

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

N598635931

FACILITY: CARLETON FARMS LANDFILL		SRN / ID: N5986
LOCATION: 28800 CLARK RD, NEW BOSTON		DISTRICT: Detroit
CITY: NEW BOSTON		COUNTY: WAYNE
CONTACT: Betty LeClerc, Environmental Manager		ACTIVITY DATE: 08/16/2016
STAFF: Jonathan Lamb	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled Inspection, FY 2016		
RESOLVED COMPLAINTS:		

Carleton Farms:

DATE OF INSPECTION: August 10, 2016
 INSPECTED BY: Jonathan Lamb, MDEQ-AQD
 PERSONNEL PRESENT: Betty LeClerc, Environmental Manager - Republic Services; Dana Oleniacz, Consultant - Air Quality Specialist, Inc.; Dave Seegart, Operations Manager - Republic Services
 CONTACT PHONE NUMBER: 248-333-8654 (Ms. LeClerc); 248-887-7565 (Ms. Oleniacz)
 FACILITY WEBSITE: www.RepublicServices.com

Sumpter Energy:

DATE OF INSPECTION: August 16, 2016
 INSPECTED BY: Jonathan Lamb, MDEQ-AQD
 PERSONNEL PRESENT: John Schaffer, Lead Plant Operator – Aria Energy; Emily Zambuto, Manager of Environmental Programs – Aria Energy; Smitri Sharma, Aria Energy
 FACILITY PHONE NUMBER: 734-654-2820
 CONTACT PHONE NUMBER: 734-626-6225 (Mr. Schaffer); 585-278-4773 (Ms. Zambuto)

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 104 million cubic yards of waste; at the time of inspection, the facility had 42.8 million cubic yards of waste in place. Since facility has a design permit which was modified after May 31, 1991, and a design capacity over 2.5 million megagrams (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. 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 LFG collection system and control system, pursuant to Subpart WWW.

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. SEA is wholly owned by by LES Project Holdings, LLC, which is a wholly-owned subsidiary of Aria Energy, LLC. Most of the engines operated by SEA at Carleton Farms are subject to 40 CFR, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

PROCESS AND EMISSION UNIT DESCRIPTION:

The landfill (EULANDFILL) currently accepts waste load from 6 AM to 6 PM, Monday through Friday, and 6 AM to 1 PM on Saturday; the facility received roughly 8,500 tons of waste per day. The current active phase is Cell

212, located in the northwest section of the landfill. Future expansion is scheduled in the next three to four years in the area west of Cell 212. Approximately 45% of the waste received is municipal solid waste with approximately 10% demolition waste and the rest from industrial 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. 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) is used for daily cover for erosion control.

There are two segregated areas adjacent to but not connected to the 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.

There are two 80-gallon tanks and one 500-gallon tank which are used to store leachate collected from the landfill; these tanks are exempt per R.284(i). Most of the leachate is trucked off-site for disposal on a daily basis; a small portion of leachate is used on site for dust suppression.

The landfill is uses a gas collection and control system (GCCS), which consists of a series of vertical and horizontal wells which collects landfill gas (LFG) produced throughout the landfill; at the time of inspection, there were 282 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. 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. The LFG passes through the primary filters to remove larger particles 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 able 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. 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.

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

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 the NMOCs. The engine plant has a capacity to burn up to 5280 scfm when all 14 engines are running, but LFG production is currently only 2800 scfm to 3200 scfm, so the engines are burning most of the LFG produced. The flares are mainly used when the engine plant is down or if there is a spike in LFG flow during construction. The open flare is the main flare used; the enclosed flare has not been used very often the past two years.

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 the purposes of this inspection, records from January 2015 through July 2016 were reviewed in determining compliance with the facility'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 orange 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 show some readings of methane levels above 500 ppm over background levels, but these exceedances have been infrequent and follow up monitoring have shown these exceedances to 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:

2015, Q1: 6 exceedances, all resolved within 1 month of initial exceedance.

2015, Q2: 2 exceedances, all resolved within 1 month of initial exceedance.

2015, Q3: 2 exceedances, all resolved within 1 month of initial exceedance.

2015, Q4: 2 exceedances. 1 exceedance was resolved within 1 month; 1 exceedance was resolved within 120 days after expansion of wellfield.

2016Q1: 5 exceedances. 3 exceedances were resolved within 1 month; 2 exceedances were resolved within 120 days after expansion of wellfield.

2016Q2: 2 exceedances. 1 exceedance was resolved within 1 month; 1 exceedance was resolved within 120 days after expansion of wellfield.

Since the appropriate re-monitoring and corrective actions were taken in accordance with the requirements of 40 CFR 60.755 to resolve the exceedances, this condition is considered 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 used 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. As long as 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, all surface monitoring exceedances met 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 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 concentrations 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.
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.
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.
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. 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 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 approved by AQD in accordance with 40 CFR 60.752(b)(2). These requests and AQD's approvals 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, if required.
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. The facility may then 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), which have been approved by AQD on a well-to-well basis. Since December 2015, all approved HOV requests have been given expiration dates (usually 6 months after approval); if the well is still out of compliance at this time, the facility has 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 (FGENCLOSEDFLARE 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, RLP requests approval from AQD, stating what the modification will be and the reason for the modification. Copies of these requests and AQD's approvals 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 is maintained showing the location of the wells. Quarterly surface monitoring is performed 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. Facility has not reported any missed readings in any month during this compliance period and has had requests for alternative compliance timelines approved by AQD. These requests and approvals can be found in the facility file.

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 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. Facility has not reported any missed readings in any month during this compliance period and has had requests for alternative compliance timelines approved by AQD. These requests and approvals can be found in the facility file.

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 this 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. 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 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. The facility did not report any occurrences when both the engine plant and the flares were down, requiring shutdown of the system.

3. IN COMPLIANCE. Facility routes all gas not treated to EUENCLOSEDFLARE or EUOPENFLARE. Facility operates EUENCLOSEDFLARE within the parameter ranges established during 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 testing requirement for EUENCLOSEDFLARE, but for the purpose of documentation, it is noted here 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. NOT 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; however, the facility reported for the time period of January 6 through February 3, 2016, for a period of 675 hours and 37 minutes, flow rate and temperature data was not recorded in EUENCLOSEDFLARE due to technician error.

2. NOT IN COMPLIANCE. Facility reported that some of the temperature and flow records for the past 5 years were either misplaced or not recorded and therefore cannot be maintained for 5 years.

3. NOT IN COMPLIANCE. Facility reported that some of the flow records for the past 5 years were either misplaced or not recorded and therefore cannot be maintained for 5 years.

4. NOT IN COMPLIANCE. Facility reported that some of the flow records for the past 5 years were either misplaced or not recorded and therefore cannot be maintained for 5 years.

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. 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. All but one of these malfunctions were due to loss of power to the flare; however, all gas was routed to the engine plant during these times so no gas was emitted from the flare. One deviation reported for the time period of January 6 through February 3, 2016, for a period of 675 hours and 37 minutes, flow data was not recorded in EUENCLOSEDFLARE due to technician error.

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. 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 7.45 tons in the 12-month period ending February 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 July 2016 was 7.25 tons.

II. Material Limit

2. IN COMPLIANCE. The highest 12-month rolling total heat input during the compliance period was 40,245 MMBtu in the 12-month period ending February 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 July 2016 was 39,192 MMBtu.

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. A review of records showed that EUOPENFLARE did not combust LFG with a heating value below 439 Btu/scf.

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 testing requirement for EUOPENFLARE, but for the purpose of documentation, it is noted here 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; however, the facility reported for the time period of January 6 through February 3, 2016, for a period of 675 hours and 37 minutes, flow rate was not recorded in EUOPENFLARE due to technician error.

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. Facility reported that some of the flow records for the past 5 years were either misplaced or not recorded and therefore cannot be maintained for 5 years.

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 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. All but one of these malfunctions were due to loss of power to the flare; however, all gas was routed to the engine plant during these times so no gas was emitted from the flare. One deviation reported for the time period of January 6 through February 3, 2016, for a period of 675 hours and 37 minutes, flow data was not recorded in EUOPENFLARE due to technician error.

2. 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.

3. 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.

4. 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 monitor and other credible evidence. Records are maintained to demonstrate compliance. Facility has developed and implements as SSM Plan for EUOPENFLARE.

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, date and quantity of asbestos-containing waste received, and 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).

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 FGCOLD CLEANERS, 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: EUCENGINE_1 through EUCENGINE_8.

I. Emission Limits

1. IN COMPLIANCE. Based on testing performed on July 27, 2010, the average NOx emission rate for each engine in FGICENGINES1-8 was 1.59 pph, demonstrating compliance with the permit limit of 5.02 pph.
2. IN COMPLIANCE. Based on testing performed on July 27, 2010, the average CO emission rate for each engine in FGICENGINES1-8 was 6.64 pph, demonstrating compliance with the permit limit of 7.28 pph.
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 June 2016, demonstrating compliance with the permit limit of 1.51 billion cubic feet of LFG per 12-month rolling time period.

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 annual basis. Records were provided to AQD during the inspection. Records were sufficient to demonstrate compliance with the 12-month rolling time period total limit in II.1 for the purpose of this inspection, but facility will be notified to start maintaining the records on a 12-month rolling time period basis in the future to comply with this recordkeeping condition.
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 last performance test. FGICENGINES1-8 tested at 180 F during the performance test, and therefore cannot exceed 185 F during operation.
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 notifies AQD of any engine replacement within 30 days of replacement, including the engine identification and specifications required in this condition. Prior to this inspection, no engines had been replaced since the issuance of ROP No. MI-ROP-N5986-2015 on July 22, 2016. I was told during the inspection that EUCENGINE_6 was scheduled to be replaced the following week. Sumpter Energy provided notification to AQD via email on September 2, 2016, that EUCENGINE_6 was replaced with an identical unit on August 24, 2016.

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: EUCENGINE_9 through EUCENGINE_14.

I. Emission Limits

1. IN COMPLIANCE. Based on testing performed on July 21, 2010, the average NOx emission rate for each engine in FGICENGINES9-14 was 2.18 pph, demonstrating compliance with the permit limit of 5.02 pph.
2. IN COMPLIANCE. Based on testing performed on July 21, 2010, the average CO emission rate for each engine in FGICENGINES9-14 was 6.52 pph, demonstrating compliance with the permit limit of 7.28 pph.
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 April 2016, demonstrating compliance with the permit limit of 1.13 billion cubic feet of LFG per 12-month rolling time period.

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 annual basis. Records were provided to AQD during the inspection. Records were sufficient to demonstrate compliance with the 12-month rolling time period total limit in II.1 for the purpose of this inspection, but facility will be notified to start maintaining the records on a 12-month rolling time period basis in the future to comply with this recordkeeping condition.
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 last performance test. FGICENGINES9-14 tested at 154 F during the performance test, and therefore cannot exceed 159 F during operation.
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.

