

**DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection**

N600464408

FACILITY: City of Midland Utilities Division		SRN / ID: N6004
LOCATION: 4311 E. Ashman St., MIDLAND		DISTRICT: Bay City
CITY: MIDLAND		COUNTY: MIDLAND
CONTACT: Scott O'Laughlin , Landfill Supt		ACTIVITY DATE: 08/30/2022
STAFF: Gina McCann	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MAJOR
SUBJECT: FCE inspection including SEMs abbreviated survey. Letter mailed to company of results on 9/13/2022, sent by Mike Kovalchick		
RESOLVED COMPLAINTS:		

I (glm) conducted a on-site, scheduled inspection at the City of Midland Utilities Division. The purpose of the inspection was to determine compliance with ROP MI-ROP-N6004-2019a and air quality regulations. The facility was not in compliance at the time of the inspection.

The Midland Utilities Division is located in Midland, Michigan, and owned and operated by the City of Midland. Midland Utilities Division is a Type II, municipal solid waste (MSW) landfill, with a bioreactor, active landfill gas collection and treatment system, and a landfill gas to energy facility. Landfill gas (LFG) generated at the site is treated and burned off-site, at the Waste Water Treatment Plant (WWTP) in two spark ignition reciprocating internal combustion engines (RICE) or, the gas is burned in an 2,000 scfm open flare on-site.

The landfill has an on-site gas treatment system which filters, dewateres, compresses, and cools the LFG prior to sending it via pipeline to two reciprocating internal combustion engines (RICE) located at the City of Midland wastewater treatment plant (WWTP). The landfill, LFG treatment system, and the RICE are part of the same stationary source. Any LFG not conditioned in the gas to energy system is burned in the open flare at Midland Utilities Division landfill. The RICEs use the conditioned gas as fuel for the generation of electricity for the power grid.

In addition to MSW, the landfill accepts inert wastes such as construction and demolition debris, low level contaminated soils, and asbestos containing waste. The solid waste is transported to the facility to an area (cell) where it is deposited on the working surface. Solid waste is handled by a variety of vehicles that potentially generate fugitive dust emissions. The deposited waste is covered daily with soil or other EGLE approved alternate cover. When a cell reaches its design capacity, a liner is installed covering the waste.

Mr. Scott O'Laughlin, Landfill Superintendent, Laura Nieman, EIL, LLC, and Tom Haven, Midland Utilities accompanied me during the inspection. We reviewed the permit conditions in the ROP, monitoring devices, GCCS components, the flare and gas treatment system, waste oil burner, and gas to energy facility. This inspection also included an abbreviated SEMs survey, which was performed by Mike Kovalchick, EGLE-AQD, Jackson District Office.

EU-LANDFILL-COMPLIANT

The NESHAP requires the landfill to meet quarterly methane, surface, emission limits of 500 ppm. I reviewed quarterly surface emission monitoring (SEM) reports from first quarter 2021 through second quarter 2022. The review provided the following results:

Q1 2021 no exceedances

Q2 2021 exceedance around manhole MLS11-12, corrective action included excavation of the ground surface around the manhole, placement of a new bentonite seal and hydration of the bentonite, and then backfilling around the concrete manhole back up to grade.

Q3 2021 no exceedances

Q4 2021 no exceedances

Q1 2022 no exceedances

Q2 2022 no exceedances

As part of Administrative Consent Order EPA-5-20-113(a)-MI-05, the City of Midland is required to implement an enhanced surface emission monitoring program. The enhanced surface emission monitoring plan requires the quarterly monitoring to be performed at the following additional areas: 1) at all penetrations in the cover (including but not limited to gas collection wells and manholes) consistent with requirements in NSPS Subpar XXX; and 2) within a 10-foot area around LFG probes with sub-surface methane concentrations exceeding the lower explosive limit as described in 40 C.F. R. 258.23(d) (such probes GP-7, GP-8, GP-9, and GP-10, all of which have shown historical methane concentrations exceeding the LEL). Quarterly, Hydrogeological reports from the first quarter 2021 through the second quarter 2022 showed only the gas probes identified above exceeding the lower explosive limits. The surface emissions monitoring appeared to be performed according to the enhanced monitoring plan.

On August 30, 2022 AQD performed an abbreviated surface emission monitoring (SEM) inspection and found 13 areas with surface methane concentrations greater than 500 ppm above background. This is more than identified in the 2021 and 2022 quarterly SEMs were reporting. Most significant of the survey’s findings was a number of SEM hits associated with surface penetrations. It is recommended that the landfill address all 13 SEM hits per federal requirements and put more emphasis on identifying and properly sealing surface penetrations. The results and mitigation performed relating to these hits will be in the second semi-annual ROP report. However, CML’s consultant sent an email informing all exceedances were below the 500 ppm upon the 10-day re-check.

In addition, 2 leachate leaks were noted coming from well condensate liquid on the NW side of the landfill. Hydrogen sulfide odors were minimal but noticeable at times during the survey. Light to moderate municipal solid waste (MSW) type odor noted east of the active area but not at the perimeter.

Methane concentrations around surface penetrations was average compared to other landfills. The landfill was not using bentonite, foam, rubber boots to seal penetrations. Erosion rills were very common but most minimal in depth. No surface cracks were noted as most of the landfill was very muddy due to rain the previous day.

ID*	Description	Location*		Methane (ppm)
		Lat (N)	Long (W)	

1	75 feet from GW-4	43.63531367	-84.1744855	1166	
2	Penetration-GW-8	43.6356265	-84.1739095	2295	40
3	Penetration-GW-11A	43.63633767	-84.17408433	1944	
4	Penetration- MLC16E08	43.637038	-84.17497583	2164	
5	Penetration F1/F2 pump btw Cell 15 & 16	43.63599683	-84.17519833	1641	
6	Penetration-MLC16E manifold	43.636131	-84.17504683	7384	
7	Small erosion rill 60 feet N of GW8 in Cell 14/15	43.63576583	-84.17382617	551	
8	Penetration-Vacuum 30	43.636157	-84.17318067	1909	
9	At electric temperature sensor pole	43.63689717	-84.17688233	651	
10	Penetration-MLC16B06	43.63614633	-84.176798	933	
11	Penetration-MLC16A05	43.63602067	-84.17696783	520	
12	Penetration-MLC16C03	43.635336	-84.176876	975	
13	Penetration-Vaccum37	43.63518667	-84.17696383	1890	

CFR 63.1960(c)(5) requires the owner or operator must implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis. I reviewed the monthly integrity logs from January 2021 through August 2022. In general, the technician will inform the landfill supervisor who then works to address the items noted through either internal means or hiring contractors, i.e. pest control, week spraying. While walking the landfill we noted several areas on the landfill where erosion is of concern. MMD staff visited the landfill for a quarterly inspection after the AQD visit and cited the company for this.

Special condition (SC) VI.2. requires the landfill to maintain the current amount of solid waste in place, and the year-by-year-waste acceptance rate. As of June 8, 2022, the amount of solid waste in place was 3,736,340 cubic yards. Waste acceptance rates for 2020 and 2021 are shown in the table below.

WASTE ACCEPTANCE RATES		
Year	Input Units	Calculated Units
	<i>(Mg/year)</i>	<i>(short tons/year)</i>
2020	170,371	187,408
2021	114,058	125,464

EUBIOREACTOR-NO DETERMINATION

Did not review for compliance. On February 8, 2019 EGLE received an email stating the City of Midland would not be requesting an extension for the RDDP permit. Due to airspace constraints and other temporary operational limitations, it is not operationally prudent to continue segregation of waste streams. They had discontinued the additional of sludge in November of 2018 and stopped performance monitoring in May 2019. This emission unit will be removed from the ROP during the next renewal.

40 CFR Part 62 Subpart OOO required the landfill to submit a liquids addition report by June 21, 2022. According to this report, the City of Midland Landfill did not add any liquids between June 2021 through May 2022. Below is the historical 10-year annual liquids added per the RD&D permit.

Historical 10-Year Annual Liquids Added per RD&D Permit										
Year	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Records available (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Volume of Sewage Sludge (gallons)	0	0	0	228,000	228,000	333,000	396,000	136,800	0	0
Reported Basis: (Records or Estimate)	records	records	records	records	records	records	records	records	records	records

EUACTIVECOLL-NON COMPLIANT

This emission unit represents the active landfill gas collection system at the landfill that uses gas mover equipment to draw gas from the wells and moves the gas to the control equipment.

SC III.3. requires the landfill to operate the collection system with negative pressure at each wellhead. SC VI.1. is the associated monitoring and recordkeeping requirement that requires the landfill to demonstrate whether the gas collection system flow rate is sufficient to determine compliance with 40 CFR 60.752(B)(2)(II)(a)(3), the permittee shall measure gauge pressure in the gas collection header at each individual well, monthly. If positive pressure exists, action shall be initiated to correct the exceedance within five calendar days, except for the three conditions allowed under 40 CFR 60.753(b) (above in Conditions III.3.a-c). If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the AQD for approval.

I reviewed wellhead data from January 2021 through August 2022. During this time period there were several wells that experienced positive pressure during the initial monitoring event. I am trying to take a commonsense approach to this review. The NESHAP requirements changed in September 2021, making part of the wellheads subject to different requirements. While I recognize there were several wells pre-2021 NESHAP that would have required an alternative timeline due to the requirements at the time, it seems appropriate to move forward. With that said, I am sending a letter documenting ML-VDW06. The well had a positive pressure on 2/23/2022 and action was not initiated within the required 5 days (40 CFR 63.1960(a)(3)(i)). The adjusted pressure was the same and a note of "no change" is in the comments field. Further, my understanding is a root cause analysis record was required since negative pressure was not achieved within 15 days according to 40 CFR 63.1960(a)(3)(i)(A). Lastly, due to the timing of this deviation and general condition 23 of the ROP, the deviation should have been included in the September 15th, 2022 report. The landfill acknowledged this well had been missed due to the gas technician being on medical leave. The response to the notice should include steps being taken to prevent a reoccurrence.

EU-TREATMENTSYS-COMPLIANT

This emission unit treats landfill gas before it is used for 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.

40 CFR 63.1983(b)(5)(i) required CML to prepare a site-specific treatment monitoring plan and submit prior to September 27, 2021. EGLE received the site-specific treatment monitoring plan on April 2, 2021. During the inspection we viewed the compressor building and the treatment system parameters outlined in the site-specific treatment monitoring plan. Required monitoring parameters were within the range of operation specified in the plan. Attached is a copy of the observed values during the inspection.

I reviewed the treatment system maintenance log and it appears routine maintenance is occurring. I also viewed the monthly treatment system monitoring log for the month of August 2022 and the monitoring parameters were within the range of operation specified in the site-specific treatment monitoring plan.

EU-OPENFLARE-COMPLIANT

Open flare is an open combustor without enclosure or shroud. The initial performance testing for the open flare has already been performed and therefore is not required by this table. One open candlestick (utility) flare with a maximum design flow of 2,000 scfm.

The flare was initially tested February 21, 2011. During the upcoming ROP renewal, testing of the flare will become a requirement on a five-year basis. During the inspection, the flare was not in operation. Therefore, I was not able to make a visible observation.

SC VI.1. requires the landfill to maintain and operate according to the manufacturer the heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame. I reviewed data for January 2021 through August 2022. All deviations in the ROP certification reports appeared to be reported. One deviation for the flare was for an extended period of time due to a power outage. The flare was not in operation during this time period.

Attachment 1

GTE Engine and Open Flare Missing Flow Data Periods

Device	Start	End	Duration	Comments
Flare	01/06/22 11:31	01/06/22 11:56	25 minutes	Memory stick removed for data download
Flare	03/31/22 09:31	04/05/22 15:25	125 hours, 53 minutes	Power outage, and data recorder fault
Flare	05/17/22 14:15	05/17/22 14:40	25 minutes	Memory stick removed for data download
Flare	06/02/22 23:55	06/03/22 00:24	29 minutes	Power outage
GTE Engines	03/16/22 12:35	03/16/22 18:40	6 hours, 5 minutes	Power outage
GTE Engines	04/14/22 14:35	04/19/22 13:23	118 hours, 48 minutes	Data collection software error. Programmer was contacted after first event and attempted to fix the problem remotely. After multiple unsuccessful attempts, the programmer visited the site in person, and was able to synchronize all devices and restore recording functionality.
GTE Engines	04/19/22 14:40	04/22/22 11:04	68 hours, 24 minutes	
GTE Engines	04/22/22 17:15	04/25/22 08:54	63 hours, 39 minutes	
GTE Engines	04/25/22 09:33	04/25/22 09:55	22 minutes	

EU-ASBESTOS-COMPLIANT

CML actively accepts asbestos waste and is therefore subject to 40 CFR Part 61 Subpart M. The NESHAP requires the landfill follow several operational restrictions cited in the site’s ROP. When accepting asbestos containing waste the landfill requires a day’s advanced notice. They require receipt of asbestos, properly contained, with proper paperwork, between 7-7:45 a.m. They do not allow other traffic anywhere near the asbestos load until it has been immediately covered; then any backlog of trucks is allowed to enter the area. Landfill staff minimize pushing the load and stay upwind wherever possible. Only personnel with an enclosed cab are allowed in the area. Asbestos is not placed near an outer slope or onto the cell floor liner system. The Superintendent documents location: information includes ticket and date info, which can be used to gather details of source, generator, hauler, volume, etc.

As part of the records request, I reviewed the waste shipment records for the last 10 loads of asbestos-containing material received. Specifically copies of the transport manifest with the volume, the company and the source information. The facility maintains a site map with x, y, z coordinates that correlate to the manifest number for the waste load. The facility produced records that satisfy the monitoring and recordkeeping requirements under special conditions VI.1.

The last asbestos notifications were received in 2016 and 2019. The most recent well installations were in 2020. There were (8) eight horizontal wells installed. I reviewed easting, northing, depth of the wells relative to asbestos placed waste. Asbestos waste placement, for the records I reviewed, was at a depth of 760-765. The wells were installed at an elevation of 710.

EU-FURNACE-COMPLIANT

This a used oil furnace rated at 245,000 BTU/hr heat input and 1.7 gallons of oil per hour fuel usage in the maintenance building used for comfort heat. Historically, the City used oil they collected from residents at curbside. This practice has been abandoned due to issues meeting the allowable levels for used oil specifications. The City now only uses spent oil from FGICENGINES. Samples of the used oil were obtained and sent to Fibertec for analysis of constituents in Table 1 of Appendix 5 of the ROP. The lab analysis for the used oil samples is attached. At the time of the inspection, EU-FURNACE was not in operation. The City was in compliance with the fuel parameters.

EU-LANDFILL OFFICE GENERATOR-COMPLIANT

Less than 10 MMBTU/hr, (65 hp, 3-liter displacement), diesel fired emergency generator installed January 2008 for use to provide power to landfill office during total power failure.

SC III.1. restricts operation of the emergency RICE to less than 100 hour per year for maintenance checks and readiness testing and of that 50 hours per year for non-emergency situations. In addition, the landfill could use the generator up to 15 hours per year as part of a demand response program. SC VI.1. is the associated monitoring and recordkeeping requirement that requires the landfill to maintain records of the hours of operation of the engine that is recorded through the non-resettable hour meter. I viewed the generator during the inspection. The generator had 377.7 hours on it. The maintenance log showed times of maintenance performed. The generator last ran for 4.6 hours on June 17, 2022 due to an emergency power outage.

SC II.1. limits sulfur content in the diesel fuel to less than 15 ppm and a centane index or 40 or more. SC VI.2. requires the landfill to maintain a fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used in this generator to demonstrate compliance with the material limits. The City provided the most recent fuel supplier certification record which demonstrated compliance with the sulfur and centane limits.

EU-COMPRESSOR GENERATOR-COMPLIANT

This is a diesel generator with a capacity of less than 10 MMBTU/hr, (755 hp, 400kW, 14.9 liter displacement). It was installed May 2010 for use to provide power to landfill compressor during total power failure.

SC II.1. limits sulfur content in the diesel fuel to less than 15 ppm and a centane index or 40 or more. SC VI.2. requires the landfill to maintain a fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used in this generator to demonstrate compliance with the material limits. The City provided the most recent fuel supplier certification record which demonstrated compliance with the sulfur and centane limits.

SC III.1. restricts operation of the emergency RICE to less than 100 hour per year for maintenance checks and readiness testing and of that 50 hours per year for non-emergency situations. In addition, the landfill could use the generator up to 15 hours per year as part of a demand response program. SC VI.1. is the associated monitoring and recordkeeping requirement that requires the landfill to maintain records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The records must document how many hours are spent for emergency operation; including what classified the operation as emergency and how many hours are spent for non-emergency operation. The City maintains this log and for the calendar year 2021, the generator operated for 9.1 hours for maintenance purposes.

SC V.1. requires the generator to conduct an initial performance test within one year of startup of the engine to demonstrate compliance with the emission limits in 40 CFR 60.4205 unless the engine has been certified by the manufacturer as described by 40 CFR Part 60, Subpart IIII. The City was able to provide a certification for the generator, however there is an expiration date on the certification. It was unclear what the expiration date on the

certification means. EPA clarified the "expiration date" listed on the certificate means that the certificate is only valid for engines built before that date, it doesn't mean the certification expires after that date. The engine manufacturer has to get new certificates for each model year, even if the engine design doesn't change, so the expiration date ensures that the certificate is only valid for the model year for which it was issued. I also asked what happens after the "useful life" of the engine. The NSPS IIII rulemaking, comment and response 2.3.1. clarifies the useful life of a stationary diesel engine can last beyond the useful life as defined in 60.4219. The useful life period is designed to represent the time during which the engine manufacturer is responsible for the engine meeting the emission standards as long as the owner operates the engine according to the manufacturer's specifications. After the useful life of the engine, it is the owner or operator's sole responsibility to ensure the engine continues to meet the emission standards.

EU-WWTPGenerator-COMPLIANT

This generator is housed at the wastewater treatment plant near FGICENGINES. It is a diesel fired generator with a capacity of less than 10 MMBTU/hr, (1522 hp, 1,135 kW, 34.5-liter displacement). The City installed the generator in November 2002 to provide power to WWTP during total power failure.

SC III.1. restricts operation of the emergency RICE to less than 100 hour per year for maintenance checks and readiness testing and of that 50 hours per year for non-emergency situations. In addition, the landfill could use the generator up to 15 hours per year as part of a demand response program. SC VI.1. is the associated monitoring and recordkeeping requirement that requires the landfill to maintain records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The records must document how many hours are spent for emergency operation; including what classified the operation as emergency and how many hours are spent for non-emergency operation. The City maintains this log and for the calendar year 2021, the generator operated for 8 hours for maintenance purposes.

SC V.1. requires testing and analyzing for various parameters in the oil if the landfill were using an oil analysis program to determine when the oil should be changed. The City last changed the oil in August of 2022.

FGICENGINES-COPMLIANT

This flexible group consists of two reciprocating internal combustion engines (RICE) that only combust treated landfill gas and digester gas for fuel. Each engine drives an associated generator set for producing electricity.

	Engine #1	Engine #2
Serial Number	GZJ00431	GZJ00432
Hours	52,588.5	44,107.3

During the inspection, the engines were operating as follows:

Total fuel flow	514.0 scfm
% Methane	53.06%
Air/Fuel Ratio	8.5
Digester Gas	33.3 scfm

The engines have CO, NO_x, and VOC emission limits and are required to test each engine every 8760 hours of operation or three years, whichever occurs first, to demonstrate compliance with these limits. The City last tested each engine on February 16, 2021. Engine #1 had 46, 125 hours on it and Engine #2 had 37, 525 hours on it. During the inspection Engine #1 had 52,588.5 hours on it and Engine #2 had 44,107.3 hours, below the 8760 hours allowed before testing. The table below provides the results from that test. The City has plans to test again September 27, 2022.

SC III.2. restricts operation of FGICENGINES unless the City has an approved malfunction abatement plan (MAP). SC VI.2. is the associated monitoring and recordkeeping requirement that requires the landfill to log all maintenance activities conducted according to the MAP. Records are maintained accordingly.

SC IV.2. and SC IV.3. require each engine in FGICENGINES to be equipped with a device to monitor and record the hours of operation and the total daily fuel usage of the engines. SC VI.3. and VI.4. are the associated monitoring and recordkeeping requirements that require the landfill to monitor and record the hours of operation and the total digester gas and landfill gas usage of FGICENGINES.

The table below shows the total digester and landfill gas flow to FGICENGINES from January 2021 through August 2022.

Month	Year	Digester Flow	Landfill Gas Flow	Total Flow
8	2022	1,306,715	21,550,437	22,857,152
7	2022	1,527,410	19,691,098	21,218,508
6	2022	1,375,620	16,110,438	17,486,058
5	2022	34,350	22,503,293	22,537,643
4	2022	959,887	21,701,717	22,661,604
3	2022	1,795,010	21,409,671	23,204,681
2	2022	1,120,245	20,499,119	21,619,364
1	2022	1,227,814	23,178,716	24,406,530
12	2021	912,422	19,069,722	19,982,144
11	2021	1,312,092	20,968,679	22,280,771
10	2021	1,334,058	21,210,874	22,544,932
9	2021	1,326,582	18,377,969	19,704,551
8	2021	1,588,518	21,167,357	22,755,875
7	2021	1,788,183	21,361,809	23,149,992
6	2021	1,860,195	20,991,850	22,852,045
5	2021	1,849,279	21,804,135	23,653,414
4	2021	1,966,219	20,543,754	22,509,973
3	2021	1,894,659	21,436,386	23,331,045
2	2021	1,361,588	18,671,129	20,032,717
1	2021	1,728,931	20,993,704	22,722,635

This table shows the hours of operation for FGICENGINE.

City of Midland Landfill GTE Hours Runtime		
		FGICENGINE Hours
January	2021	739.4
February	2021	625.7
March	2021	744.4
April	2021	721.1
May	2021	745.2
June	2021	715.6

July	2021	746.3
August	2021	746.1
September	2021	717.9
October	2021	721.8
November	2021	711.6
December	2021	605.4
January	2022	745.8
February	2022	666.2
March	2022	721.0
April	2022	713.0
May	2022	728.6
June	2022	588.4
July	2022	720.4
August	2022	732.6

As part of the inspection, I reviewed monitoring downtime for FGICENGINES. The monitoring downtime from the second semi-annual report from 2021 and first annual report from 2022 are in the tables below. When comparing this time to the amount of time the engines operated, the downtime is approximately 7% of the time the engines operated. The following is an explanation of downtime from the City of Midland.

The GTE last October: Software failures or communication faults happen; our job is to recognize the system has gone offline. There were no obvious signs at the GTE operation computer, as these functions occur in the background. The programmer had previously created a daily email as a positive response, like Miss Dig, confirming daily data was recorded. Unfortunately it didn't send an alert of failure to record data; I didn't recognize

the absence of daily emails immediately. Since then I have a work alarm to verify the daily email arrived.

Fast forward to April 2022: Thursday the notification came through normally. Friday was the Good Friday holiday, so no daily alarm and I did not watch my emails from home all weekend to see if data collection was working normally. The next week I rebooted the computer and it appeared to be working normally, but the fix only lasted an hour. The next day we saw it failed again and communicated with the programmer who tried multiple actions. By the time his repairs were finished, he had also improved the email feature to send notification of a data logger failure. We have not seen this feature in action since initial testing, because: We have not suffered any days of GTE data loss between the April 25 repairs and September.

We're actively trying to avoid data loss, and fix them as they arise. Hopefully the five months of success is proof we're on the right path.

Attachment 1

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Flare	06/02/22 23:55	06/03/22 00:24	29 minutes	Power outage
GTE Engines	03/16/22 12:35	03/16/22 18:40	6 hours, 5 minutes	Power outage
GTE Engines	04/14/22 14:35	04/19/22 13:23	118 hours, 48 minutes	Data collection software error. Programmer was contacted after first event and attempted to fix the problem remotely. After multiple unsuccessful attempts, the programmer visited the site in person, and was able to synchronize all devices and restore recording functionality.
GTE Engines	04/19/22 14:40	04/22/22 11:04	68 hours, 24 minutes	
GTE Engines	04/22/22 17:15	04/25/22 08:54	63 hours, 39 minutes	
GTE Engines	04/25/22 09:33	04/25/22 09:55	22 minutes	

**Attachment 1
GTE Engine and Open Flare Missing Flow Data Periods
City of Midland 2nd Semiannual ROP Report**

Device	Start	End	Duration	Comments
GTE Engines	7/24/21 16:50	7/24/21 17:15	25 minutes	Power Utility outage caused by storms
GTE Engines	8/5/21 8:30	8/5/21 12:09	3 hours, 39 minutes	Data loss – restarted PC to resolve once noticed; Generator ran 100%
GTE Engines	8/5/21 13:10	8/5/21 16:35	3 hours, 25 minutes	Data loss – Consultant remote login to resolve; restarting PC didn't fix; Generator ran 100%
Open Flare	8/17/2021 9:43	8/17/2021 10:44	1 hour, 11 minutes	Took flare offline to replace thermocouple
GTE Engines	9/20/21 8:55	9/20/21 13:20	4 hours, 25 minutes	IT Department installed new dual security feature, caused data loss until resolved; Generator ran 100%
GTE Engines	9/20/21 14:15	9/20/21 14:40	25 minutes	Restart PC; Generator ran 100%
GTE Engines	9/27/21 9:00	10/5/21 16:49	199 hours, 49 minutes	Background service faulted and did not send email notifications to alert site of issue. Consultant fixed upon discovery. Downtime 9/30 2:30-4pm fan belt replacement; 10/1 9:30-11:20 am fan motor
GTE Engines	10/18/21 10:55	10/21/21 8:19	69 hours, 24 minutes	Error occurred on data logger (type mismatch); consultant had to resolve. Generator ran 100%
Open Flare	12/8/2021 9:03	12/8/2021 9:40	37 minutes	Downloaded data – have to pull memory card

FG-RICEMACT-COMPLIANT

Two reciprocating internal combustion engines (RICE) 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.

SC VI.1. requires the engines in FG-RICEMACT, 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.

Daily fuel usage is recorded and then calculated into a monthly flow spreadsheet. The table below shows the total digester and landfill gas flow to FGICENGINES from January 2021 through August 2022.

Month	Year	Digester Flow	Landfill Gas Flow	Total Flow
8	2022	1,306,715	21,550,437	22,857,152
7	2022	1,527,410	19,691,098	21,218,508
6	2022	1,375,620	16,110,438	17,486,058
5	2022	34,350	22,503,293	22,537,643
4	2022	959,887	21,701,717	22,661,604
3	2022	1,795,010	21,409,671	23,204,681
2	2022	1,120,245	20,499,119	21,619,364
1	2022	1,227,814	23,178,716	24,406,530
12	2021	912,422	19,069,722	19,982,144
11	2021	1,312,092	20,968,679	22,280,771
10	2021	1,334,058	21,210,874	22,544,932
9	2021	1,326,582	18,377,969	19,704,551
8	2021	1,588,518	21,167,357	22,755,875
7	2021	1,788,183	21,361,809	23,149,992
6	2021	1,860,195	20,991,850	22,852,045
5	2021	1,849,279	21,804,135	23,653,414
4	2021	1,966,219	20,543,754	22,509,973
3	2021	1,894,659	21,436,386	23,331,045
2	2021	1,361,588	18,671,129	20,032,717
1	2021	1,728,931	20,993,704	22,722,635

In addition to the above requirements, we discussed odor complaints and fugitive dust control. The landfill will brine the interior cell roads a few times a year as needed. The City has not received any odor complaints, but if they had they would maintain a log of them.

NAME 

DATE 9/28/2022

SUPERVISOR 