DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY DIVISION

FCE Summary Report

Facility :	Southeast Berrien County Landfill Authority	**SRN :**	N5432
Location :	3200 Chamberlain Rd.	**District :**	Kalamazoo
		County :	BERRIEN
City :	BUCHANAN **State:** MI **Zip Code :** 49107	**Compliance Status :**	Compliance
Source Class :	MAJOR	**Staff :**	Matthew Deskins
FCE Begin Date :	6/19/2019	**FCE Completion Date :**	6/19/2020
Comments :			

List of Partial Compliance Evaluations :

Activity Date	Activity Type	Compliance Status	Comments
06/19/2020	Scheduled Inspection	Compliance	ANNOUNCED Scheduled Inspection due to Coronavirus Pandemic.
05/04/2020	MAERS	Compliance	

Activity Date	Activity Type	Compliance Status	Comments
04/07/2020	MACT (Part 63)	Compliance	Annual RICE MACT (Subpart ZZZZ) Report. The facility has been submitting ZZZZ Annual Reports although there are no conditions currently in the ROP pertaining to Subpart ZZZZ. However, back in 2015 we had all engine plants re-do their HAP calculations because of a Formaldehyde emission issue that had come to light and it showed they were a major source of it and thus a major source of HAPs. However, AQD management had taken the following position regarding the issue: If a landfill's gas to energy facility had internal combustion engines permitted prior to the HAPs issue (Formaldehyde) becoming known and are now major for HAPs, the AQD was not going to pursue any action against them nor re-open any permits. We were only going to recommend that they raise their current stack heights and we would treat them as a major source of HAPs for any future regulations/modifications/etc. moving forward. However, if the facility submits a PTI to modify anything for the previously permitted equipment, the AQD would then address any HAP requirements at that time and include them in their revised permit. In December of 2019, the facility had to submit a PTI due to an increase in H2S concentrations in the landfill gas, so eventually the ZZZZ requirements will be included in the ROP. The company certified that they were in compliance with all the ZZZZ applicable requirements in this report, and for a copy of it, please refer to the ROP Certification file.

Activity Date	Activity Type	Compliance Status	Comments
04/07/2020	MACT (Part 63)	Compliance	NANR's Start-up, Shutdown, and Malfunction Report. They reported that there were 15 start-ups, 15 shutdowns, and 0 malfunction events that occurred but none caused an exceedance of any applicable emission limit. They certified that all actions taken to correct them were consistent with the procedures outlined in their SSM plan kept at the facility. For a copy of the report, please refer to the ROP Certification File.
04/07/2020	ROP Annual Cert	Compliance	The facility certified that no deviations occurred during the reporting period.
04/07/2020	ROP SEMI 2 CERT	Compliance	The facility certified that no deviations occurred during the reporting period.
04/07/2020	NSPS (Part 60)	Compliance	Semi-Annual NSPS/Landfill Gas Treatment System Report. See comments made under ROP Semi -Annual and/or Annual Certification. Refer to the ROP Certification file for a copy of the report.
02/12/2020	ROP Annual Cert	Compliance	The facility reported 6 deviations for the reporting period. One was for the exceedance of permissible O2 limits in a gas well (GW-37) but it is not considered a violation since AQD staff had granted them an alternate compliance timeline. The other five deviations reported were for the open flare being down for more than one hour for various reasons such as power outages, gas system maintenance, etc. These flare downtimes are not considered violations since any type of emission exceedence cannot be determined. Also, the open flare is a back-up control device to the internal combustion engines owned by NANR and usually only runs if the plant is down. NOTE: Staff had to contact the facility and have them send another Annual ROP Certification Form. The one submitted was not signed by their approved Responsible Official. Also, the facility didn't include all the deviations that had been reported on their 1st and 2nd Semi-Annual Certifications.

Activity Date	Activity Type	Compliance Status	Comments
02/12/2020	MACT (Part 63)	Compliance	This is the semi-annual SSM report. The landfill reported that there were 6 start-ups, 6 shutdowns, and 7 malfunction events that occurred but none caused an exceedance of an applicable emission limits. They certified that all actions taken to correct them were consistent with the procedures outlined in their SSM plan kept at the facility. For a copy of the report, see the ROP Certification File.
02/12/2020	NSPS (Part 60)	Compliance	Semi-Annual NSPS Report. See comments made under ROP Semi -Annual and/or Annual Certification. Refer to the ROP Certification file for a copy of the report.
02/12/2020	ROP SEMI 2 CERT	Compliance	The facility reported 4 deviations for the reporting period. The other four deviations reported were for the open flare being down for more than one hour for various reasons such as power outages, gas system maintenance, etc. These flare downtimes are not considered violations since any type of emission exceedence cannot be determined. Also, the open flare is a back-up control device to the internal combustion engines owned by NANR and usually only runs if the plant is down. NOTE: Staff had to contact the facility and have them send another Semi-Annual ROP Certification Form. The one submitted was not signed by their approved Responsible Official.
02/06/2020	Stack Test	Compliance	Test Report for compliance testing for NOx, CO, and VOCs required by NSPS JJJJ on emission unit EUENGINE1-2. The testing was conducted in accordance with the test protocol dated March 25, 2019 and the facility was operated in compliance with the permit, at or near maximum routine operating conditions for the facility. Results indicate the engine met the compliance limits set forth by the NSPS.

Activity Date	Activity Type	Compliance Status	Comments
09/24/2019	ROP Semi 1 Cert	Compliance	The facility reported a deviation for an oxygen exceedence on one of their gas wells (GW-37) that lasted longer than 15 days, however; AQD staff had approved an alternate compliance timeline for this well and supposedly it's back in compliance now. The facility also reported a deviation for the open flare being down for more than one hour on several occasions but they are not considered violations since any type of emission exceedence cannot be determined. Also, the open flare is a back-up control device to the internal combustion engines owned by NANR.
09/24/2019	MACT (Part 63)	Compliance	This is the semi-annual SSM report. The landfill reported that there were 1 start-ups, 1 shutdowns, and 4 malfunction event that occurred but none caused an exceedance of an applicable emission limits. They certified that all actions taken to correct them were consistent with the procedures outlined in their SSM plan kept at the facility. For a copy of the report, see the ROP Certification File.
09/24/2019	NSPS (Part 60)	Compliance	Semi-Annual NSPS Report. See comments made under ROP Semi -Annual and/or Annual Certification. Refer to the ROP Certification file for a copy of the report.
09/24/2019	NSPS (Part 60)	Compliance	Semi-Annual NSPS/Landfill Gas Treatment System Report. See comments made under ROP Semi -Annual and/or Annual Certification. Refer to the ROP Certification file for a copy of the report.
09/24/2019	MACT (Part 63)	Compliance	NANR's Start-up, Shutdown, and Malfunction Report. They reported that there were 5 start-ups, 5 shutdowns, and 0 malfunction events that occurred but none caused an exceedance of any applicable emission limit. They certified that all actions taken to correct them were consistent with the procedures outlined in their SSM plan kept at the facility. For a copy of the report, please refer to the ROP Certification File.

Activity Date	Activity Type	Compliance Status	Comments
09/24/2019	ROP Semi 1 Cert	Compliance	The facility certified that no deviations occurred during the reporting period.
08/20/2019	Other Non ROP	Compliance	This is a report of the site-specific Total Reduced Sulfur (TRS) Concentration in the Landfill Gas at the facility. The AQD had requested that this testing be done if the facility didn't have recent site -specific data or stack test data regarding sulfur emissions. They also had to calculate their PTE for sulfur using this site specific data and if necessary, modify any current permits or apply for a permit if currently operating any equipment under an exemption. The results of this test indicate TRS levels of 948.90 ppmv and the calculated PTE for the open flare is 92.5 tons per year. The facility had installed the flare under exemption years ago but they will now be submitting a permit application for it due the PTE now being above significance levels.
08/12/2019	Stack Test	Compliance	NANR Performance Testing of their Internal Combustion Engines to determine compliance with 40 CFR Part 60 Subpart JJJJ. Results indicate that they met the CO, NOx, and VOC emission limits. Staff will consider them to be in Compliance unless TPU reviews the report and finds otherwise.(Testing was done on EUENGINE2-S2 and EUENGINE3 -S2).
07/16/2019	Stack Test Observation	Compliance	Stack Test Observation on Engine #2.
07/02/2019	Stack Test Observation	Compliance	Stack Test Observation

Name: Matt Dahn **Date:** 6-24-20 **Supervisor:** RIL 6/29/20

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

N543254010

FACILITY: Southeast Berrien County Landfill Authority		**SRN / ID:** N5432
LOCATION: 3200 Chamberlain Rd., BUCHANAN		**DISTRICT:** Kalamazoo
CITY: BUCHANAN		**COUNTY:** BERRIEN
CONTACT: Emily Peters , Environmental Compliance Manager - SEBCL		**ACTIVITY DATE:** 06/19/2020
STAFF: Matthew Deskins	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: ANNOUNCED Scheduled Inspection due to Coronavirus Pandemic.		
RESOLVED COMPLAINTS:		

Southeast Berrien County Landfill - FY 2020 Inspection

On June 19, 2020 AQD staff (Matt Deskins) went to conduct a scheduled ANNOUNCED inspection of the Southeast Berrien County Landfill (SEBCL) located in Buchanan, Berrien County. The inspection was scheduled due to the Coronavirus (COVID-19) Pandemic.

SEBCL is a licensed Type II municipal solid waste landfill and is currently subject to the federal New Source Performance Standard (NSPS), 40 CFR Part 60 Subpart WWW, and the National Emission Standard for Hazardous Air Pollutants (NESHAP), 40 CFR Part 63 Subpart AAAA. Back in 2008, SEBCL signed an agreement to lease a portion of their property to North American Natural Resources (NANR) for the construction of a landfill gas to energy facility. NANR was issued a permit (PTI No. 296-08) for four stationary reciprocating internal combustion engines (RICE) and this permit/facility had been incorporated as Section 2 in the SEBCL's ROP. The engines are also subject to 40 CFR Part 60 Subpart JJJJ. The aforementioned regulations and other applicable requirements are contained in SEBCL's Renewable Operating Permit (ROP) No. MI-ROP-N5432-2016. There has also been other revelations that have occurred from a regulatory standpoint that pertain to either SEBCL and/or NANR and they are summarized in the following notes:

NOTE 1: New federal NSPS regulations have been promulgated by the EPA that pertain to solid waste landfills (Subparts XXX and Cf) and which one is applicable to a landfill is determined by the issuance date of the most recent solid waste construction permit. Presently, SEBCL would subject to Subpart Cf due to the issuance date of their construction permit. However, the state has to submit a State Implementation Plan (SIP) to the EPA for review and approval in order for the AQD to administer/enforce Subpart Cf or would have to follow the Federal Plan, which neither have been done to date. Until the state decides which path it will pursue for oversite of the regulation(s), SEBCL will have to continue to comply with Subpart WWW.

NOTE 2: Back around 2013 it had come to light that the combustion of landfill gas in internal combustion engines and turbines produces formaldehyde as a by-product. At that time a statewide initiative was undertaken where staff were asked to request an updated PTE from all of their landfills that combust landfill gas with ICEs and/or turbines taking into account with this new information. The updated PTE submitted regarding NANR's engines indicated that they would be major for formaldehyde emissions and thus a major source of HAPs. This ultimately meant they would also be subject to 40 CFR Part 63 Subpart ZZZZ (RICE MACT) and it could also potentially affect the height of their stacks due to air modeling. Since this new information would impact a lot of previously permitted engines at a lot of landfills across the state, upper management made the following decision with regards to how the AQD would proceed with things:

"If a landfill gas to energy facility had internal combustion engines permitted prior to the HAPs issue (Formaldehyde) becoming known and are now major for HAPs, the AQD was not going to pursue any action against them nor re-open any permits. We were only going to recommend

that they raise their current stack heights and we would treat them as a major source of HAPs for any future regulations/modifications/etc. moving forward. However, if the facility submits a PTI to modify anything for the previously permitted equipment, the AQD would then address any HAP requirements at that time and include them in their revised permit."

NOTE 3: Lastly, it had recently come to light (2019) that some landfills that were using default concentrations to calculate Hydrogen Sulfide (H2S) emissions were vastly under reporting them. Therefore, another statewide initiative was undertaken where AQD staff sent letters to landfills and/or any end user of their landfill gas that weren't using site specific or stack test data for calculating H2S emissions. The letter requested that they do site specific testing using various approved methods that were outlined in the letter and submit a PTE for H2S. Depending on their new PTE, a permit or permit revision may be required. Staff had to send this letter to both SEBCL and NANR. Due to the results of the H2S concentration in the landfill gas and subsequent PTE of H2S being above significance levels, both entities had to submit Permit Applications. SEBCL had to submit one for their Open Flare and NANR had to modify their original permit for their engines. SEBCL was recently issued PTI No. 182-19 with an effective date of April 10, 2020 and NANR's was issued PTI No. 1-20 with an effective date of June 17, 2020. However, since NANR had to modify their original permit it allowed the AQD to revisit the Formaldehyde issue which was mentioned previously. The new permit now addresses Formaldehyde emissions and since they are now considered a major source of HAPs because of it, they are now subject to the RICE MACT (ZZZZ) and those conditions are included as well. Both of these permits will be ultimately be incorporated into the ROP as Minor Modifications and/or upon ROP Renewal. They are currently in the ROP Renewal window timeframe.

Ultimately, the purpose of the inspection was to determine both SEBCL and NANR's compliance with the preceding applicable air regulations, their respective sections of the ROP, and possibly the conditions of their new PTI's where and if currently applicable. Staff departed for the facility at approximately 9:40 a.m. Even though it was scheduled, staff decided to conduct the inspection of NANR first because during a previous inspection, no one ended up being at the plant in the afternoon and staff had to return again at a later date to finish the inspection.

Section 2 - North American Natural Resources

As just mentioned, staff decided to inspect NANR first to hopefully ensure that a plant operator would be present. Staff arrived at the facility at approximately 11:10 a.m. Staff proceeded into the office area where they introduced them self to Justin Boone (Plant Operator). Staff then gave Justin a business card with staff's updated work cell phone number. Justin knew that staff was coming since staff had to schedule the inspection as mentioned earlier. Staff started off by asking Justin some general questions about their operations. The following is a summary of those discussions followed by their ROP and PTI requirements along with their compliance status with them.

According to Justin, the NANR facility located at SEBCL was permitted and constructed for four Caterpillar 3520 internal combustion engines. At the present time, only three of the four engines have been installed still. Justin mentioned that all three engines were the same although Engine #2 had been recently removed and was having a major overhaul done to it by Caterpillar in Saginaw. When all three engines were in place, only two of the engines would be running at any particular time because there still isn't enough landfill gas to run all three. The third engine is being used as a back-up/swing engine for when they have to do maintenance on one. Justin said that they also have one Caterpillar 3516 engine at the plant but it is just being stored there and is not hooked up.

Staff then asked about current electrical output of the engines and Justin said that the plants

current electrical output is averaging around 3.0 MW with Engine #1 set at 1550 kw and Engine #3 at 1450 kw. He said that can vary week to week and month to month depending on the amount and quality of the landfill gas. Each engine at full load is rated at 1.6 MW. Engine #1 has a serial number of GZJ00391 and currently has 74,625 hours on it, Engine #2 has still has a serial number of GZJ00392 and staff forgot to ask the number of hours on it since it was gone temporarily, and Engine #3 has a serial number of GZJ00393 and currently has 70,229 hours on it. Staff then asked about vacuum on the hill and landfill gas flow to the plant. Justin said that they currently have 47 inches of vacuum on the landfill with a current flow of around 1100 scfm being combusted by the engines. He said the methane (CH4) quality of the landfill gas has been ranging around 51% and O2 between 0.3% and 0.4%.

Staff then quickly went over the requirements of their section of the ROP and those of PTI 1-20 to make sure that staff didn't miss anything prior to departing. Staff would review any records more closely when back at the district office. While staff was looking at the requirements, Justin asked staff who was responsible for doing the H2S sampling of the landfill gas, NANR or the landfill? Staff mentioned that the permit for the landfill requires weekly readings and the theirs monthly. However, who does the sampling is up to them since they both need to know the H2S results for calculating their individual emission units monthly H2S emissions as well as facility wide that would apply to both of them. Justin said that he understood and said that they had been taken the H2S readings with a Draeger Tube since the beginning of the year. He said that he had taken one today which was the 1st one that was being required due to the permit condition. Today's reading was 700 ppm and Justin said earlier in the year when it was colder it would average around 550 ppm.

After staff made sure they had all the information that they needed, Staff thanked Justin for their time and then went into the engine room and verified the engiens were still the same and that the 3516 was just being stored. Staff then proceeded outside the plant to look at the "landfill gas chiller" that makes up part of the landfill gas treatment system. It was operating and staff also looked at the open flare while they were there since it is located right adjacent to the plant. It was not operating since the engine plant was on-line. Staff departed at approximately 12:40 p.m.

Once back at the district office staff reviewed the requirements of their section of the ROP and PTI No. 1-20. The following are the conditions of the Treatment System and the PTI.

NOTE: The conditions contained in the new PTI regarding the engines would supersede those that were included in the ROP from the previous PTI, so staff deleted those ROP conditions and copied and pasted the conditions of the new PTI.

SECTION 2 of MI-ROP-N5432-2016

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EUENGINE1-S2	Caterpillar 3520 landfill gas engine.	7-17-2009	FGENGINES-S2
EUENGINE2-S2	Caterpillar 3520	7-17-2009	FGENGINES-

	landfill gas engine.		S2
EUENGINE3-S2	Caterpillar 3520 landfill gas engine.	7-17-2009	FGENGINES-S2
EUTREATMENTSYS-S2	This emission unit treats landfill gas before its subsequent use or sale. The treatment system removes particulate to at least the 10 micron level, compresses the landfill gas, and removes enough moisture to ensure good combustion of gas for subsequent use; therefore, guaranteeing that the intent of the destruction of the NMOC will be maintained.	5-9-2011	NA

EUTREATMENTSYS-S2
EMISSION UNIT CONDITIONS

DESCRIPTION

This emission unit treats landfill gas before its subsequent use or sale. The treatment system removes particulate to at least the 10 micron level, compresses the landfill gas, and removes enough moisture to ensure good combustion of gas for subsequent use; therefore, guaranteeing that the intent of the destruction of the NMOC will be maintained.

POLLUTION CONTROL EQUIPMENT

Any emissions from any atmospheric vents or stacks associated with the treatments system shall be subject to §60.752(b)(2)(iii)(A) or (B).

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall operate the treatment system at all times when the collected gas is routed to the treatment system. (40 CFR 60.753(f))

AQD Comment: Appears to be in COMPLIANCE. Staff was told that the facility operates the system whenever landfill gas is routed to it and it was in operation during the inspection.

2. The permittee shall operate the treatment system so that any emissions from any atmospheric vents or stacks associated with the treatment system shall be subject to §60.752(b)(2)(iii)(A) or (B). (40 CFR 60.752(b)(2)(iii)(C), 40 CFR 63.1955(a))

AQD Comment: Appears to be in COMPLIANCE. There are no stacks or vents associated

with the treatment system.

3. The permittee shall operate the treatment system to comply with the provisions of 60.753(e) and (f), and 60.756(d). (40 CFR 60.752(b)(2)(iv), 40 CFR 63.1955(a))

AQD Comment: Appears to be in COMPLIANCE. The system appears to comply with the requirements of Part 60 Subpart WWW.

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The treatment system shall be designed as approved by AQD. (40 CFR 60.752(b)(2)(iii)(C), 40 CFR 60.752(b)(2)(i)(D), 40 CFR 63.1955(a))

AQD Comment: Appears to be in COMPLIANCE. The AQD uses the EPA guidance on the design of the system which it appears to meet.

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of 5 years. (R 336.1213(3)(b)(ii))

1. The permittee shall keep up-to-date, readily accessible records of all control or treatment system exceedances of the operational standards in §60.753(e) and (f). (40 CFR 60.758(e), 40 CFR 63.1955(a))

AQD Comment: Appears to be in COMPLIANCE. There have been no exceedences to date with the system to staff's knowledge.

2. The permittee shall keep records of all preventative maintenance performed in accordance with the preventative maintenance plan (PMP) prepared pursuant to condition IX.3. of this permit. (40 CFR 60.756(d), R 336.1213(3))

AQD Comment: Appears to be in COMPLIANCE. The facility has a PMP and documents any maintenance or repairs. Maintenance usually consists of greasing things every 6 months and flushing the radiator on the chiller once a year.

3. The permittee shall provide information to the AQD as provided in 40 CFR 60.752(b)(2)(i)(B) describing the operation of the control device, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The AQD shall review the information and either approve it, or request that additional information be submitted. The AQD may specify additional appropriate monitoring procedures. (40 CFR 60.756(d)).

AQD Comment: Appears to be in COMPLIANCE. The facility operates the treatment system following EPA guidance for a treatment system.

VII. REPORTING

AQD Comment: Items 1 through 5 below appear to be in COMPLIANCE. The facility is and/or has submitted the below reports.

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. (R 336.1213(3)(c)(ii))

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. Report shall be postmarked or received by appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period

January 1 to June 30. (R 336.1213(3)(c)(i))

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. Report shall be postmarked or received by appropriate AQD District Office by March 15 for the previous calendar year. (R 336.1213(4)(c))

4. A description of the operation of the treatment system, the operating parameters that indicate proper performance, and the appropriate monitoring procedures shall be submitted the appropriate AQD District Office for review within 30 days after the issuance of this permit. (40 CFR 60.752(b)(2)(i)(B), 40 CFR 63.1955(a))

5. The permittee shall submit to the appropriate AQD District Office semiannual reports for the landfill gas treatment system. The report shall be received by appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. (40 CFR 60.757(f), 40 CFR 63.1980(a), 40 CFR 63.1955(a))

   The report shall include:
   a. Value and length of time for exceedance of applicable parameters monitored under §60.756(d). (R 336.1213(3), 40 CFR 60.757(f)(1), 40 CFR 63.1980(a), 40 CFR 63.1955(a))
   b. Description and duration of all periods when the gas stream is diverted from the treatment system through a bypass line or the indication of bypass flow. (R 336.1213(3))
   c. Description and duration of all periods when the treatment system was not operating for a period exceeding 1 hour and length of time the control device was not operating. (40 CFR 60.757(f)(3), 40 CFR 63.1980(a), 40 CFR 63.1955(a))
   d. Description and duration of all periods when the treatment system was not operated in accordance with the operating parameters and monitoring procedures that were part of the plan in condition number VII.4. (R 336.1213(3))

6. The permittee shall submit the startup, shutdown, and malfunction (SSM) report to the appropriate AQD District Office and it shall be delivered or postmarked by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. (40 CFR 63.10(a)(5), 40 CFR 63.10(d)(5))

AQD Comment: Appears to be in COMPLIANCE. They have been submitting the SSM Report.

IX. <u>OTHER REQUIREMENT(S)</u>

1. The provisions of 40 CFR, Part 60, Subpart WWW apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction shall not exceed 1 hour for the treatment system. (40 CFR 60.755(e), 40 CFR 63.1955(a))

AQD Comment: Appears to be in COMPLIANCE.

2. The permittee shall have developed and implemented a written SSM plan according to the provision in 40 CFR 63.6(e)(3) for EUTREATMENTSYS-S2. A copy of the SSM plan shall be maintained on site. (40 CFR 63.1960, (40 CFR 63.1965(c))

AQD Comment: Appears to be in COMPLIANCE. The facility has an SSM Plan on site that was developed according to the NESHAP.

3. The permittee shall have implemented a written preventative maintenance plan (PMP) for EUTREATMENTSYS. At a minimum, the plan shall include a schedule of maintenance activities consistent with manufacturer's recommendations, and the operating variables

that will be monitored to detect a malfunction or failure. A copy of the PMP shall be maintained on site and available upon request. (40 CFR 60.756(d), R 336.1213(3), R 336.1911)

AQD Comment: Appears to be in COMPLIANCE. The facility has a PMP and it was also submitted to the AQD.

EMISSION UNIT SPECIAL CONDITIONS PTI NO. 1-20

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device (s))	Installation Date / Modification Date	Flexible Group ID
EUENGINE1-S2	This emission unit, and any replacement of this unit as applicable under R 336.1285 (2)(a)(vi), is for a Caterpillar G 3520C reciprocating internal combustion engine rated at 2,233 bhp fueled with treated landfill/digester gas to produce electricity.	07-17-09	FGENGINES-S2
EUENGINE2-S2	This emission unit, and any replacement of this unit as applicable under R 336.1285 (2)(a)(vi), is for a Caterpillar G 3520C reciprocating internal combustion engine rated at 2,233 bhp fueled with treated landfill/digester gas to produce electricity.	07-17-09	FGENGINES-S2
EUENGINE3-S2	This emission unit, and any replacement of this unit as applicable under R 336.1285 (2)(a)(vi), is for a Caterpillar G 3520C reciprocating internal combustion engine rated at 2,233 bhp fueled with treated landfill/digester gas to produce electricity.	07-17-09	FGENGINES-S2

Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1291.

FLEXIBLE GROUP SPECIAL CONDITIONS

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGENGINES-S2	Landfill gas engines operated by North American Natural Resources Southeast Berrien County Landfill Authority (SEBCL).	EUENGINE1-S2 EUENGINE2-S2 EUENGINE3-S2
FGRICENSPS-S2	Non-emergency engine(s) greater than 500 hp, fueled with landfill gas. Engine (s) ordered after June 12, 2006 and manufactured on or after July 1, 2007.	EUENGINE1-S2 EUENGINE2-S2 EUENGINE3-S2
FGRICEMACT-S2	New, existing, 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.	EUENGINE1-S2 EUENGINE2-S2 EUENGINE3-S2

FGENGINES-S2
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Reciprocating internal combustion engine(s) fueled with treated landfill/digester gas and used to produce electricity. This flexible group includes the emission units below and any subsequent replacements for those units as applicable under R 336.1285(a)(vi).

Landfill gas engines operated by North American Natural Resources, Inc. at the Southeast Berrien County Landfill (SEBCL).

Emission Unit: EUENGINE1-S2, EUENGINE2-S2, EUENGINE3-S2

POLLUTION CONTROL EQUIPMENT

Air-to-fuel ratio controller on each engine.

I. EMISSION LIMIT(S)

		Time Period / Operating		Monitoring / Testing	Underlying Applicable

Pollutant	Limit	Scenario	Equipment	Method	Requirements
1. NOx	3.0 pph (Limit applies to each engine)	Hourly	EUENGINE1-S2, EUENGINE2-S2, EUENGINE3-S2	SC V.1, SC VI.8	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)
2. CO	16.3 pph (Limit applies to each engine)	Hourly	EUENGINE1-S2, EUENGINE2-S2, EUENGINE3-S2	SC V.1, SC VI.8	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)
3. CO	212.0 tpy (Total for the flexible group)	12-month rolling time period as determined at the end of each calendar month	FGENGINES-S2	SC V.1, SC VI.7, SC VI.8	R 336.1205(1)(a) & (3)
4. SO_2	9.05 pph (Limit applies to each engine)	Hourly	EUENGINE1-S2, EUENGINE2-S2, EUENGINE3-S2	SC V.2, SC VI.8	R 336.1205(1)(a) & (3), 40 CFR 52.21 (c) & (d)
5. SO_2	119.0 tpy (Total for the flexible group)	12-month rolling time period as determined at the end of each calendar month	FGENGINES-S2	SC V.2, SC V.4, SC VI.4, SC VI.8	R 336.1205(1)(a) & (3)
6. VOC (includes formaldehyde)	92.0 tpy (Total for the flexible group)	12-month rolling time period as determined at the end of each calendar month	FGENGINES-S2	SC VI.6, SC VI.8	R 336.1205(1)(a) & (3)
7. Formaldehyde	2.08 pph (Limit applies to each	Hourly	EUENGINE1-S2, EUENGINE2-S2, EUENGINE3-	SC V.3, SC VI.8	R 336.1225(1)[1]

	engine)		S2		

AQD Comment: Appears to be in COMPLIANCE. Since the PTI was just issued 2 days prior to staff's inspection, the facility still has time to conduct stack testing and/or to conduct the monthly sampling to show compliance with the above limits.

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall only burn treated landfill gas in FGENGINES-S2. (R 336.1225, R 336.1331, R 336.1702)

AQD Comment: Appears to be in COMPLIANCE. They only combust landfill gas.

2. No later than 60 days after permit issuance, the permittee shall submit to the AQD District Supervisor, for review and approval, an updated malfunction abatement/preventative maintenance plan for FGENGINES-S2. After approval of the malfunction abatement/preventative maintenance plan by the AQD District Supervisor, the permittee shall not operate FGENGINES-S2 unless the malfunction abatement/preventative maintenance plan, or an alternate plan approved by the AQD District Supervisor, is implemented and maintained. The plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporating standard industry practices. At a minimum the plan shall include:

a) Identification of the equipment and, if applicable, air-cleaning device, and the supervisory personnel responsible for overseeing the inspection, maintenance, and repair.
b) Description of the items or conditions to be inspected and frequency of the inspections or repairs.
c) Identification of the equipment and, if applicable, air-cleaning device, operating parameters that shall be monitored to detect a malfunction or failure, the normal operating range of these parameters and a description of the method of monitoring or surveillance procedures.
d) Identification of the major replacement parts that shall be maintained in inventory for quick replacement.
e) A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If the plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the owner or operator shall revise the plan within 45 days after such an event occurs and submit the revised plan for approval to the AQD District Supervisor. Should the AQD determine the malfunction abatement/preventative maintenance plan to be inadequate, the AQD District Supervisor may request modification of the plan to address those inadequacies. (R 336.1702(a), R 336.1910, R 336.1911, R 336.1912, 40 CFR 52.21(c) & (d))

AQD Comment: Appears to be in COMPLIANCE. The facility still has time to submit this plan if necessary. They had submitted this plan under a previous PTI, but staff mentioned to Justin that they should revisit it to see if it needs updating to meet the above requirements.

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate each engine of FGENGINES-S2 unless an air-to-fuel ratio controller is installed, maintained and operated in a satisfactory manner. (R 336.1702,

R 336.1910)

AQD Comment: Appears to be in COMPLIANCE. The engines are equipped with these.

2. The design capacity of each engine of FGENGINES-S2 shall not exceed 2,233 bhp, as specified by the equipment manufacturer. (R 336.1205(1)(a), R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))

AQD Comment: Appears to be in COMPLIANCE.

3. The permittee shall equip and maintain FGENGINES-S2 with a device to monitor and record the daily fuel usage. (R 336.1205, R 336.1225, R 336.1702)

AQD Comment: Appears to be in COMPLIANCE.

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. Within every 5 years from the date of completion of the most recent stack test, the permittee shall verify NOx and CO emission rates from each engine in FGENGINES-S2, by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in the table below:

Pollutant	Test Method Reference
NOx	40 CFR Part 60, Appendix A
CO	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. (R 336.1205, R 336.1225, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))

AQD Comment: Appears to be in COMPLIANCE. The facility still has time to conduct this testing since the permit was just issued. They have also been conducting CO and NOx testing under the NSPS JJJJ requirements on an annual basis (every 8,760 hours) which would also show compliance with this condition.

2. Within 180 days of permit issuance and every 5 years thereafter, the permittee shall verify SO_2 emission rates from each engine in FGENGINES-S2, by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in the table below:

Pollutant	Test Method Reference
SO_2	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an

AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. (R 336.1205, R 336.1225, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))

AQD Comment: Appears to be in COMPLIANCE. The facility still has time to conduct this testing since the permit was just issued.

3. Within 180 days of permit issuance and every 5 years thereafter, the permittee shall verify the formaldehyde emissions from each engine in FGENGINES-S2. The permittee shall verify formaldehyde emission rates from each engine in FGENGINES-S2, by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in the table below:

Pollutant	Test Method Reference
Formaldehyde	40 CFR Part 60, Appendix A; or Method 320 of Appendix A of 40 CFR Part 63

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. (R 336.1225, R 336.2001, R 336.2003, R 336.2004)

AQD Comment: Appears to be in COMPLIANCE. The facility still has time to conduct this testing since the permit was just issued.

4. The permittee shall verify the hydrogen sulfide (H_2S) or total reduced sulfur (TRS) content of the landfill gas burned in FGENGINES-S2 monthly by gas sampling (e.g. Draeger Tubes, Tedlar Sampling Bags, etc.) and semi-annually by gas sampling using an EPA approved method and laboratory analysis, at the owner's expense, in accordance with Department requirements. If at any time, the H_2S (TRS equivalent) concentration of the landfill gas sample exceeds 1500 ppmv, the permittee shall sample and record the H_2S (TRS equivalent) concentration of the landfill gas weekly and shall review all operating and maintenance activities for the landfill gas collection and treatment system along with keeping records of corrective actions taken. Once the H_2S (TRS equivalent) concentration of the landfill gas (determined from 4 weekly samples) is maintained below 1500 ppmv for one month after an exceedance, the permittee may resume monthly monitoring and recordkeeping. No less than 30 days prior to the initial test for each type of gas sampling, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to the first test for each type of gas sampling. Thereafter, the permittee shall submit a test plan upon the request of the AQD District Supervisor or if any changes are made to the approved testing protocol. The permittee shall keep all records on file at the facility and make them available to the Department upon request. (R 336.1205(3), R 336.1225, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21 (c) & (d))

AQD Comment: Appears to be in COMPLIANCE. Since the PTI was just issued, the facility just started taking these readings.

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205, R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**

AQD Comment: Appears to be in COMPLIANCE. Since the PTI was just issued, records have not been generated yet.

2. The permittee shall continuously monitor and record, in a satisfactory manner, the landfill gas usage for FGENGINES-S2. (40 CFR 52.21(c) & (d))

AQD Comment: Appears to be in COMPLIANCE.

3. The permittee shall keep, in a satisfactory manner, records of gas sampling and analysis for H_2S or TRS concentration in the landfill gas routed to FGENGINES-S2. The permittee shall keep all records on file and make them available to the Department upon request. (R 336.1205 (1)(a) & (3), R 336.1224, R 336.1225, R 336.1901, 40 CFR 52.21 (c) & (d))

AQD Comment: Appears to be in COMPLIANCE. Since the PTI was just issued, the facility just started taking these readings.

4. **The permittee shall calculate and keep, in a satisfactory manner, records of monthly and 12-month rolling total SO_2 mass emissions for FGENGINES-S2. Calculations shall be performed according to Appendix A. The permittee shall keep all records on file and make them available to the Department upon request. (R 336.1205(1)(a) & (3), 40 CFR 52.21 (c) & (d)))**

AQD Comment: Appears to be in COMPLIANCE. Since the PTI was just issued, records have not been generated yet.

5. **The permittee shall calculate and keep, in a satisfactory manner, records of monthly and 12-month rolling NO_X and CO mass emissions for FGENGINES-S2. Calculations shall be performed using the most recent stack test data for NOx and CO emissions. The permittee shall keep all records on file and make them available to the Department upon request. (R 336.1205(1)(a) & (3), 40 CFR 52.21 (c) & (d))**

AQD Comment: Appears to be in COMPLIANCE. Since the PTI was just issued, records have not been generated yet.

6. **The permittee shall calculate and keep, in a satisfactory manner, records of monthly and 12-month rolling total VOC (including formaldehyde) mass emissions for FGENGINES-S2. Calculations shall be performed using the most recent stack test data for VOC and formaldehyde emissions. The permittee shall keep all records on file and make them available to the Department upon request. (R 336.1205(1)(a) & (3), 40 CFR 52.21 (c) & (d))**

AQD Comment: Appears to be in COMPLIANCE. Since the PTI was just issued, records have not been generated yet.

7. The permittee shall maintain the following record for each engine in FGENGINES-S2. The following information shall be recorded and kept on file at the facility:

a) Engine manufacturer.
b) Date engine was manufactured.
c) Engine model number.
d) Engine horsepower.
e) Engine serial number.
f) Engine specification sheet.
g) Date of initial startup of the engine.
h) Date engine was removed from service at this stationary source.

All of the above information shall be stored in a format acceptable to the AQD District Supervisor. (R 336.1205, R 336.1225, R 336.1301, R 336.1331, R 336.1702, R 336.1910, R 336.1911, R 336.1912, 40 CFR 52.21(c) & (d))

AQD Comment: Appears to be in COMPLIANCE.

8. The permittee shall maintain records of all information necessary for all notifications and reports for FGENGINES-S2, as specified in these special conditions as well as that information necessary to demonstrate compliance with the emission limits of this permit. This information shall include, but shall not be limited to the following:

a) Compliance tests and any testing required under the special conditions of this permit.
b) Monitoring data for the hours of operation, volumetric flow rate and landfill gas usage.
c) Calculated amount of landfill gas combusted in each engine on a monthly and 12-month rolling basis.
d) Hours of operation on a monthly and 12-month rolling basis.
e) Monthly average Btu content of the landfill gas burned.
f) Manufacturer's data, specifications, and operating and maintenance procedures for each engine.
g) Maintenance activities conducted according to the PM/MAP for each engine.
h) All calculations necessary to show compliance with the limits contained in this permit.

All of the above information shall be stored in a format acceptable to the AQD District Supervisor. (R 336.1205, R 336.1225, R 336.1301, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, R 336.1912, 40 CFR 52.21(c) & (d))

AQD Comment: Appears to be in COMPLIANCE. Since the PTI was just issued, some of the above records have not been generated yet.

VII. REPORTING

1. The permittee shall notify the AQD district office within 15 days of when the frequency of the gas sampling changes for any reason. (R 336.1201(3))

AQD Comment: Appears to be in COMPLIANCE. They just started conducting the sampling so it is N/A to date.

2. The permittee shall notify the AQD District Supervisor of an engine change-out and submit a description of the engine and acceptable emissions data to show that the alternate engine is equivalent-emitting or lower-emitting. The data shall be submitted within 30-days of the engine change out. (R 336.1205, R 336.1702(a), R 336.1911, 40 CFR 52.21 (c) & (d))

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVENGINE1-S2	16.1	48.0	R 336.1225, 40 CFR 52.21(c) & (d)
2. SVENGINE2-S2	16.1	48.0	R 336.1225, 40 CFR 52.21(c) & (d)
3. SVENGINE3-S2	16.1	48.0	R 336.1225, 40 CFR 52.21(c) & (d)

AQD Comment: Appears to be in COMPLIANCE with the above stack dimensions.
Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

FGRICENSPS-S2
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Non-emergency engine(s) greater than 500 hp, fueled with landfill gas. Engine(s) ordered after June 12, 2006 and manufactured on or after July 1, 2007.

Emission Unit: EUENGINE1-S2, EUENGINE2-S2, EUENGINE3-S2

POLLUTION CONTROL EQUIPMENT

Air-to-fuel ratio controller on each engine.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. NOx	3.0 g/hp-hr OR 220 ppmvd at 15% O_2	Hourly	Each engine in FGRICENSPS-S2	SC V.1	40 CFR 60.4233(e) Table 1 to Subpart JJJJ of Part 60

2. CO	5.0 g/hp-hr OR 610 ppmvd at 15% O_2	Hourly	Each engine in FGRICENSPS-S2	SC V.1	40 CFR 60.4233(e) Table 1 to Subpart JJJJ of Part 60
3. VOC*	1.0 g/hp-hr OR 80 ppmvd at 15% O_2	Hourly	Each engine in FGRICENSPS-S2	SC V.1	40 CFR 60.4233(e) Table 1 to Subpart JJJJ of Part 60

*Per the NSPS, formaldehyde is not included

AQD Comment: Appears to be in COMPLIANCE. The facility has been conducting this testing annually (every 8,760 hours) and has been in compliance with the limits.

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall operate and maintain each engine in FGRICENSPS-S2 such that it meets the emission limits established, over the entire life of the engine. (40 CFR 60.4234, 40 CFR 60.4243(b))

AQD Comment: Appears to be in COMPLIANCE. Staff has to assume that they operate and maintain the engine properly.

2. If the permittee purchased a non-certified engine or a certified engine operating in a non-certified manner, the permittee shall keep a maintenance plan for each engine in FGRICENSPS-S2 and shall, to the extent practicable, maintain and operate each engine in a manner consistent with good air pollution control practice for minimizing emissions. (40 CFR 60.4243 (b))

AQD Comment: Appears to be in COMPLIANCE. The facility has a maintenance plan for the engines.

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain each engine in FGRICENSPS-S2 with non-resettable hours meters to track the operating hours. (40 CFR 60.4243)

AQD Comment: Appears to be in COMPLIANCE.

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall conduct an initial performance test shall, except as provided in 40 CFR 60.4243(b), for each engine in FGRICENSPS-S2 within one year after startup of the engine and every 8760 hours of operation (as determined through the use of a non-resettable hour meter) or three years, whichever occurs first, to demonstrate compliance with the emission limits in 40 CFR 60.4233(e). If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4244. No less than 30 days prior to any testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing.

Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. (40 CFR 60.8, 40 CFR 60.4243, 40 CFR 60.4244, 40 CFR 60.4245, 40 CFR Part 60 Subpart JJJJ)

AQD Comment: Appears to be in COMPLIANCE. The facility has been conducting this testing annually (every 8,760 hours).

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. If the permittee purchased a non-certified engine or a certified engine operating in a non-certified manner, the permittee shall keep a maintenance plan and records of conducted maintenance for each engine in FGRICENSPS-S2 and shall, to the extent practicable, maintain and operate each engine in a manner consistent with good air pollution control practice for minimizing emissions. (40 CFR 60.4243(b))

AQD Comment: Appears to be in COMPLIANCE.

VII. REPORTING

1. The permittee shall submit an initial notification as required by 40 CFR 60.7(a)(1) for each engine in FGRICENSPS-S2 if the engine(s) installed is/are not certified by an engine manufacturer to meet the emission standards in 40 CFR 60.4231. The notification shall include the information below, as specified in 40 CFR 60.4245 (c)(1) through (5):

a) Name and address of the owner or operator. (40 CFR 60.4245(c)(1))
b) The address of the affected source. (40 CFR 60.4245(c)(2))
c) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement. (40 CFR 60.4245(c)(3))
d) Emission control equipment. (40 CFR 60.4245(c)(4))
e) Fuel used. (40 CFR 60.4245(c)(5))

The permittee shall submit the initial notification to the AQD District Supervisor in an acceptable format within 30 days of commencing construction of any engine in FGRICENSPS-S2. (40 CFR Part 60 Subpart JJJJ)

AQD Comment: Appears to be in COMPLIANCE.

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the New Source Performance Standards, as specified in 40 CFR Part 60, Subpart A and Subpart JJJJ, as they apply to each engine in FGRICENSPS-S2. (40 CFR Part 60 Subparts A and JJJJ)

AQD Comment: Appears to be in COMPLIANCE.

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

FGRICEMACT-S2
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

New, existing, 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.

Emission Unit: EUENGINE1-S2, EUENGINE2-S2, EUENGINE3-S2

POLLUTION CONTROL EQUIPMENT

Air-to-fuel ratio controller on each engine.

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. Each engine in FGRICEMACT-S2 shall operate in a manner which reasonably minimizes HAP emissions.
   (40 CFR 63.6625(c))

AQD Comment: Appears to be in COMPLIANCE. Staff has to assume that this is being done.

2. Each engine in FGRICEMACT-S2 shall operate in a manner which minimizes time spent at idle during startup and minimize the startup time to a period needed for appropriate and safe loading of each engine, not to exceed 30 minutes. (40 CFR 63.6625(h))

AQD Comment: Appears to be in COMPLIANCE. Staff has to assume that this is being done.

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. FGRICEMACT-S2 shall equip and maintain a fuel meter to monitor and record the daily fuel usage and volumetric flow rate of the landfill gas used. **(40 CFR 63.6625(c)**

AQD Comment: Appears to be in COMPLIANCE.

VI. MONITORING/RECORDKEEPING
Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The engines in FGRICEMACT-S2, which fire landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, must monitor and record the daily fuel usage with separate fuel meters to measure the volumetric flow rate of each fuel. (40 CFR 63.6625(c))

AQD Comment: Appears to be in COMPLIANCE.

VII. REPORTING

1. The permittee shall submit an annual report for FGRICEMACT-S2 in accordance with Table 7 of 40 CFR Part 63, Subpart ZZZZ to the appropriate AQD district office by no later than January 31.

The following information shall be included in this annual report:

a) The fuel flow rate and the heating values that were used in the permittee's calculations. Also, the permittee must demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis. (40 CFR 63.6650(g)(1))

b) The operating limits provided in the permittee's federally enforceable permit, and any deviations from these limits. (40 CFR 63.6650(g)(2))

c) Any problems or errors suspected from the fuel flow rate meters. (40 CFR 63.6650(g)(3))

(40 CFR 63.6650(g), 40 CFR 63.6650(b)(5))

AQD Comment: Appears to be in COMPLIANCE. The facility has been submitting the report even though the AQD wasn't requiring it previously.

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with the provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR, Part 63, Subpart A and Subpart ZZZZ, as they apply to each engine in FGRICEMACT-S2. (40 CFR Part 63 Subparts A and ZZZZ)

AQD Comment: Appears to be in COMPLIANCE.

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

FGFACILITY CONDITIONS

DESCRIPTION: The following conditions apply source-wide to all process equipment including equipment covered by other permits, grand-fathered equipment and exempt equipment.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. SO_2	144.0 tpy (based on Flare max capacity and 1500 ppm Sulfur)	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(1) (a) & (3)
2. CO	212.0 tpy (based on RICE max capacity)	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(1) (a) & (3)

AQD Comment: Appears to be in COMPLIANCE. Since the PTI was just issued, emission records have not been generated yet.

VI. MONITORING/RECORDKEEPING
Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 30th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. (R 336.1205 (1)(a) & (3), 40 CFR 52.21(c) & (d))

AQD Comment: Appears to be in COMPLIANCE. Since the PTI was just issued, emission records have not been generated yet.

2. The permittee shall calculate and keep, in a satisfactory manner, records of monthly and 12-month rolling total SO_2 mass emissions for FGFACILITY. Calculations shall be performed according to Appendix A. The permittee shall keep all records on file and make them available to the Department upon request. (R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))

AQD Comment: Appears to be in COMPLIANCE. Since the PTI was just issued, emission records have not been generated yet.

3. The permittee shall calculate and keep, in a satisfactory manner, records of monthly and 12-month rolling total CO mass emissions for FGFACILITY. Calculations shall be performed according to Appendix A and using the most recent operating parameters and tested emission factors. The permittee shall keep all records on file and make them available to the Department upon request. (R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))

AQD Comment: Appears to be in COMPLIANCE. Since the PTI was just issued, emission records have not been generated yet.

APPENDIX A
Calculations for Criteria Pollutants

The permittee shall use the following calculations in conjunction with monitoring, testing or recordkeeping data to determine compliance with the applicable requirements referenced in FGENGINES-S2.

SO_2 Mass Emissions

The following calculation for SO_2 emissions shall utilize the actual gas usage, actual hours of operation, and the sulfur concentration from gas sampling and/or a gas chromatograph.

$SO_2 = [(scf/month) \times (ppmv_{sulfur} * 1E\text{-}06) \times (MW_{SO2})] \div [(R \times T)] = pounds/month$

Where:
Scf/month = standard cubic feet per month gas flow
$ppmv_{sulfur}$ = parts per million by volume of Sulfur in the gas
MW_{SO2} = Molecular Weight of SO_2 = 64.066 lb/lb-mol
H = Actual Hours of Operation per month
R = Universal Gas Constant = 0.7302 atm-ft^3/lb-mol-R
T = Standard Temperature (absolute) = 519 R

NANR INSPECTION CONCLUSION: The facility appears to be in COMPLIANCE with Section 2 of MI-ROP-N5432-2016 and PTI No. 1-20 at the present time.

Section 1 - Southeast Berrien County Landfill

Staff arrived at the SEBCL at approximately 12:45 p.m. after the NANR inspection. Staff met with Tyler Ganus (General Manager) and Emily Peters (Environmental Compliance Manager) outside the office area where we could maintain social distancing. As mentioned in the

opening paragraph, staff had scheduled the inspection due to the Coronavirus. On top of that, the facility had e-mailed staff copies of their records that staff requested to review at their office in an effort to limit personal contact and time on site.

The following is a summary of staff's discussion with Tyler and/or Emily while on site as well as comments staff had regarding their ROP and PTI requirements after staff reviewed them.

According to Emily, SEBCL takes in 1000 tons of waste per day on average. The landfill still operates Monday through Friday from 7 a.m. until 5 p.m. but they aren't working any Saturdays currently (they use to work from 8:00 a.m. until Noon). The landfill also includes a Recycling Center next door to the landfill office that's intended to be used by residents of area municipalities. Staff then asked if they ever receive any odor complaints from nearby residents because we haven't received any in years. Emily said that they have received them but it's not very often. Staff went on to ask about any scheduled GCCS work for this year and Emily stated that they plan to install 4 vertical wells and 5 horizontals with buried vertical wells attached to them. She said that they plan to start on June 29th depending of if they get the materials. Staff then asked Emily if they do any leachate recirculation to which she said they did not. She said that all leachate still goes to the POTW whether by truck or their sewer discharge. Staff then asked about the leachate treatment system and she said that the new SBR (Sequencing Batch Reactor) leachate treatment system has been in use for about a couple of years now. She said it is the same type of system as the old one but it has more automation and can treat more. She said currently they treat about 50,000 gallons a day. Staff then asked some more operational type questions that will be covered below under the various emission units. Staff also went on a tour of the landfill, while driving separate vehicles, before departing at approximately 2:00 p.m.

The following is a summary of the facilities emission groups, flexible groups, the inspection staff conducted, and the facilities compliance status.

EULANDFILL: Appears to be in COMPLIANCE

As mentioned previously, SEBCL is currently taking in, on average, 1000 tons of waste per day. They are keeping track of the waste acceptance rates and that is also a requirement of Part 115 that the OWMRP administers. As mentioned previously, they do not re-circulate any leachate and it all ends up going to the POTW in Buchanan after it has gone through a nitrification treatment process (SBR) due to it having excessive ammonia in it. The facility has an approved active gas collection system and control device (Open Flare). The flare is used as a back-up control device should NANR's engines go down. The landfill has been conducting quarterly surface emissions monitoring and they appear to be keeping the appropriate records as required. An employee named Josh Eagleson conducts the surface emissions monitoring with a Landtec SEM 500. Staff reviewed all the records for the last 4 quarters (2nd quarter of 2019 through 1st quarter of 2020) which included instrument calibration data, the route traversed while conducting the monitoring, and if any exceedences were documented. No exceedences were documented. They are conducting cover integrity checks once a month as required and they typically conduct these either during the monthly well monitoring or when doing the quarterly surface emissions monitoring. The facility has a Startup, Shutdown, and Malfunction (SSM) Plan on site as required and has been submitting the required semi-annual ROP Certification Reports and SSM Reports to the district office on time.

EUACTIVECOLL: Appears to be in COMPLIANCE

The facility has an approved active gas collection system as required and the materials used in the gas collection system appear to be either HDPE or PVC which meets requirements. The header pipe and lateral lines are HDPE and the well casings are PVC schedule 80. The facility keeps an ASBUILT drawing showing the existing collection system and proposed expansion

areas. The facility currently has 96 gas wells, including horizontals, and the monthly monitoring is done using an Elkins Envision gas analyzer. The wells are all equipped with either Landtech, QED, or Elkins wellheads. Emily and Tyler had mentioned that they are transitioning to QED wellheads and all future projects will have them installed. Josh Eagleson also does the wellfield monitoring and they are recording static pressure (vacuum), oxygen, and temperature as required. Staff reviewed the previous six months of data and the facility has also been taking corrective action in the required time frames or has asked for alternate compliance timelines and/or alternate operating scenarios for any monitoring parameters that exceed NSPS limits. The facility usually submits the required semi-annual ROP Certification Reports and SSM Reports to the district office.

EUOPENFLARE: Appears to be in COMPLIANCE

The facility has an open flare that is used for back-up purposes should the NANR facility shut down. The flare is a skid mounted unit and the manufacturer is Calidus with a flow rating capacity of 200 to 2200 scfm. The control panel of the flare has been retrofitted with John Zink instrumentation. The open flare is equipped with a Yokogawa electronic data logger that records flow and temperature. The information gets downloaded weekly to their computer if it has been operating. The flare is also equipped with a thermocouple to monitor the continuous presence of a flame. The flare is not equipped with any type of bypass and should the flare shut down while in use, a pneumatic valve (operated by a nitrogen tank) automatically closes preventing emissions from venting to the atmosphere. They have two blowers now that act as the vacuum source on the wellfield with one being a back-up unit as well as allowing the landfill to alternate operations between the two. The following are the Special Conditions of the recently issued PTI No. 182-19.

EUOPENFLARE-S1
EMISSION UNIT CONDITIONS

DESCRIPTION

One landfill gas open utility flare with a rated design capacity of 2,200 scfm, used to control excess landfill gas or when the landfill gas to energy plant is down.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. SO_2	33.4 pph	Hourly	EUOPENFLARE-S1	SV.3, SC VI.2 SC VI.7	40 CFR 52.21(c) & (d)
2. SO_2	144.0 tpy	12-month rolling time period as determined at the end of each calendar month	EUOPENFLARE-S1	SV.3, SC VI.2, SVI.7	R 336.1205(1)(a) & (3)
3. CO	0.37 lb/MMBTU	Hourly	EUOPENFLARE-S1	SC V.1, SC VI.2,	40 CFR 52.21(d)

				SC VI.3	
4. CO	113.0 tpy	12-month rolling time period as determined at the end of each calendar month	EUOPENFLARE-S1	SC V.1, SC VI.2, SC VI.3, SC VI.8	R 336.1205(1)(a) & (3)

AQD Comment: Appears to be in COMPLIANCE. Since the PTI was recently issued (2-months ago), the facility hasn't had much time to generate emissions records yet.

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Net heating value of landfill gas	≥ 200 BTU/scf for non-assisted flares	Hourly	EUOPENFLARE-S1	SC V.1, SV VI.3	40 CFR 60.18 (c)(3)(ii)

AQD Comment: Appears to be in COMPLIANCE. The facility did an initial performance test on the flare years ago and met this value. Since landfill gas has approximately ½ the btu content of natural gas, an average landfill gas concentration of 50% methane would have about 500 btus.

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. No later than 60 days after issuance of EUOPENFLARE-S1, the permittee shall submit to the AQD District Supervisor, for review and approval, a preventative maintenance / malfunction abatement plan (PM / MAP) for EUOPENFLARE-S1. After approval of the PM / MAP by the AQD District Supervisor, the permittee shall not operate EUOPENFLARE-S1 unless the PM / MAP, or an alternate plan approved by the AQD District Supervisor, is implemented and maintained. The plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporating standard industry practices. At a minimum the plan shall include:

Identification of the equipment and, if applicable, air-cleaning device, and the supervisory personnel responsible for overseeing the inspection, maintenance, and repair.

b) Description of the items or conditions to be inspected and frequency of the inspections or repairs.
c) Identification of the equipment and, if applicable, air-cleaning device, operating parameters that shall be monitored to detect a malfunction or failure, the normal operating range of these parameters and a description of the method of monitoring or surveillance procedures.
d) Identification of the major replacement parts that shall be maintained in inventory for quick replacement.
e) A description of the corrective procedures or operational changes that shall be taken in

the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the PM / MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the PM / MAP within 45 days after such an event occurs. The permittee shall also amend the PM / MAP within 45 days, if new equipment is installed or upon request from the AQD District Supervisor. The permittee shall submit the PM / MAP and any amendments to the PM / MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the PM / MAP or amended PM / MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. (R 336.1205 (1)(a) & (3), R 336.1224, R 336.1225, R 336.1910, R 336.1911, R 336.1912)

AQD Comment: Appears to be in COMPLIANCE. The landfill submitted a PM/MAP for their open flare.

2. The permittee shall operate the landfill gas collection system such that all collected gases are vented to a control system designed and operated in compliance with 40 CFR 60.752(b)(2)(iii). In event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within one hour. (40 CFR 60.752(b)(2)(ii), 40 CFR 60.753(e), 40 CFR 63.1955(a))

AQD Comment: Appears to be in COMPLIANCE.

3. The permittee shall operate EUOPENFLARE-S1 at all times when the collected gas is routed to it. (40 CFR 60.752(b)(2)(iii)(A), 40 CFR 60.753(f), 40 CFR 63.1955(a))

AQD Comment: Appears to be in COMPLIANCE.

4. The permittee shall operate EUOPENFLARE-S1 with no visible emissions, as determined by the methods specified in 40 CFR 60.18(f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. (40 CFR 60.18(c)(1))

AQD Comment: Appears to be in COMPLIANCE. The flare hardly runs and when it does, VEs haven't been an issue to AQD knowledge.

5. The permittee shall operate EUOPENFLARE-S1 with a pilot flame present at all times, as determined by the methods specified in 40 CFR 60.18(f). (40 CFR 60.18(c)(2))

AQD Comment: Appears to be in COMPLIANCE.

6. Non-assisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in 40 CFR 60.18(f)(4), less than 18.3 m/sec (60 ft/sec), except as provided in 40 CFR 60.18(c)(4)(ii) and (iii). (40 CFR 60.18(c)(4)(i))
   a) Non-assisted flares designed for and operated with an exit velocity, equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 BTU/scf). (40 CFR 60.18(c)(4)(ii))
   b) Non-assisted flares designed for and operated with an exit velocity, as determined by the methods specified in 40 CFR 60.18(f)(4) less than the velocity, Vmax, as determined by the method specified in
   40 CFR 60.18(f)(5), and less than 122 m/sec (400 ft/sec) are allowed. (40 CFR 60.18(c)(4)

(iii))

AQD Comment: Appears to be in COMPLIANCE.

7. The permittee shall install, calibrate, maintain, and operate, according to the manufacturer's specifications, a heat sensing device for EUOPENFLARE-S1, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame for EUOPENFLARE-S1.
(40 CFR 60.756(c)(1), 40 CFR 63.1955(a))

AQD Comment: Appears to be in COMPLIANCE. The open flare is equipped with a thermocouple.

8. The permittee shall install, calibrate, maintain, and operate according to the manufacturer's specifications, a landfill gas flow rate measuring device for EUOPENFLARE-S1 to record the flow to or bypass of the flare at least every 15 minutes. (R 336.1205(1)(a) & (3), R 336.1225, R 336.1702, 40 CFR 60.756(c)(2))

AQD Comment: Appears to be in COMPLIANCE.

9. The provisions of NSPS WWW apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction shall not exceed 1 hour for
EUOPENFLARE-S1. (40 CFR 60.755(e), 30 CFR 63.1955(a))

AQD Comment: Appears to be in COMPLIANCE.

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The nameplate capacity of EUOPENFLARE-S1 shall not exceed 2,200 scfm, as specified by the equipment manufacturer. (R 336.1205(1)(a) & (3), R 336.1225, R 336.1702, 40 CFR 52.21 (c) & (d))

AQD Comment: Appears to be in COMPLIANCE.

V. TESTING/SAMPLING
Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall verify the net heating value of the combusted landfill gas, as required in 40 CFR 60.752(b)(2)(iii)(A) for EUOPENFLARE-S1. The net heating value of the combusted landfill gas determined in 40 CFR 60.18(f)(3) is calculated from the concentration of methane in the landfill gas as measured by Method 3C and the calculation in Appendix 7-S1. A minimum of three 30-minute Method
3C samples are determined. The measurement of other organic components, hydrogen, and carbon monoxide is not applicable. After initial compliance, the permittee may use an alternative method and frequency for determining the net heating value, as approved by the AQD Supervisor and described in Appendix B. (R 336.1205(1)(a) & (3), 40 CFR 60.752(b)(2)(iii)(A), 40 CFR 60.754(e))

AQD Comment: Appears to be in COMPLIANCE. The facility conducted this testing years ago during the initial performance test and the landfill gas met the net heating value.

2. The permittee shall evaluate visible emissions from EUOPENFLARE-S1, as required by federal Standards of Performance for New Stationary Sources, at owner's expense, in accordance 40 CFR Part 60,

Subparts A and WWW. Visible emission observation procedures must have prior approval by the AQD. After initial compliance, the permittee may use an alternative method and frequency for determining the visible emissions, as approved by the AQD Supervisor. (40 CFR 60.18(f)(1), 40 CFR 60.752(b)(2)(iii)(A))

AQD Comment: Appears to be in COMPLIANCE. VEs had been evaluated years ago during the initial performance test. VEs haven't been an issue with the flare when it's been operational to AQD knowledge.

3. **Within 45 days of permit issuance, the permittee shall verify the hydrogen sulfide (H_2S) or total reduced sulfur (TRS) content of the landfill gas burned in EUOPENFLARE-S1 weekly by gas sampling (e.g., Draeger Tubes, Tedlar Sampling Bags, etc.) and semi-annually by gas sampling using an EPA approved method and laboratory analysis, at the owner's expense, in accordance with Department requirements. If at any time, the H_2S (TRS equivalent) concentration of the landfill gas sample exceeds 1500 ppmv, the permittee shall sample and record the H_2S (TRS equivalent) concentration of the landfill gas daily and shall review all operating and maintenance activities for the landfill gas collection and treatment system along with keeping records of corrective actions taken. Once the H_2S (TRS equivalent) concentration of the landfill gas (determined from five consecutive daily samples) is maintained below 1500 ppmv the permittee may resume monthly/weekly monitoring and recordkeeping. Permittee may use H_2S (TRS equivalent) testing conducted at the gas to energy plant to comply with the above testing requirement when the flare is down but the plant is operating.**

   No less than 30 days prior to the initial test for each type of gas sampling, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to the first test for each type of gas sampling. Thereafter, the permittee shall submit a test plan upon the request of the AQD District Supervisor or if any changes are made to the approved testing protocol. The permittee shall keep all records on file at the facility and make them available to the Department upon request. (R 336.1205(3), R 336.1225, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21 (c) & (d))

AQD Comment: Appears to be in COMPLIANCE. The facility has been conducting the weekly readings with a Draegar Tube and they have averaged around 700 ppm.

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 30th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1702(a), R 336.1910, R 336.1911, 40 CFR 52.21(c) & (d), 40 CFR 60.756, 40 CFR 60.758)**

   AQD Comment: Appears to be in COMPLIANCE.

2. The permittee shall continuously monitor and record the gas flow rate for EUOPENFLARE-S1 as specified in 40 CFR 60.756(c) and SC III.2. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, 40 CFR 52.21(c) & (d), 40 CFR 60.756(b)(1) & (2), 40 CFR 63.1955(a))**

AQD Comment: Appears to be in COMPLIANCE.

3. The permittee shall maintain a record the following information for EUOPENFLARE-S1:
   a) The maximum annual expected landfill gas generation flow rate. (40 CFR 60.758(b)(1)(i))
   b) All visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in 40 CFR 60.18, continuous records of the flare pilot flame or flare flame monitoring, and records of all periods of operations during which the pilot flame of the flare flame is absent. (40 CFR 60.758(b)(4))

   The permittee shall keep all records on file at the facility and make them available to the Department upon request. (R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1331, R 336.1702(a), R 336.1910,
   40 CFR 52.21(c) & (d), 40 CFR 60.758, 40 CFR 63.1955(a))

AQD Comment: Appears to be in COMPLIANCE.

4. The permittee shall keep up-to-date, readily accessible records of all control system exceedances of the operational standards in 40 CFR 60.753. (40 CFR 60.758(e), 40 CFR 63.1955(a))

AQD Comment: Appears to be in COMPLIANCE.

5. The permittee shall keep, in a satisfactory manner, all records related to, or as required by, the PM / MAP for EUOPENFLARE-S1. (R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1702(a), R 336.1910, R 336.1911, R 336.1912, 40 CFR 52.21(c) & (d))

AQD Comment: Appears to be in COMPLIANCE.

6. The permittee shall keep, in a satisfactory manner, records of gas sampling and analysis for H_2S or TRS concentration in the landfill gas routed to EUOPENFLARE-S1. The permittee shall keep all records on file and make them available to the Department upon request. (R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1901, 40 CFR 52.21(c) & (d))

AQD Comment: Appears to be in COMPLIANCE.

7. The permittee shall calculate and keep, in a satisfactory manner, records of monthly and 12-month rolling total SO_2 mass emissions for EUOPENFLARE-S1. Calculations shall be performed according to
   Appendix A. The permittee shall keep all records on file and make them available to the Department upon request. (R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))

AQD Comment: Appears to be in COMPLIANCE. Since the permit was recently issued, there hasn't been much data yet to generate these records.

8. The permittee shall calculate and keep, in a satisfactory manner, records of monthly and 12-month rolling
   CO mass emissions for EUOPENFLARE-S1. Calculations shall be performed according to Appendix A. The permittee shall keep all records on file and make them available to the Department upon request. (R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))

AQD Comment: Appears to be in COMPLIANCE. Since the permit was recently issued, there hasn't been much data yet to generate these records.

9. The permittee shall keep, in a satisfactory manner, records of the monthly hours of operation for EUOPENFLARE-S1. The permittee shall keep all records on file and make them available to the Department upon request. (R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, 40 CFR 52.21(c) & (d))

AQD Comment: Appears to be in COMPLIANCE.

VII. REPORTING

1. The permittee shall submit to the appropriate AQD District Office semiannual reports for the gas collection system. Reports shall be received by appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. The semiannual report shall contain: (40 CFR 60.757(f), 40 CFR 63.1980(a), 40 CFR 63.1955(a))
   a) Value and length of time for exceedance of applicable parameters monitored under 40 CFR 60.756(c). (40 CFR 60.757(f)(1) 40 CFR 63.1980(a), 40 CFR 63.1955(a))
   b) Description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under 40 CFR 60.756(b). (40 CFR 60.757(f)(2), 40 CFR 63.1955(a))
   c) Description and duration of all periods when the control device was not operating for a period exceeding 1-hour and length of time the control device was not operating. (40 CFR 60.757(f)(3), 40 CFR 63.1955(a))
   d) All periods when the collection system was not operating in excess of 5 days. (40 CFR 60.757(f)(4),
   40 CFR 63.1955(a))

AQD Comment: Appears to be in COMPLIANCE. The landfill has been submitting this report.

2. The permittee shall submit an equipment removal report to the AQD 30 days prior to removal or cessation of operation of the open flare (40 CFR 60.757(e)):
   a) The equipment removal report shall contain all of the following items:
      i. A copy of the closure report submitted in accordance with §60.757 (40 CFR 60.757 (e)(1)(i), 40 CFR 63.1955(a))
      ii. A copy of the initial performance test report demonstrating that the 15-year minimum control period has expired (40 CFR 60.757(e)(1)(ii), 40 CFR 63.1955(a))
      iii. Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year. (40 CFR 60.757(e)(1)(iii),
      40 CFR 63.1955(a))
      iv. Additional information may be requested as may be necessary to verify that all of the conditions for removal in §60.752(b)(2)(v) have been met. (40 CFR 60.757(e)(2), 40 CFR 63.1955(a))

AQD Comment: Currently N/A since it is still an operating landfill.

3. The permittee shall submit the startup, shutdown, and malfunction (SSM) report to the appropriate AQD District Office and it shall be delivered or postmarked by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. (40 CFR 63.10(a)(5), 40 CFR 63.10(d)(5))

AQD Comment: Appears to be in COMPLIANCE. The landfill has been submitting this report.

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed

vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVOPENFLARE-S1	12.0	23.33	R 336.1225, 40 CFR 52.21(c) & (d)

AQD Comment: Appears to be in COMPLIANCE with the above stack dimensions.

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources for Municipal Solid Waste Landfills as specified in 40 CFR Part 60 Subparts A and WWW, as they apply to EUOPENFLARE-S1. (40 CFR Part 60 Subparts A & WWW)

AQD Comment: Appears to be in COMPLIANCE.

2. Compliance with 40 CFR Part 63, Subpart AAAA is determined in the same way it is determined for
40 CFR Part 60, Subpart WWW, including performance testing, monitoring of the collection system, continuous parameter monitoring, and other credible evidence. In addition, continuous parameter monitoring data collected under 40 CFR 60.756(c)(2), as specified in SC VI.2, are used to demonstrate compliance with the operating conditions for the open flare. The permittee shall have developed and implemented a written PM / MAP plan according to the provision in 40 CFR 63.6(e)(3) for EUOPENFLARE-S1. A copy of the
SSM plan shall be maintained on site. (40 CFR 63.1960)

AQD Comment: Appears to be in COMPLIANCE.

FGFACILITY CONDITIONS

DESCRIPTION

The following conditions apply source-wide to all process equipment including equipment covered by other permits, grand-fathered equipment and exempt equipment.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. SO_2	144.0 tpy (based on Flare max capacity and 1500 ppm Sulfur)	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(1) (a) & (3)
2. CO	212.0 tpy	12-month	FGFACILITY	SC VI.3	R 336.1205(1)

	(based on RICE max capacity)	rolling time period as determined at the end of each calendar month			(a) & (3)

AQD Comment: Appears to be in COMPLIANCE. Since both the landfill and NANR PTI's were recently issued (both within the last 2 months), they haven't had much time to generate emissions records yet. Staff explained to Emily that this was the total emissions for both the landfill and NANR's engine plant.

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 30th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. (R 336.1205 (1)(a) & (3), 40 CFR 52.21(c) & (d))

AQD Comment: Appears to be in COMPLIANCE.

2. The permittee shall calculate and keep, in a satisfactory manner, records of monthly and 12-month rolling total SO_2 mass emissions for FGFACILITY. Calculations shall be performed according to Appendix A. The permittee shall keep all records on file and make them available to the Department upon request. (R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))

AQD Comment: Appears to be in COMPLIANCE. Since both the landfill and NANR PTI's were recently issued (both within the last 2 months), they haven't had much time to generate emissions records yet.

3. The permittee shall calculate and keep, in a satisfactory manner, records of monthly and 12-month rolling total CO mass emissions for FGFACILITY. Calculations shall be performed according to Appendix A and using the most recent operating parameters and tested emission factors. The permittee shall keep all records on file and make them available to the Department upon request. (R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))

AQD Comment: Appears to be in COMPLIANCE. Since both the landfill and NANR PTI's were recently issued (both within the last 2 months), the haven't had much time to generate emissions records yet.

APPENDIX A
Calculations for Criteria Pollutants

The permittee shall use the following calculations in conjunction with monitoring, testing or recordkeeping data to determine compliance with the applicable requirements referenced in EUACTIVECOLL-S1 and EUOPENFLARE-S1.

SO_2 Mass Emissions

The following calculation for SO_2 emissions shall utilize the actual gas usage, actual hours of operation, and the sulfur concentration from gas sampling and/or a gas chromatograph.

SO_2 = [(scfm) x (60 min/hr) x ($ppmv_{sulfur}$ *1E-06) x (MW_{SO2})] ÷ [(R x T)] = pph x (H) =

pounds/month

Where:
scfm = standard cubic feet per minute gas flow
$ppmv_{sulfur}$ = parts per million by volume of Sulfur in the gas
MW_{SO2} = Molecular Weight of SO_2 = 64.066 lb/lb-mol
H = Actual Hours of Operation per month
R = Universal Gas Constant = 0.7302 atm-ft^3/lb-mol-R
T = Standard Temperature (absolute) = 519 R

CO Mass Emissions
The following calculation for CO emissions shall utilize the actual HHV of the gas, gas flow rate, and hours of operation.

CO = [(HI) x (EF)] = pph x (H) = pounds/month
HI = (HHV) x (scfm) x (1/1.0E+06) x 60 min/hr

Where:
EF_{CO} = 0.37 lb/MMBTU (open flare)
scfm = standard cubic feet per minute gas flow
H = Actual Hours of Operation per month
HI = Heat Input (MMBTU/hr)
HHV = Average Hourly LFG Higher Heating Value (BTU/ft^3)

APPENDIX B
Methane Monitoring

Methane Monitoring

The permittee shall calibrate, maintain, and operate in a satisfactory manner, a device to monitor and record the methane (CH_4) content of the landfill gas once a month when the flare is in operation. Using the methane content permittee shall calculate net heating value (BTU/scf) flared on a monthly basis. Permittee may use a portable analyzer GEM 2000 or equivalent.

Landfill Gas Higher Heating Value (HHV) Calculation
The following calculation for HHV determination shall utilize the methane content.

HHV = Methane Heating Value x Landfill Gas Methane Content = Btu/ Standard Cubic Feet (scf)

Where:
Methane Heating Value = 1,050 Btu/scf*
Landfill Gas Methane Content = Measured Methane Content (%)

*Natural gas heating value, AP-42, Appendix A, Page A-5 (Ver 1/95)

APPENDIX 7-S1
Emission Calculations

The permittee shall use the following calculations in conjunction with monitoring, testing or

recordkeeping data to determine compliance with the applicable requirements referenced in EUOPENFLARE-S1.

Calculation Used to Determine NMOC Emissions From any Nonproductive Area

The following shall be used to determine if any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material shall be documented and provided to the District Supervisor upon request. A separate NMOC emissions estimate shall be made for each section proposed for exclusion, and the sum of all such sections shall be compared to the NMOC emissions estimate for the entire landfill. Emissions from each section shall be computed using the following equation: (40 CFR 60.759(a)(3)(ii), 40 CFR 63.1955(a))

Qi = 2 k Lo Mi (e-kt i) (CNMOC) (3.6 × 10−9) where,

Qi = NMOC emission rate from the i^{th} section, megagrams per year

k = methane generation rate constant, year−1

Lo = methane generation potential, cubic meters per megagram solid waste

Mi = mass of the degradable solid waste in the i^{th} section, megagram

ti = age of the solid waste in the i^{th} section, years

CNMOC = concentration of non-methane organic compounds, parts per million by volume

3.6×10−9 = conversion factor

The values for k and CNMOC determined in field testing shall be used if field testing has been performed in determining the NMOC emission rate or the radii of influence (this distance from the well center to a point in the landfill where the pressure gradient applied by the blower or compressor approaches zero). If field testing has not been performed, the default values for k, LO and CNMOC provided in §60.754(a)(1) or the alternative values from §60.754(a)(5) shall be used. The mass of nondegradable solid waste contained within the given section may be subtracted from the total mass of the section when estimating emissions provided the nature, location, age, and amount of the nondegradable material is documented as provided in §60.759 (a)(3)(i).
(40 CFR 60.759(a)(3)(iii), 40 CFR 63.1955(a))

Net Heating Value of the Gas Being Combusted in the Flare

The net heating value of the gas being combusted in the flare shall be calculated and recorded using the equation provided in 40 CFR 60.18(f)(3). (40 CFR 60.18(f)(3))

WHERE:
HT=Net heating value of the sample,
MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C;

Ci=Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946–77 or 90 (Reapproved 1994) (Incorporated by reference as specified in §60.17); and
Hi=Net heat of combustion of sample component i, kcal/g mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382–76 or 88 or D4809–95 (incorporated by reference as specified in §60.17) if published values are not available or cannot be calculated.

Calculation for Vmax Steam-assisted and Non-assisted Flares

The maximum permitted velocity, Vmax, for flares complying with 40 CFR 60.18(c)(4)(iii) shall be calculated and recorded using the equation provided in 40 CFR 60.18(f)(5). (40 CFR 60.18(f)(5))
Log10 (Vmax)=(HT+28.8)/31.7
Vmax=Maximum permitted velocity, M/sec 28.8=Constant 31.7=Constant HT=The net heating value as determined above.

Calculation for Vmax for Air-assisted Flares

The maximum permitted velocity, Vmax, for air-assisted flares shall be calculated and recorded using the equation provided in 40 CFR 60.18(f)(6). (40 CFR 60.18(f)(6))
Vmax=8.706+0.7084 (HT)
Vmax=Maximum permitted velocity, m/sec 8.706=Constant 0.7084=Constant HT=The net heating value as determined above.

EUASBESTOS: Appears to be in COMPLIANCE

Although the facility stopped accepting this type of waste back in 2000 to satisfy a WHMD violation, the asbestos requirements still need to be included in the ROP since they had at one time accepted asbestos. They have been submitting notifications as required and the facility has warning signs, fencing, and/or natural features surrounding the property which should adequately deter access by the general public.

FGRULE290: Appears to be in COMPLIANCE

The facility currently only operates the groundwater treatment system under this permit exemption rule and haven't installed anything new using it. The groundwater treatment system is a tray type air stripper the facility installed quite a few years ago. The system is still operating around the clock and consists of 30 pumping wells. The groundwater is pumped into the treatment building where it enters the top tray and continues to drop down through a number of trays as air is blown up through it from below. This treatment process tends to lower the pH and the landfill has to adjust the pH back to 7.4 to 7.5 using sulfuric acid to meet NPDES discharge requirements to the creek nearby. The facility is conducting monthly sampling of the influent and effluent for the appropriate contaminants that are required by their NPDES permit and ROP for their groundwater treatment system. Records reviewed by staff indicate total VOC emissions were less than 1 pound per month. Historically, the only contaminant detected appeared to be 1,2 dichloroethylene which is a by-product of the degradation of ether. It is considered a carcinogen with an IRSL greater than 0.04 ug/m3 which would require the controlled emissions to be less than 10 pounds per month which they had always been well under during past inspections.

FGCOLDCLEANERS: Appears to be in COMPLIANCE

The coldcleaner is located on in their maintenance garage and is not a heated unit. Staff has reviewed the MSDS sheet on previous occasions and it didn't indicate that the solvent contained any of the listed halogenated compounds that were over 5 percent by weight. Heritage Crystal Clean use to maintain it but they switched to Safety Kleen, still using the same product, because they were cheaper. Staff did not look at it during this inspection but in the past the unit had operational instructions posted on it and the lid has always been closed.

SEBCL INSPECTION CONCLUSION: The facility appears to be in COMPLIANCE with Section 1 of ROP No. MI-ROP-N5432-2016 and PTI Nol. 182-19.

NAME Matt Dekam DATE 6-24-20 SUPERVISOR RIL 6/29/20