframes in 40 CFR 60.755, the facility may make a request to AQD for an extended timeline to get the well into compliance or request that the well be allowed to operate at a higher temperature or oxygen level, if the facility is able to demonstrate that the elevated parameter does not cause fires or inhibit anaerobic decomposition. The facility has had ongoing issues with wells exceeding 55°C and has submitted

requests, with supporting documentation, to operate these wells at a higher temperature. As a result, the facility has numerous wells currently operating with higher operating values (HOVs), many of which have been approved by AQD on a well-to-well basis. Since December 2015, all approved HOV requests for this facility have been given expiration dates (usually 6 months after approval); if the well remains out of compliance by the expiration date of the HOV approval, the facility is required to submit a new request for an HOV with supporting documentation.
5. IN COMPLIANCE. Gas collection and control system is operated in accordance with the provisions of 40 CFR 60.753, 40 CFR 60.755, 40 CFR 60.756, and the AQD approved gas collection and control system approved on May 30, 2006.

IV. Design/Equipment Parameters
1. IN COMPLIANCE. The gas collection and control system appears to be designed to sufficiently handle the gas produced by the landfill and minimize off-site migration of subsurface gas.
2. IN COMPLIANCE. LFG is routed to a control system. Most of the gas is sent to the engines operated by Sumpter Energy (SECTION 2; FGICENGINES1-8 and FGICENGINES9-14) with two flares as secondary control (EUENCLOSEDFLARE and EUOPENFLARE).
3. IN COMPLIANCE. The gas collection and control system is routinely modified with the installation, re-drilling, and decommissioning of wells, horizontal collectors, and other collection devices, to assure sufficient gas collection as the production of landfill gas evolves over time. Prior to making any modifications, Carleton Farms requests approval from AQD, stating what the modification will be and the reason for the modification. Copies of these requests and AQD's responses can be found in the orange facility file.
4. IN COMPLIANCE. Wellheads are equipped with a sampling port and temperature measuring device to monitor operating parameters.
5. IN COMPLIANCE. GCCS Design Plan is approved by an engineer in DEQ's Solid Waste Program and an as-built site showing the location of the wells/collectors is maintained. Quarterly surface monitoring is performed to assure LFG is being collected by the gas collection system and not escaping through the surface.
6. IN COMPLIANCE. Gas collection devices are constructed of approved materials. Vertical wells are installed as to not damage underlying liners. Construction documentation records are maintained on site.
7. IN COMPLIANCE. Gas collection system appears sufficiently designed to handle the maximum LFG flow rate to the control system. Flow rate of LFG is recorded.

VI. Monitoring/Recordkeeping
1. IN COMPLIANCE. Wells are monitored monthly to verify they are operating under negative pressure. If positive pressure exists, the facility is required to take corrective actions within 5 days. If negative pressure cannot be obtained within 15 days of the initial measurement, the facility must either expand the gas collection system or obtain approval for an alternate corrective measure from AQD. If appropriate corrective actions are taken, the monitored exceedance is not considered a violation per 40 CFR 60.755. All positive pressure measurements or missed readings are reported to AQD. During the compliance period, the facility has requested alternative compliance timelines which have been approved by AQD. These requests and approvals can be found in the facility file. Facility has not reported any missed pressure readings in any month during this compliance period.
2. NOT APPLICABLE. This condition no longer applies to this facility since the gas collection system was started up more than 180 days ago.
3. IN COMPLIANCE. Wells are monitored monthly to verify temperature and oxygen concentration. If a well exceeds either parameter, the facility must take corrective action within 5 days. If correction of the exceedance cannot be achieved within 15 days after the first measurement, the facility must either expand the gas collection system within 120 days or obtain approval for an alternate corrective measure from AQD. If appropriate corrective actions are taken, the monitored exceedance is not considered a violation per 40 CFR 60.755. All exceedances and missed readings are reported to AQD. During the compliance period, the facility has regularly requested alternative compliance timelines and/or higher operating values for wells; these requests and AQD's approval/denials can be found in the facility file. AQD. In its 2017 semi-annual certification report for the time period July 1

through December 31, 2017, the facility reported five wells which were unable to be monitored for temperature in September 2017 due to the well heads being raised above ground in anticipation of active filling around the well heads (these wells were able to be monitored for oxygen and pressure). The wells were monitored as required the following month and demonstrated compliance. AQD has determined that the facility is in substantial compliance with this condition.
4. IN COMPLIANCE. Facility maintains records of the control system, including gas generation flow rate and density of wells, horizontal collectors, surface collectors, and other extraction devices.
5. IN COMPLIANCE. Facility maintains records of the gas collection system, including a plot map showing each existing and planned collector in the system, and the installation date and location of each newly installed collector. A copy of the most recently updated map was provided during the inspection and can be found in the orange facility file.
6. IN COMPLIANCE. Facility maintains records of all gas collection and control system exceedances.
7. IN COMPLIANCE. Facility maintains the initial and updated GCCS Plan, including the following information: a) map of the collection system showing all wells and collectors; b) density of wells, collectors, and other gas extraction devices; c) documentation of any asbestos or nondegradable waste; d) sum of gas generation flow rates from excluded areas; e) provisions for increasing gas mover equipment capacity, if necessary; f) provisions for the control of off-site migration; and g) dates of well installations, age of the waste in which the wells were installed, and date of initial waste placement in each portion of the landfill.

VII. Reporting
1. IN COMPLIANCE. Deviations are reported pursuant to GC 21 and 22 of Part A.
2. IN COMPLIANCE. Semiannual reports of monitoring and deviations are submitted by March 15 (for reporting period July 1 through December 31) and September 15 (for reporting period January 1 through June 30) each year, as required per GC 23 of Part A.
3. IN COMPLIANCE. Annual compliance certification is submitted by March 15 for the previous calendar year, as required per GC 19 and 20 of Part A.
4. IN COMPLIANCE. Semi-annual GCCS reports are submitted by March 15 and September 15 of each year.
5. IN COMPLIANCE. Semi-annual SSM Reports are submitted by March 15 and September 15 of each year.

IX. Other Requirements
1. IN COMPLIANCE. If monitoring shows exceedances, corrective actions are taken. If corrective actions are taken as specified in 40 CFR 60.755, the monitored exceedance is not a violation of the operational requirements in 40 CFR 60.753.
2. IN COMPLIANCE. The provisions of 40 CFR Part 60, Subpart WWW apply at all times, except during periods of start-up, shutdown, or malfunction, provided the duration of the start-up, shutdown, or malfunction does not exceed 5 days. The facility reported no start-up, shutdown, or malfunctions exceeding 5 days during the compliance evaluation period for EUACTIVECOLL.
3. NOT APPLICABLE. The control system, as installed, meets the requirements of S.C. IV.5, IV.6, and IV.7, so the facility has not requested an alternate control system design.
4. IN COMPLIANCE. Facility maintains and implements an SSM Plan for EUACTIVECOLL.

EUTREATMENTSYS – This unit treats LFG before it is used for subsequent use or sale.

III. Process/Operational Restrictions
1. IN COMPLIANCE. Facility operates the treatment system at all times when the collected gas is routed to EUTREATMENTSYS.
2. IN COMPLIANCE. Emissions from the treatment system are routed to the control system, as required by 40 CFR 60.752(b)(2)(iii)(A) or (B).
3. IN COMPLIANCE. Emissions from the treatment system is sent to either the turbines or flares for control, in accordance with the provisions of 40 CFR 60.753(e) and (f), and 40 CFR 60.756(d).

IV. Design/Equipment Parameters
1. IN COMPLIANCE. Treatment system is designed as approved by AQD.

VI. Monitoring/Recordkeeping
1. IN COMPLIANCE. Facility maintains records of all control system exceedances of the operational standards in 40 CFR 60.753(e) and (f).
2. IN COMPLIANCE. Facility maintains records of all preventative maintenance performed in accordance with the Preventative Maintenance Plan pursuant to S.C. IX.3.
3. IN COMPLIANCE. Facility provided sufficient information to AQD describing the operation of the control device, the operating parameters that would indicate proper performance, and appropriate monitoring procedures.

VII. Reporting
1. IN COMPLIANCE. Deviations are reported pursuant to GC 21 and 22 of Part A.
2. IN COMPLIANCE. Semi-annual reports of monitoring and deviations are submitted by March 15 (for reporting period July 1 through December 31) and September 15 (for reporting period January 1 through June 30) each year, as required per GC 23 of Part A.
3. IN COMPLIANCE. Annual compliance certification is submitted by March 15 for the previous calendar year, as required per GC 19 and 20 of Part A.
4. IN COMPLIANCE. Semi-annual reports for the LFG treatment system, with the information listed in a. through d. of this condition, are submitted by March 15 and September 15 of each year.
5. IN COMPLIANCE. Semi-annual SSM Reports are submitted by March 15 and September 15 of each year.

IX. Other Requirements
1. IN COMPLIANCE. The provisions of 40 CFR Part 60.755 apply at all times, except during periods of start-up, shutdown, or malfunction, provided the duration of the start-up, shutdown, or malfunction does not exceed 1 hour. The facility reported no start-up, shutdown, or malfunctions exceeding 1 hour for this process during the compliance evaluation period.
2. IN COMPLIANCE. Facility maintains and implements a written SSM Plan.
3. IN COMPLIANCE. Facility maintains and implements a written Preventative Maintenance Plan (PMP) for EUTREATMENTSYS.

EUENCLOSEDFLARE – Enclosed flare is an enclosed chamber which maintains a relatively constant limited peak temperature generally using a limited supply of combustion air. The design flow rate is 1,700 scfm.

I. Emission Limits
1. IN COMPLIANCE. NMOC emissions are reduced by 98 weight-percent or to less than 20 ppmv, dry basis as hexane at 3% oxygen. Facility demonstrates compliance with this condition by demonstrating compliance with EUENCLOSEDFLARE, VI.1.

III. Process/Operational Restrictions
1. IN COMPLIANCE. EUENCLOSEDFLARE is operated at all times when collected LFG is routed to it.
2. IN COMPLIANCE. All collected landfill gas is vented to a control system designed and operated in accordance with 40 CFR 60.752(b)(2)(iii). If the gas collection or control system is inoperable, the gas mover system is shut down and all valves in the collection and control system contributing to venting of the gas to atmosphere is shut down within one hour. Records are maintained in the event this occurs. During the compliance period, the facility reported several occurrences when all controls were off for more than one hour; these occurrences were reported in the semi-annual certification reports, as required per 40 CFR 60.757(f)(3). During these events, the gas mover system was shut down until the control system was back in operation. The facility does not have a bypass of the control system, so no landfill gas from the collection system was discharged to atmosphere. The facility did not report any occurrences when the gas collection or control system was inoperable for more than five days; this reporting is required per 40 CFR 60.757(f)(4). As such, this condition is determined to be in substantial compliance.
3. IN COMPLIANCE. Facility routes all gas not treated to EUENCLOSEDFLARE or EUOPENFLARE.

Facility operates EUENCLOSEDFLARE within the parameter ranges established during the initial performance testing performed on May 22, 2001, which demonstrated that NMOC emissions from the flare were 0.08 ppm, below the limit of 20 ppm. Compliance with EUENCLOSEDFLARE VI.1 also demonstrates compliance with the control efficiency of EUENCLOSEDFLARE.

V. Testing/Sampling
1. NOT APPLICABLE. There is no recurring testing requirement for EUENCLOSEDFLARE. For historical documentation, it is noted that initial performance testing was performed on EUENCLOSEDFLARE on May 22, 2001. Results showed an NMOC emission rate of 0.08 ppm, dry basis as hexane at 3% oxygen.

VI. Monitoring/Recordkeeping
1. IN COMPLIANCE. The enclosed flare is equipped with a device to monitor and record temperature on a continuous basis and flow to/bypass of the control device. During the compliance period, the facility has reported periods where the monitoring was not recorded on a continuous basis due to malfunction or power failure. In reviewing the reported causes, duration, frequency, and corrective actions taken for each of these occurrences, AQD has determined the facility to be in substantial compliance with this condition.
2. IN COMPLIANCE. The facility has maintained records of the operating parameters for the enclosed flare during the compliance period, except as noted in EUENCLOSEDFLARE, S.C. VI.1. The condition is determined to be in substantial compliance.
3. IN COMPLIANCE. The facility has maintained flow records for the enclosed flare during the compliance period, except as noted in EUENCLOSEDFLARE, S.C. VI.1. The condition is determined to be in substantial compliance.
4. IN COMPLIANCE. The facility has maintained temperature records for the enclosed flare during the compliance period, except as noted in EUENCLOSEDFLARE, S.C. VI.1. The condition is determined to be in substantial compliance.
5. IN COMPLIANCE. Facility maintains records of all control system exceedances of the operational standards of 40 CFR 60.753.

VII. Reporting
1. IN COMPLIANCE. Deviations are reported pursuant to GC 21 and 22 of Part A.
2. IN COMPLIANCE. Semiannual reports of monitoring and deviations are submitted by March 15 (for reporting period July 1 through December 31) and September 15 (for reporting period January 1 through June 30) each year, as required per GC 23 of Part A.
3. IN COMPLIANCE. Annual compliance certification is submitted by March 15 for the previous calendar year, as required per GC 19 and 20 of Part A.
4. IN COMPLIANCE. Semi-annual reports for the GCCS system are submitted by March 15 and September 15 of each year.
5. NOT APPLICABLE. EUENCLOSEDFLARE has not been removed from the facility.
6. IN COMPLIANCE. Semi-annual SSM Reports are submitted by March 15 and September 15 of each year.

XI. Other Requirements
1. IN COMPLIANCE. The provisions of 40 CFR Part 60.755 apply at all times, except during periods of start-up, shutdown, or malfunction, provided the duration of the start-up, shutdown, or malfunction does not exceed 1 hour. The facility reported several malfunctions exceeding 1 hour for this process during the compliance evaluation period; however, AQD has determined the facility to be in substantial compliance with this condition.
2. IN COMPLIANCE. Facility demonstrates compliance with 40 CFR Part 63 Subpart AAAA and 40 CFR Part 60 Subpart WWW through testing, monitoring of the collection system, continuous parameter monitoring, and other credible evidence. Facility maintains and implements a written SSM Plan for EUENCLOSEDFLARE.

EUOPENFLARE – Open flare is a flare without enclosure or shroud. The open flare is non-assisted with a maximum design flow rate of 2,000 scfm.

I. Emission Limits
1. IN COMPLIANCE. The highest 12-month rolling total CO emissions during the compliance period was 7.39 tons in the 12-month period ending June 2016, in compliance with the permit limit of 89.9 tons CO per 12-month rolling time period. 12-month rolling total CO emissions through May 2018 was 0.62 tons. The volume of LFG burned in EUOPENFLARE has substantially decreased over the past two years, leading to lower CO emissions. There was a spike in monthly combustion in March 2017, which was likely due to a two-day outage of the Phase 1 and Phase 2 engines from March 8 through March 10, 2017.

II. Material Limit
2. IN COMPLIANCE. The highest 12-month rolling total heat input during the compliance period was 39,924 MMBtu in the 12-month period ending June 2016, in compliance with the permit limit of 480,924 MMBtu per 12-month rolling time period. The 12-month rolling total heat input through May 2018 was 3,373 MMBtu. The volume of LFG burned in EUOPENFLARE has substantially decreased over the past two years, decreasing the heat input during that time.

III. Process/Operational Restrictions
1. IN COMPLIANCE. EUOPENFLARE is operated in accordance with 40 CFR 60.18. Records are maintained to demonstrate compliance.
2. IN COMPLIANCE. EUOPENFLARE is operated at all times when collected LFG is routed to it. Operation records are maintained to demonstrate compliance.
3. IN COMPLIANCE.EUOPENFLARE is operated with no visible emissions, as determined by the methods specified in 40 CFR 60.18(f).
4. IN COMPLIANCE. EUOPENFLARE is operated with the flame present at all times as determined by the methods specified in 40 CFR 60.18(f).
5. IN COMPLIANCE. Gas combusted in EUOPENFLARE has a heating value greater than 200 Btu/scf. Records show that the lowest heating value of the gas burned in EUOPENFLARE during the compliance period was 431 btu/scf in June 2017.
6. IN COMPLIANCE. Results from the initial performance testing performed on May 7, 2009, showed an exit velocity of 43.91 ft/sec, meeting the performance requirement of 40 CFR 60.18, which limits the exit velocity to less than 60 ft/sec.
7. IN COMPLIANCE. EUOPENFLARE is operated at all times when LFG is routed to it to comply with the provisions of 40 CFR 60 Subpart A.
8. IN COMPLIANCE. All collected landfill gas is vented to a control system designed and operated in accordance with 40 CFR 60.752(b)(2)(iii). If the gas collection or control system is inoperable, the gas mover system is shut down and all valves in the collection and control system contributing to venting of the gas to atmosphere is shut down within one hour. Records are maintained in the event this occurs.

V. Testing/Sampling
1. NOT APPLICABLE. There is no recurring testing requirement for EUOPENFLARE. For historical documentation, it is noted that initial performance testing was performed on EUOPENFLARE on May 7, 2009. Results showed 0% visible emissions, an average net heating value of 15.73 megajoules per standard cubic meter, and an average stack exit velocity of 43.91 ft/sec., demonstrating compliance with the performance criteria set in 40 CFR 60.18.

VI. Monitoring/Recordkeeping
1. NOT IN COMPLIANCE. The open flare is equipped with a device to monitor and record the flow to the flare. During the compliance period, the facility reported several instances when the flare date was not recorded for brief period of time due to maintenance, power failure, or similar issues. Most of these occurrences were for relatively short duration (8 hours or less); however, the facility reported that the flow rate was not recorded for a total of 146 hours, 38 minutes from October 26 through November 1, 2017, and for a total of 239 hours, 58 minutes from March 23 through April 2, 2018, due to a loss of power. AQD has determined this failure to monitor the operational parameters of the flare to be excessive and in violation of this condition.

2 and 3. IN COMPLIANCE. Facility maintains up-to-date records of the flare type, visible emission readings, heat content determination, flow rate/bypass flow rate measurements, and exit velocity determinations made during the initial performance test performed on May 7, 2009.
4. NOT IN COMPLIANCE. The facility reported that the flow rate was not recorded for a total of 146 hours, 38 minutes from October 26 through November 1, 2017, and for a total of 239 hours, 58 minutes from March 23 through April 2, 2018, due to a loss of power. Therefore, the flow records were not recorded on a continuous basis and maintained for five years, as required.
5. IN COMPLIANCE. Facility maintains records indicating presence of the flare pilot flame, net heating value of LFG, exit velocity, and maximum permitted velocity.
6. IN COMPLIANCE. Facility monitors and records the Btu content of LFG burned in EUOPENFLARE on a monthly basis.
7. IN COMPLIANCE. Facility calculates and maintains records of CO emissions for EUOPENFLARE on a monthly and 12-month rolling time period basis.
8. IN COMPLIANCE. Facility calculates and maintains records of heat input for EUOPENFLARE on a monthly and 12-month rolling time period basis.

VII. Reporting
1. IN COMPLIANCE. Deviations are reported pursuant to GC 21 and 22 of Part A.
2. IN COMPLIANCE. Semiannual reports of monitoring and deviations are submitted by March 15 (for reporting period July 1 through December 31) and September 15 (for reporting period January 1 through June 30) each year, as required per GC 23 of Part A.
3. IN COMPLIANCE. Annual compliance certification is submitted by March 15 for the previous calendar year, as required per GC 19 and 20 of Part A.
4. IN COMPLIANCE. Semi-annual reports for the GCCS system are submitted by March 15 and September 15 of each year.
5. NOT APPLICABLE. EUOPENFLARE has not been removed from the facility.
6. IN COMPLIANCE. Semi-annual Start-up, Shutdown, and Malfunction (SSM) Reports are submitted by March 15 and September 15 of each year.

XI. Other Requirements
1. NOT IN COMPLIANCE. The provisions of 40 CFR Part 60.755 apply at all times, except during periods of start-up, shutdown, or malfunction, provided the duration of the start-up, shutdown, or malfunction does not exceed 1 hour. The facility reported several malfunctions exceeding 1 hour for this process during the compliance evaluation period. The facility reported that the flow rate was not recorded for a total of 146 hours, 38 minutes from October 26 through November 1, 2017, and for a total of 239 hours, 58 minutes from March 23 through April 2, 2018, due to a loss of power. AQD has determined this failure to monitor the operational parameters of the flare to be excessive and in violation of this condition.
2. NOT IN COMPLIANCE. Facility demonstrates compliance with 40 CFR Part 60 Subpart A and Subpart WWW – Standard of Performance for Municipal Solid Waste Landfills" as they apply to EUOPENFLARE. Records are maintained to demonstrate compliance. The facility reported several malfunctions exceeding 1 hour for this process during the compliance evaluation period. The facility reported that the flow rate was not recorded for a total of 146 hours, 38 minutes from October 26 through November 1, 2017, and for a total of 239 hours, 58 minutes from March 23 through April 2, 2018, due to a loss of power. AQD has determined this failure to monitor the operational parameters of the flare to be excessive and in violation of this condition.
3. NOT IN COMPLIANCE. Facility maintains compliance with 40 CFR Part 63 Subpart A and Subpart AAAA - National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills as they apply to EUOPENFLARE. Records are maintained to demonstrate compliance. . The facility reported several malfunctions exceeding 1 hour for this process during the compliance evaluation period. The facility reported that the flow rate was not recorded for a total of 146 hours, 38 minutes from October 26 through November 1, 2017, and for a total of 239 hours, 58 minutes from March 23 through April 2, 2018, due to a loss of power. AQD has determined this failure to monitor the operational parameters of the flare to be excessive and in violation of this condition.
4. NOT IN COMPLIANCE. Facility demonstrates compliance with 40 CFR Part 63 Subpart A and

AAAA - National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills through performance testing, monitoring of the collection system, continuous parameter monitoring and other credible evidence. Records are maintained to demonstrate compliance. Facility has developed and implements an SSM Plan for EUOPENFLARE. The facility reported several malfunctions exceeding 1 hour for this process during the compliance evaluation period. The facility reported that the flow rate was not recorded for a total of 146 hours, 38 minutes from October 26 through November 1, 2017, and for a total of 239 hours, 58 minutes from March 23 through April 2, 2018, due to a loss of power. AQD has determined this failure to monitor the operational parameters of the flare to be excessive and in violation of this condition.

EUASBESTOS – The landfill is actively accepting or has accepted asbestos waste in the past.

III. Process/Operational Restrictions
1. IN COMPLIANCE. Landfill disposes of asbestos-containing waste in a manner consistent with the requirements of 40 CFR 61.154 by covering the waste with a non-asbestos material on a daily basis.

IV. Design/Equipment Parameters
1. NOT APPLICABLE. The facility does not have segregated asbestos disposal areas.

VI. Monitoring/Recordkeeping
1. IN COMPLIANCE. Facility maintains the required records for all asbestos-containing material received, including the name, address, and phone number of the generator and transporter, and the date and quantity of asbestos-containing waste received. Any improperly transported asbestos-containing waste is reported to the proper regulatory agency.
2. IN COMPLIANCE. Facility maintains records of the location, depth and area, and quantity in cubic meters of asbestos-containing waste material within the disposal site on a plot map with GPS coordinates.
3. NOT APPLICABLE. Facility does not exclude gas collection wells in areas containing asbestos-containing waste.

VII. Reporting
1. IN COMPLIANCE. Deviations are reported pursuant to GC 21 and 22 of Part A.
2. IN COMPLIANCE. Semiannual reports of monitoring and deviations are submitted by March 15 (for reporting period July 1 through December 31) and September 15 (for reporting period January 1 through June 30) each year, as required per GC 23 of Part A.
3. IN COMPLIANCE. Annual compliance certification is submitted by March 15 for the previous calendar year, as required per GC 19 and 20 of Part A.
4. NOT APPLICABLE. Facility is still an active landfill, so this condition does not currently apply.
5. IN COMPLIANCE. All records required by 40 CFR Part 61 are made available upon request by AQD.
6. IN COMPLIANCE. Since the landfill performs frequent excavation and drilling in areas where asbestos-containing waste has been disposed, the facility submits notification on an annual basis to the AQD-Technical Programs Unit in accordance with the requirements of 40 CFR 60.154(j). During the inspection, AQD asbestos inspector Joe Goeddeke reviewed manifests and disposal and tracking protocols used at the facility and determined the facility to be in substantial compliance with this condition. An inspection performed by AQD asbestos inspector Craig Dechy on December 19, 2017, also determined the facility to be in substantial compliance with this condition. Note: While the facility has submitted annual notifications, they have not submitted 10-day notifications prior to excavating or drilling in areas containing asbestos. The facility was made aware of the requirement to notify AQD within 10 days of excavating or drilling in areas that are known to contain asbestos waste, excluding areas of active filling where daily cover is required.

D. Flexible Group Conditions

FGCOLDCLEANERS – Any cold cleaner that is grandfathered or exempt from Rule 201.

II. Material Limits
1. IN COMPLIANCE. Facility uses Safety Kleen as the cleaning solution in FGCOLDCLEANERS, which contains no VOCs and none of the halogenated compounds listed in this condition.

III. Process/Operational Restrictions
1. IN COMPLIANCE. Cleaned parts are dried for no less than 15 seconds.
2. IN COMPLIANCE. Routine maintenance is performed per manufacturer's recommendations.

IV. Design/Equipment Parameters
1. IN COMPLIANCE. Emissions from the cold cleaner is released to the general in-plant environment.
2. IN COMPLIANCE. Cold cleaner is equipped with a device for draining cleaned parts.
3. IN COMPLIANCE. Lid of cold cleaner is closed when not in use.
4 and 5. NOT APPLICABLE. Vapor pressure of Safety Kleen is less than 0.3 psia.

VI. Monitoring/Recordkeeping
1. NOT APPLICABLE. Safety Kleen is not heated.
2. IN COMPLIANCE. Facility maintains the required information for the cold cleaner.
3. IN COMPLIANCE. Facility maintains written operating procedures, which are posted near the cold cleaner.
4. IN COMPLIANCE. Waste solvent is stored in closed containers.

VII. Reporting
1. IN COMPLIANCE. Deviations are reported pursuant to GC 21 and 22 of Part A.
2. IN COMPLIANCE. Semiannual reports of monitoring and deviations are submitted by March 15 (for reporting period July 1 through December 31) and September 15 (for reporting period January 1 through June 30) each year, as required per GC 23 of Part A.
3. IN COMPLIANCE. Annual compliance certification is submitted by March 15 for the previous calendar year, as required per GC 19 and 20 of Part A.

Appendix 7-1:

IN COMPLIANCE. Facility determines NMOC emissions from nonproduction areas and the net heating value of gas combusted in flares in accordance with the procedures listed in Appendix 7-1.

Appendix 9-1:

IN COMPLIANCE. Facility implements the Preventative Maintenance Plan (PMP) required in EUTREATMENTSYS, IX.3, as approved by AQD.

SECTION 2: Sumpter Energy Associates at the Carleton Farms Landfill

FGICENGINES1-8: Eight spark ignition, 4 stroke lean burn, reciprocating internal combustion engines (Caterpillar G3516, 1138 hp/800 kW) for combusting treated landfill gas to produce electricity. Associated Emission Unit IDs: EUICENGINE_1 through EUICENGINE_8.

I. Emission Limits
1. IN COMPLIANCE. Testing performed on July 27, 2010, on EUICENGINE_3 showed a NOx emission rate of 1.59 pph, demonstrating compliance with the permit limit of 5.02 pph allowed for each engine in FGICENGINES1-8. Based on the approved testing protocol in accordance with FGICENGINES1-8, S.C. V.1, EUICENGINE_3 was determined to be the "worst case" engine and results were applied to all engines in FGICENGINES1-8.
2. IN COMPLIANCE. Testing performed on July 27, 2010, on EUICENGINE_3 showed a CO emission rate of 6.64 pph, demonstrating compliance with the permit limit of 7.28 pph allowed for each engine in FGICENGINES1-8. Based on the approved testing protocol in accordance with FGICENGINES1-8, S.C. V.1, EUICENGINE_3 was determined to be the "worst case" engine and results were applied to all engines in FGICENGINES1-8.

3. IN COMPLIANCE. Based on testing performed on July 27, 2010, the average hydrogen chloride (HCl) emission rate for each engine in FGICENGINES1-8 was 0.90 lb.MMcf LFG combusted, demonstrating compliance with the permit limit of 5.6 lb/MMcf LFG combusted.

II. Material Limits
1. IN COMPLIANCE. The highest 12-month rolling total amount of LFG fed to FGICENGINES1-8 was 1.25 billion cubic feet for the 12-month rolling time period ending July 2016, demonstrating compliance with the permit limit of 1.51 billion cubic feet of LFG per 12-month rolling time period. The 12-month rolling total amount of LFG fed to FGICENGINES1-8 through May 2018 was 1.05 billion cubic feet.

III. Process/Operational Restrictions
1. IN COMPLIANCE. Only treated LFG is burned in FGICENGINES1-8.

IV. Design/Equipment Parameters
1. IN COMPLIANCE. FGICENGINES1-8 is equipped with a device to monitor and record the total volume of LFG consumed on a monthly basis.

V. Testing/Sampling
1. NOT PERFORMED. Testing to determine the NOx and CO emission rates from FGICENGINES1-8 has yet to be performed during the current ROP cycle. Testing was last performed on July 27, 2010, which demonstrated compliance with the allowable NOx and CO emission rates at that time.
2. NOT PERFORMED. Testing to determine the HCl emission rate from FGICENGINES1-8 has yet to be performed during the current ROP cycle. Testing was last performed on July 27, 2010, which demonstrated compliance with the allowable HCl emission rate at that time.

VI. Monitoring/Recordkeeping
1. IN COMPLIANCE. Total flow of LFG from the landfill to FGICENGINES1-8 is continuously monitored and recorded. Records were provided to AQD during the inspection.
2. IN COMPLIANCE. Facility calculates and records the total cubic feet of LFG fed to FGICENGINES1-8 on a monthly and 12-month rolling basis. Records were provided to AQD during the inspection.
3. IN COMPLIANCE. Btu content of the LFG is monitored and recorded on a monthly basis. Records were provided to AQD during the inspection.
4. IN COMPLIANCE. Facility monitors and records the temperature of air/fuel mixture at least once per day. AQD reviewed the daily records while on site.
5. IN COMPLIANCE. A review of daily temperature records did not show any occurrences of temperature exceedances greater than 5°F over the maximum air/fuel mixture temperature observed during the most recent performance test. EUICENGINE_3 tested at 175°F during the performance test conducted on July 27, 2010, and therefore no engine in FGICENGINES1-8 can exceed 180°F during operation. Based on the approved testing protocol in accordance with FGICENGINES1-8, S.C. V.1, EUICENGINE_3 was determined to be the "worst case" engine and results were applied to all engines in FGICENGINES1-8.
6. IN COMPLIANCE. Facility maintains records of the identification and specification of each engine in FGICENGINES1-8, as required in this condition. These records were provided to AQD during the inspection.

VII. Reporting
1. IN COMPLIANCE. Deviations are reported pursuant to GC 21 and 22 of Part A.
2. IN COMPLIANCE. Semiannual reports of monitoring and deviations are submitted by March 15 (for reporting period July 1 through December 31) and September 15 (for reporting period January 1 through June 30) each year, as required per GC 23 of Part A.
3. IN COMPLIANCE. Annual compliance certification is submitted by March 15 for the previous calendar year, as required per GC 19 and 20 of Part A.
4. IN COMPLIANCE. Facility is required to notify AQD of any engine replacement within 30 days of replacement, including the engine identification and specifications required in this condition.

Notification was made to AQD within 30 days following the replacements of EUICENGINE_6 on August 26, 2016, and EUICENGINE_1 on February 1, 2017, and February 28, 2017 (after the replacement engine installed on February 1 was found to have internal bearing damage and needed repair).

VIII. Stack/Vent Restrictions
IN COMPLIANCE. According to facility documentation, stacks SV_ENGINE1 through SV_ENGINE8 meet permit specifications.

FGICENGINES9-14: Six spark ignition, 4 stroke lean burn, reciprocating internal combustion engines (Caterpillar G3516, 1138 hp/800 kW) for combusting treated landfill gas to produce electricity. Associated Emission Unit IDs: EUICENGINE_9 through EUICENGINE_14.

I. Emission Limits
1. IN COMPLIANCE. Testing performed on July 21, 2010, on EUICENGINE_13 showed a NOx emission rate of 2.18 pph, demonstrating compliance with the permit limit of 5.02 pph allowed for each engine in FGICENGINES9-14. Based on the approved testing protocol in accordance with FGICENGINES9-14, S.C. V.1, EUICENGINE_13 was determined to be the "worst case" engine and results were applied to all engines in FGICENGINES9-14.
2. IN COMPLIANCE. Testing performed on July 21, 2010, on EUICENGINE_13 showed a CO emission rate of 6.52 pph, demonstrating compliance with the permit limit of 7.28 pph allowed for each engine in FGICENGINES9-14. Based on the approved testing protocol in accordance with FGICENGINES9-14, S.C. V.1, EUICENGINE_13 was determined to be the "worst case" engine and results were applied to all engines in FGICENGINES9-14.
3. IN COMPLIANCE. Based on testing performed on July 21, 2010, the average hydrogen chloride (HCl) emission rate for each engine in FGICENGINES9-14 was 0.99 lb/MMcf LFG combusted, demonstrating compliance with the permit limit of 5.6 lb/MMcf LFG combusted.

II. Material Limits
1. IN COMPLIANCE. The highest 12-month rolling total amount of LFG fed to FGICENGINES9-14 was 0.86 billion cubic feet for the 12-month rolling time period ending June 2016, demonstrating compliance with the permit limit of 1.13 billion cubic feet of LFG per 12-month rolling time period. The 12-month rolling total amount of LFG fed to FGICENGINES9-14 through May 2018 was 0.73 billion cubic feet.

III. Process/Operational Restrictions
1. IN COMPLIANCE. Only treated LFG is burned in FGICENGINES9-14.

IV. Design/Equipment Parameters
1. IN COMPLIANCE. FGICENGINES9-14 is equipped with a device to monitor and record the total volume of LFG consumed on a monthly basis.

V. Testing/Sampling
1. NOT PERFORMED. Testing to determine the NOx and CO emission rates from FGICENGINES9-14 has yet to be performed during the current ROP cycle. Testing was last performed on July 21, 2010, which demonstrated compliance with the allowable NOx and CO emission rates at that time.
2. NOT PERFORMED. Testing to determine the HCl emission rate from FGICENGINES9-14 has yet to be performed during the current ROP cycle. Testing was last performed on July 21, 2010, which demonstrated compliance with the allowable HCl emission rate at that time.

VI. Monitoring/Recordkeeping
1. IN COMPLIANCE. Total flow of LFG from the landfill to FGICENGINES9-14 is continuously monitored and recorded. Records were provided to AQD during the inspection.
2. IN COMPLIANCE. Facility calculates and records the total cubic feet of LFG fed to FGICENGINES9-14 on a monthly and 12-month rolling total basis. Records were provided to AQD during the inspection.

3. IN COMPLIANCE. Btu content of the LFG is monitored and recorded on a monthly basis. Records were provided to AQD during the inspection.
4. IN COMPLIANCE. Facility monitors and records the temperature of air/fuel mixture at least once per day. AQD reviewed the daily records while on site.
5. IN COMPLIANCE. A review of daily temperature records did not show any occurrences of temperature exceedances greater than 5°F over the maximum air/fuel mixture temperature observed during the most recent performance test. EUICENGINE_13 tested at 149°F during the performance test conducted on July 21, 2010, and therefore no engine in FGICENGINES9-14 can exceed 154°F during operation. Based on the approved testing protocol in accordance with FGICENGINES9-14, S.C. V.1, EUICENGINE_13 was determined to be the "worst case" engine and results were applied to all engines in FGICENGINES9-14.
6. IN COMPLIANCE. Facility maintains records of the identification and specification of each engine in FGICENGINES9-14, as required in this condition. These records were provided to AQD during the inspection.

VII. Reporting
1. IN COMPLIANCE. Deviations are reported pursuant to GC 21 and 22 of Part A.
2. IN COMPLIANCE. Semiannual reports of monitoring and deviations are submitted by March 15 (for reporting period July 1 through December 31) and September 15 (for reporting period January 1 through June 30) each year, as required per GC 23 of Part A.
3. IN COMPLIANCE. Annual compliance certification is submitted by March 15 for the previous calendar year, as required per GC 19 and 20 of Part A.
4. NOT IN COMPLIANCE. Facility is required to notify AQD of any engine replacement within 30 days of replacement, including the engine identification and specifications required in this condition. EUICENGINE_10 was replaced on March 20, 2018, and EUICENGINE_13 was replaced on May 8, 2018. Notification of these replacements were not received by AQD until June 15, 2018, more than 30 days after replacement.

VIII. Stack/Vent Restrictions
IN COMPLIANCE. According to facility documentation, stacks SV_ENGINE9 through SV_ENGINE14 meet permit specifications.

FGRICEMACT – New and reconstructed non-emergency engines greater than 500 hp fueled with landfill/digester gas, located at a major source of HAPs. Construction or reconstruction commenced on or after December 19, 2002. Associated Emission Unit IDs: EUICENGINE_3, EUICENGINE_4, EUICENGINE_7, EUICENGINE_8, EUICENGINE_9, EUICENGINE_10, EUICENGINE_11, EUICENGINE_12, EUICENGINE_13, EUICENGINE_14. Note: Since the issuance of ROP No. MI-ROP-N5986-2015, EUICENGINE_1, EUICENGINE_2, and EUICENGINE_6 have been replaced with new or reconstructed engines and are now subject to the conditions of 40 CFR Part 63, Subpart ZZZZ (RICE MACT).

III. Process/Operational Restrictions
1. IN COMPLIANCE. Each engine in FGRICEMACT is operated in a manner to reasonably minimize HAP emissions by properly operating and maintaining the equipment.
2. IN COMPLIANCE. Each engine in FGRICEMACT is operated in a manner which minimizes time spent idle at startup and minimize the startup time to a period needed for appropriate and safe loading of each engine, not to exceed 30 minutes. Based on conversations with plant personnel during past inspections, startup usually takes about 10 minutes before the engine is able to burn LFG.

IV. Design/Equipment Parameters
1. IN COMPLIANCE. Each engine in FGRICEMACT is equipped with a fuel meter to monitor and record the daily fuel usage and volumetric flow rate of each fuel used.

VI. Monitoring/Recordkeeping
1. IN COMPLIANCE. Facility monitors and records the daily fuel usage for each engine in FGRICEMACT.

VII. Reporting
1. IN COMPLIANCE. Deviations are reported pursuant to GC 21 and 22 of Part A.
2. IN COMPLIANCE. Semiannual reports of monitoring and deviations are submitted by March 15 (for reporting period July 1 through December 31) and September 15 (for reporting period January 1 through June 30) each year, as required per GC 23 of Part A.
3. IN COMPLIANCE. Annual compliance certification is submitted by March 15 for the previous calendar year, as required per GC 19 and 20 of Part A.
4. IN COMPLIANCE. Facility submits an annual report by no later than January 31 of each year in accordance with Table 7 of 40 CFR Part 63, Subpart ZZZZ. This report includes fuel flow rate and heating values used in calculations and any deviations of the operating or monitoring parameters of FGRICEMACT. The most recent annual compliance report for the time period January 1 through December 31, 2017, was received on January 26, 2018. The facility reported no deviations from operating limits in the annual compliance reports for 2016 and 2017.

IX. Other Requirements
1. IN COMPLIANCE. Facility complies with the provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart ZZZZ, as they apply to each engine in FGRICEMACT.

FINAL COMPLIANCE DETERMINATION:

Section 1: At the time of inspection, Republic Services of Michigan I, LLC – Carleton Farms Landfill was determined to be in noncompliance with the following conditions of ROP No. MI-ROP-N5986-2015, Section 1: Specifically, the facility was out of the compliance with the monitoring and recordkeeping requirements of EUOPENFLARE for failing to properly monitor and maintain records of temperature and flow rates for the enclosed flare. As a result, a Violation Notice will be issued to the facility.

Section 2: At the time of inspection, Sumpter Energy Associates at the Carleton Farms Landfill was determined to be in substantial compliance with ROP No. MI-ROP-N5986-2015, Section 2. It was noted during the inspection that the facility failed to provide notification of the replacement of EUICEENGINE_10 and EUICENGINE_13 within 30 days of replacement, as required per FGICENGINES9-14, S.C. VII.4. However, notification was provided during the inspection and the facility has provided timely notifications in the past, so no further action will be taken.

NAME _____ DATE 9-26-18 SUPERVISOR JK