

**MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
AIR QUALITY DIVISION**

March 3, 2010



The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Natural Resources and Environment. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: November 2, 2009	
DATE PERMIT TO INSTALL APPROVED: March 3, 2010	SIGNATURE: G. Vinson Hellwig
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

Table of Contents

Section	Page
Alphabetical Listing of Common Abbreviations / Acronyms	2
General Conditions	3
Special Conditions	5
Emission Unit Summary Table.....	5
Flexible Group Summary Table	6
Special Conditions for FGICENGINES	7
Special Conditions for FGFLARES	12

Common Abbreviations / Acronyms

Common Acronyms		Pollutant/Measurement Abbreviations	
AQD	Air Quality Division	BTU	British Thermal Unit
ANSI	American National Standards Institute	°C	Degrees Celsius
BACT	Best Available Control Technology	CO	Carbon Monoxide
CAA	Clean Air Act	dscf	Dry standard cubic foot
CEM	Continuous Emission Monitoring	dscm	Dry standard cubic meter
CFR	Code of Federal Regulations	°F	Degrees Fahrenheit
COM	Continuous Opacity Monitoring	gr	Grains
EPA	Environmental Protection Agency	Hg	Mercury
EU	Emission Unit	hr	Hour
FG	Flexible Group	H ₂ S	Hydrogen Sulfide
GACS	Gallon of Applied Coating Solids	hp	Horsepower
GC	General Condition	lb	Pound
HAP	Hazardous Air Pollutant	m	Meter
HVLP	High Volume Low Pressure *	mg	Milligram
ID	Identification	mm	Millimeter
LAER	Lowest Achievable Emission Rate	MM	Million
MACT	Maximum Achievable Control Technology	MW	Megawatts
MAERS	Michigan Air Emissions Reporting System	ng	Nanogram
MAP	Malfunction Abatement Plan	NO _x	Oxides of Nitrogen
MDEQ	Michigan Department of Environmental Quality	PM	Particulate Matter
MIOSHA	Michigan Occupational Safety & Health Administration	PM10	PM less than 10 microns diameter
MSDS	Material Safety Data Sheet	PM2.5	PM less than 2.5 microns diameter
NESHAP	National Emission Standard for Hazardous Air Pollutants	pph	Pound per hour
NSPS	New Source Performance Standards	ppm	Parts per million
NSR	New Source Review	ppmv	Parts per million by volume
PS	Performance Specification	ppmw	Parts per million by weight
PSD	Prevention of Significant Deterioration	psia	Pounds per square inch absolute
PTE	Permanent Total Enclosure	psig	Pounds per square inch gauge
PTI	Permit to Install	scf	Standard cubic feet
RACT	Reasonably Available Control Technology	sec	Seconds
ROP	Renewable Operating Permit	SO ₂	Sulfur Dioxide
SC	Special Condition	THC	Total Hydrocarbons
SCR	Selective Catalytic Reduction	tpy	Tons per year
SRN	State Registration Number	µg	Microgram
TAC	Toxic Air Contaminant	VOC	Volatile Organic Compounds
TEQ	Toxicity Equivalence Quotient	yr	Year
VE	Visible Emissions		

* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (psig).

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R 336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**
5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to R 336.1219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of R 336.1219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Natural Resources and Environment. **(R 336.1219)**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R 336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R 336.1303. **(R 336.1301)**
 - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
 - b) A visible emission limit specified by an applicable federal new source performance standard.
 - c) A visible emission limit specified as a condition of this Permit to Install.

12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R 336.1370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

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

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date / Modification Date	Flexible Group ID
EUICENGINE1	Spark ignition, lean burn, reciprocating internal combustion engine (Caterpillar G3520C, 2,233 bhp at 100% load) and associated generator set for combusting treated landfill gas to produce electricity (1.6 megawatt gross electrical output).		FGICENGINES
EUICENGINE2	Spark ignition, lean burn, reciprocating internal combustion engine (Caterpillar G3520C, 2,233 bhp at 100% load) and associated generator set for combusting treated landfill gas to produce electricity (1.6 megawatt gross electrical output).		FGICENGINES
EUICENGINE3	Spark ignition, lean burn, reciprocating internal combustion engine (Caterpillar G3520C, 2,233 bhp at 100% load) and associated generator set for combusting treated landfill gas to produce electricity (1.6 megawatt gross electrical output).		FGICENGINES
EUICENGINE4	Spark ignition, lean burn, reciprocating internal combustion engine (Caterpillar G3520C, 2,233 bhp at 100% load) and associated generator set for combusting treated landfill gas to produce electricity (1.6 megawatt gross electrical output).		FGICENGINES
EUICENGINE5	Spark ignition, lean burn, reciprocating internal combustion engine (Caterpillar G3520C, 2,233 bhp at 100% load) and associated generator set for combusting treated landfill gas to produce electricity (1.6 megawatt gross electrical output).		FGICENGINES
EUICENGINE6	Spark ignition, lean burn, reciprocating internal combustion engine (Caterpillar G3520C, 2,233 bhp at 100% load) and associated generator set for combusting treated landfill gas to produce electricity (1.6 megawatt gross electrical output).		FGICENGINES

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date / Modification Date	Flexible Group ID
EUICENGINE7	Spark ignition, lean burn, reciprocating internal combustion engine (Caterpillar G3520C, 2,233 bhp at 100% load) and associated generator set for combusting treated landfill gas to produce electricity (1.6 megawatt gross electrical output).		FGICENGINES
EUICENGINE8	Spark ignition, lean burn, reciprocating internal combustion engine (Caterpillar G3520C, 2,233 bhp at 100% load) and associated generator set for combusting treated landfill gas to produce electricity (1.6 megawatt gross electrical output).		FGICENGINES
EUFLARE1	2,700 CFM open flare	May 2002	FGFLARES
EUFLARE2	2,700 CFM open flare	May 2002	FGFLARES
EUFLARE3	3,000 CFM open flare	August 12, 2005/ August 2006	FGFLARES
EUFLARE4	3,000 CFM enclosed flare with a sulfur removal system for reducing sulfur content of landfill gas prior to combustion.	2009	FGFLARES
EUFLARE5	2,100 CFM portable, back-up only, open flare	2009	FGFLARES
EUFLARE6	6,100 CFM enclosed flare with a sulfur removal system for reducing sulfur content of landfill gas prior to combustion.	2009/2010	FGFLARES
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 336.1290.			

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
FGICENGINES	Eight internal combustion engines and associated generator sets for combusting treated landfill gas to produce electricity	EUICENGINE1 through EUICENGINE8
FGFLARES	Six (6) flares with a combined capacity of 19,600 CFM for combusting landfill gas	EUFLARE1 through EUFLARE6

The following conditions apply to: FGICENGINES

DESCRIPTION: Eight reciprocating internal combustion engines (RICE) that will only combust treated landfill gas for fuel. Each engine drives an associated generator set for producing electricity.

Emission Units: EUCENGINE1, EUCENGINE2, EUCENGINE3, EUCENGINE4, EUCENGINE5, EUCENGINE6, EUCENGINE7, EUCENGINE8

POLLUTION CONTROL EQUIPMENT: Sulfur removal system for reducing sulfur content of landfill gas prior to combustion.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. CO	3.3 g/bhp-hr	According to method	Each engine in FGICENGINES	SC V.1, V.2	R 336.2804, R 336.2810, 40 CFR 52.21(d) & (j), 40 CFR Part 60, Subpart JJJJ
2. CO	16.3 lbs/hr	According to method	Each engine in FGICENGINES	SC V.1	R 336.2804, 40 CFR 52.21(d)
3. NO _x	0.6 g/bhp-hr	According to method	Each engine in FGICENGINES	SC V.1, SC V.2	R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c),(d) & (j), 40 CFR Part 60, Subpart JJJJ
4. NO _x	3.0 lbs/hr	According to method	Each engine in FGICENGINES	SC V.1	R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c) and (d)
5. SO ₂	0.97 lbs/hr	30-day average	Each engine in FGICENGINES	SC V.3	R 336.1205(1), R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)
6. PM	0.24 g/bhp-hr	According to method	Each engine in FGICENGINES	SC V.1	R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d) & (j)
7. PM	1.2 lb/hr	According to method	Each engine in FGICENGINES	SC V.1	R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d) & (j)
8. PM10	0.24 g/bhp-hr	According to method	Each engine in FGICENGINES	SC V.1	R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d) & (j)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
9. PM10	1.2 lb/hr	According to method	Each engine in FGICENGINES	SC V.1	R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d) & (j)
10. VOC	1.0 g/bhp-hr	According to method	Each engine in FGICENGINES	SC V.2	40 CFR Part 60, Subpart JJJJ
11. VOC	1.0 lb/hr	According to method	Each engine in FGICENGINES	SC V.1	R 336.1702(a)
12. Visible Emissions	10% Opacity	According to Method	Each Engine in FGICENGINES	GC 11, SC III.1, SC V.1	R 36.1301(1)(c), R 336.2810, 40 CFR 52.21 (j)

II. MATERIAL LIMIT(S)

1. The hydrogen sulfide concentration of the landfill gas combusted in FGICENGINES shall not exceed 165 ppm after treatment in the sulfur removal system. **(R 336.1205(1), R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall only burn landfill gas in FGICENGINES that has been treated in a system which complies with 40 CFR 60.752(b)(2)(iii)(C). **(R 336.1225, 40 CFR 63.6625(c))**
2. At least 60 days prior to start-up of any engine in FGICENGINES, the permittee shall submit to the AQD District Supervisor, for review and approval, a malfunction abatement/preventative maintenance plan for FGICENGINES. After approval of the malfunction abatement/preventative maintenance plan by the AQD District Supervisor, the permittee shall not operate FGICENGINES 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, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d) and (j))**

3. The permittee shall operate each of the stationary reciprocating internal combustion engines (RICE) in a manner which reasonably minimizes HAP emissions. **(40 CFR 63.6625(c))**

4. The permittee shall not operate any engine in FGICENGINES unless the sulfur removal system is installed, maintained, and operated in a satisfactory manner, except as provided in the approved malfunction abatement/operation and maintenance plan. Proper operation shall include but is not limited to submitting an approvable malfunction abatement/operation and maintenance plan (MAP/O&M plan) for the sulfur removal system to the District Supervisor, Air Quality Division within 30 days prior to start-up of the sulfur removal system. The MAP/O&M plan shall include the manufacturer operation and maintenance specifications. **(R 336.1205, R 336.1225, R 336.1901, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate any engine in FGICENGINES unless the engines air/fuel ratio controller is installed, maintained and operated in a satisfactory manner. **(R 336.1702, R 336.1910, R 336.2810(j), 40 CFR 52.21(j))**
2. The permittee shall equip each engine in FGICENGINES with a device to monitor and record the hours of operation for each engine. **(40 CFR 63.6625(c), 40 CFR Part 60 Subpart JJJJ)**
3. The permittee shall equip FGICENGINES with a device to monitor and record the total daily fuel usage of the engines. **(R 336.1201(3), R 336.1225, 40 CFR 63.6625(c))**

V. TESTING/SAMPLING

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

1. Within 180 days after commencement of initial start up, the permittee shall verify Visible Emissions (per a USEPA Method 9 certified visible emissions observation shall be conducted for a minimum of 15 minutes to determine the actual opacity from that emission point), NO_x, PM, PM-10, VOC and CO emission rates from one or more engine(s) in FGICENGINES, by testing at owner's expense, in accordance with Department requirements. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD. 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 within 60 days following the last date of the test. **(R 336.2001, R 336.2803, R 336.2804, R 336.2003, R 336.2004, 40 CFR 52.21(c) and (d))**
2. Except as provided in 40 CFR 60.4243(b), the permittee shall conduct an initial performance test for each engine in FGICENGINES 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), unless the engines have been certified by the manufacturer as required by 40 CFR Part 60 Subpart JJJJ and the permittee maintains the engine as required by 40 CFR 60.4243(a)(1). 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 testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. **(40 CFR 60.4243, 40 CFR 60.4244, 40 CFR Part 60 Subpart JJJJ)**
3. The permittee shall verify the hydrogen sulfide or total reduced sulfur content of the treated landfill gas burned in FGICENGINES on a monthly basis by gas sampling. If, after a year, each of the monthly concentrations of the hydrogen sulfide or total reduced sulfur concentration of the landfill gas are below 165 ppm (TRS equivalent), the permittee may petition the District Supervisor, Air Quality Division to reduce the frequency of gas sampling and recording the hydrogen sulfide / total reduced sulfur concentration of the treated landfill gas to once each calendar quarter. If, after two calendar years of quarterly sampling, each of the quarterly concentrations of the hydrogen sulfide or total reduced sulfur concentration of the landfill gas are below 165 ppm (TRS equivalent), the permittee may petition the District Supervisor, Air Quality Division to reduce the frequency of gas sampling and recording the hydrogen sulfide / total reduced sulfur concentration of the treated landfill gas to once each calendar year. If at any time the concentration readings exceed 165 ppm (TRS equivalent), the permittee shall resume sampling and recording on a monthly basis 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 concentration determined from the monthly readings are maintained below 165 ppm of hydrogen sulfide/total reduced

sulfur concentration in the treated landfill gas for one year after an exceedence, the permittee may resume annual monitoring and recordkeeping. The permittee shall keep all records on file at the facility for a period of at least five years and make them available to the Department upon request. **(R 336.1205(1), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall continuously monitor, in a satisfactory manner, the total landfill gas fuel usage of the engines and the hours of operation for each engine in FGICENGINES. **(R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d), 40 CFR 63.6625(c), 40 CFR Part 60 Subpart JJJJ)**
2. The permittee shall maintain a log of all maintenance activities conducted according to the malfunction abatement/preventative maintenance plan (pursuant to SC III.2). The permittee shall keep this log on file at the facility for a period of at least five years and make it available to the Department upon request. **(R 336.1702(a), R 336.1911, R 336.1912, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**
3. The permittee shall keep, in a satisfactory manner, records of the landfill gas usage and hours of operation for each engine in FGICENGINES on a daily basis. The permittee shall keep all records on file at the facility for a period of at least five years and make them available to the Department upon request. **(R 336.1225, R 336.1702, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d), 40 CFR 63.6655(c), 40 CFR Part 60 Subpart JJJJ)**
4. The permittee shall keep, in a satisfactory manner, monthly SO₂ mass emission calculation records for each engine in FGICENGINES. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. **(R 336.1205(1), R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**
5. The permittee shall monitor emissions and operating information, including monitoring and recording the hours of operation of each engine in FGICENGINES, in accordance with the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and JJJJ. The permittee shall keep records of all source emissions data and operating information for each engine in FGICENGINES on file at the facility and make the records available upon request. **(40 CFR Subparts A & JJJJ (40 CFR 60.4245))**

VII. REPORTING

1. The permittee shall submit an annual report in accordance with Table 7 of 40 CFR Part 63, Subpart ZZZZ to the 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 63.6650(g), 40 CFR 63.6650(b)(5))** The following information shall be included in this annual report:
 - a. The permittee shall report the fuel flow rate and the heating value that was used in the permittee's calculations. **(40 CFR 63.6650(g)(1))**
 - b. The permittee shall report the operating limits provided in the permittee's federally enforceable permit, and any deviations from these limits. **(40 CFR 63.6650(g)(2))**
 - c. The permittee shall report any problems or errors suspected from the fuel flow rate meters. **(40 CFR 63.6650(g)(3))**

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 Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVICENG1	14	60	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)
2. SVICENG2	14	60	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)
3. SVICENG3	14	60	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)
4. SVICENG4	14	60	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)
5. SVICENG5	14	60	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)
6. SVICENG6	14	60	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)
7. SVICENG7	14	60	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)
8. SVICENG8	14	60	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)

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 FGICENGINES. **(40 CFR Part 60 Subpart A and JJJJ)**
2. The permittee shall comply with all applicable 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 FGICENGINES. **(40 CFR, Part 63, Subparts A and ZZZZ)**

Footnotes:

¹This condition is state only enforceable and was established pursuant to Rule 201(1)(b).
²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

The following conditions apply to: FGFLARES

DESCRIPTION: Six (6) flares (three open flares, two enclosed flares and one stand-by, portable open flare) for combusting landfill gas

Emission Units: EUFLARE1, EUFLARE2, EUFLARE3, EUFLARE4, EUFLARE5 and EUFLARE6

POLLUTION CONTROL EQUIPMENT:

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Sulfur Dioxide	4.9 lb/hr	30-day average	EUFLARE4	SC V.2, SC VI.4	R 336.1205(1), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d) & (j)
2. Sulfur Dioxide	10.04 lb/hr	30-day average	EUFLARE6	SC V.2, SC VI.4	R 336.1205(1), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d) & (j)
3. NO _x	0.06 lb/MMBtu	According to Method	EUFLARE4 and EUFLARE6	SC V.3	R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d) & (j)
4. CO	0.2 lb/MMBtu	According to Method	EUFLARE4 and EUFLARE6	SC V.3	R 336.2804, R 336.2810, 40 CFR 52.21(d) & (j)
5. PM	1.4 lb/hr	According to Method	EUFLARE4	GC 11, SC III.4, SC V.3	R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d) & (j)
6. PM	2.9 lb/hr	According to Method	EUFLARE6	GC 11, SC III.4, SC V.3	R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d) & (j)
7. PM10	1.4 lb/hr	According to Method	EUFLARE4	GC 11, SC III.4, SC V.3	R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d) & (j)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
8. PM10	2.9 lb/hr	According to Method	EUFLARE6	GC 11, SC III.4, SC V.3	R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d) & (j)
9. Visible Emissions	20% Opacity	According to Method	EUFLARE4 and EUFLARE6	GC 11, SC III.4, SC V.3	R 336.1301(1)(c), R 336.2810, 40 CFR 52.21 (j)

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Landfill gas	17,500 CFM*	Continuous basis	FGFLARES	SC VI.1	R 336.1205
2. Landfill gas	9,198 MM cubic feet per year*	12 month rolling time period as determined at the end of each calendar month	FGFLARES	SC VI.2	R 336.1205

* May exceed 17,500 CFM and 9,198 MM cubic feet per year throughput for FGFLARES during periods of shut down or malfunction of any engines at the landfill.

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall only operate the back-up flare, EUFLARE5, if one or more of the other flares (EUFLARE1 through EUFLARE4 and EUFLARE6) or engines are not in operation. **(R 336.1205)**
2. Upon start up of EUFLARE6, the permittee shall only burn landfill gas in EUFLARE4 and EUFLARE6 that has been treated according to SC III.3 and by the sulfur removal system except as provided in the approved malfunction abatement/operation & maintenance plan, required under Special Condition IV.1. **(R 336.1205(1), R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d))**
3. The permittee shall manage all landfill gas in FGFLARES in compliance with 40 CFR 60.752(b)(2)(iii). **(R 336.1225, 40 CFR 60.752(b)(2)(iii))**
4. The permittee shall not operate EUFLARE4 and EUFLARE6 unless a malfunction abatement plan (MAP) as described in Rule 911(2), for EUFLARE4 and EUFLARE6, has been submitted within 60 days after permit issuance, and is implemented and maintained. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended 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 336.1225, R 336.1331, R 336.1702(b), R 336.1910, R 336.1911, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d) and (j))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. On and after the date of trial operation of the sulfur removal system, the permittee shall not operate EUFLARE4 and EUFLARE6 unless the sulfur removal system is installed, maintained, and operated in a satisfactory manner. Proper operation shall include but is not limited to submitting an approvable malfunction abatement/operation and maintenance plan (MAP/O&M plan) for the sulfur removal system and EUFLARE4 and EUFLARE6 to the District Supervisor, Air Quality Division within 30 days prior to start-up of the sulfur removal system. The MAP/O&M plan shall include as a minimum the manufacturer operation and maintenance specifications for the sulfur removal system. **(R 336.1205(1), R 336.1225, R 336.1901, R 336.1910, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d) and (j))**

V. TESTING/SAMPLING

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

1. Within 180 days after commencement of initial startup, the permittee shall verify the reduction efficiency for NMOC or the NMOC parts per million outlet concentration from EUFLARE4 and EUFLARE6, as required by 40 CFR 60.752(b)(2)(iii)(B) (initial performance test using test methods as specified in 40 CFR 60.754(d)) by testing at owner's expense, in accordance with Department requirements. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD. 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 within 60 days following the last date of the test. **(R 336.1702(b), R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d), 40 CFR 60.754(d))**
2. The permittee shall verify the hydrogen sulfide or total reduced sulfur content of the treated landfill gas burned in EUFLARE4 and EUFLARE6 on a monthly basis by gas sampling. If, after a year, each of the monthly concentrations of the hydrogen sulfide or total reduced sulfur concentration of the landfill gas are below 165 ppm (TRS equivalent), the permittee may petition the District Supervisor, Air Quality Division to reduce the frequency of gas sampling and recording the hydrogen sulfide / total reduced sulfur concentration of the treated landfill gas to once each calendar quarter. If, after two calendar years of quarterly sampling, each of the quarterly concentrations of the hydrogen sulfide or total reduced sulfur concentration of the landfill gas are below 165 ppm (TRS equivalent), the permittee may petition the District Supervisor, Air Quality Division to reduce the frequency of gas sampling and recording the hydrogen sulfide / total reduced sulfur concentration of the treated landfill gas to once each calendar year. If at any time the concentration readings exceed 165 ppm (TRS equivalent), the permittee shall resume sampling and recording on a monthly basis 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 concentration determined from the monthly readings are maintained below 165 ppm of hydrogen sulfide/total reduced sulfur concentration in the treated landfill gas for one year after an exceedence, the permittee may resume annual monitoring and recordkeeping. The permittee shall keep all records on file at the facility for a period of at least five years and make them available to the Department upon request. **(R 336.1205(1), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21 (c), (d) and (j))**
3. Within 180 days after commencement of initial start up, the permittee shall verify Visible Emissions (per a USEPA Method 9 certified visible emissions observation shall be conducted for a minimum of 15 minutes to determine the actual opacity from that emission point), NO_x and CO emission rates from EUFLARE4 and EUFLARE6, by testing at owner's expense, in accordance with Department requirements. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD. 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 within 60 days following the last date of the test. **(R 336.2001, R 336.2803, R 336.2804, R 336.2003, R 336.2004, 40 CFR 52.21(c) and (d))**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall install, calibrate, and maintain a gas flow measuring device that shall continuously record the total actual flow of landfill gas to FGFLARES. **(40 CFR 60.756(c)(2)(i), 40 CFR 63.1955(a))**

2. The permittee shall keep records of the landfill gas consumed in FGFLARES on a monthly basis and 12-month rolling time period basis, as determined at the end of each calendar month. All records shall be made available to the Department upon request. **(R 336.1205)**
3. The permittee shall keep records of the date, time and reason why EUFLARE5 is operated. **(R 336.1205)**
4. The permittee shall keep, in a satisfactory manner, monthly SO₂ mass emission calculation records for EUFLARE 4 and EUFLARE6. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. **(R 336.1205(1), R 336.2810(3), 40 CFR 52.21(j))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

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. SVFLARE4	120	50	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)
2. SVFLARE6	156	60	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)

IX. OTHER REQUIREMENTS

1. The permittee shall comply with all applicable provisions of 40 CFR Part 60 Subpart A and WWW, "Standard of Performance for Municipal Solid Waste Landfills", as they apply to FGFLARES. **(40 CFR Part 60 Subpart A and WWW)**

Footnotes:

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