Draft/Proposed

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

MEMORANDUM **May 11, 2021**

TO: Phillip Fielder, P.E., Chief Engineer

THROUGH: Rick Groshong, Senior Environmental Manager, Compliance and Enforcement

THROUGH: Phil Martin, P.E., Engineering Manager, Existing Source Permits Section

THROUGH: Joseph K. Wills, P.E., Engineering Section

FROM: Mark Chen, P.E., New Source Permits Section

SUBJECT: Evaluation of Title V Permit Renewal Application **No. 2019-0801-TVR2**
Tulsa LFG, LLC (Facility ID: No. 6539)
At American Environmental Landfill Sand Springs Facility
(Facility ID: No. 5933)
S ½ Section 36, Township 20N, Range 10E, Sand Springs, Osage County
212 N. 177th West Avenue; entrance at 36.16418º N, 96.18882ºW
Directions: West from Sand Springs on US 64 (or US 412), then ¾ mile north on 177th West Avenue.

SECTION I. INTRODUCTION

Tulsa LFG, LLC (Tulsa LFG) currently operates a landfill gas (LFG) collection and control system (GCCS) including a flare and two LFG-fired engines at the American Environmental Landfill, Inc. (AEL), Sand Springs Facility, which is an active municipal solid waste landfill (SIC 4953/NAICS 562212). Due to different ownership, Tulsa LFG and AEL were assigned different facility identification (ID) number. Tulsa LFG received No. 6539 and AEL received No. 5933. AEL currently operates under Permit No. 2013-0454-TVR issued by the Air Quality Division (AQD) of the Oklahoma Department of Environmental Quality (DEQ) on May 13, 2014. Tulsa LFG currently operates under Permit No. 2014-0406-TVR issued by AQD on January 9, 2014, and now applies for renewal of its Part 70 operating permit. At the present time, AEL also has a pending Title V renewal permit application, Permit No. 2018-1562-TVR2.

AQD considers the two co-located facilities a single stationary source for purposes of PSD and Title V. The landfill is required under New Source Performance Standards (NSPS), Subpart XXX to operate under a Part 70 permit; therefore, Tulsa LFG is also required to operate under a Part 70 permit. Modifications to the permit of each facility are based on the combined emissions from both operations and must be considered in making a determination for each permitting action. Applicability of each operation to Part 70 requirements or New Source Review (NSR) requirements must also be based on the combined emissions of the operations. The Part 70 permit for each company's portion of the facility addresses only the equipment owned or operated by its

individual company. Emission inventories are required for both facilities. Tulsa LFG and AEL pay fees only for emissions from each respective facility. Other than for purposes related to co-location, AEL is not addressed in this permit.

The flare was installed as part of a landfill gas extraction and beneficial use project between AEL and Tulsa LFG. Tulsa LFG installed the flare and has the responsibility for its operation and maintenance. The gas collection and recovery system (GCRS) was to be modified according to a gas collection and control system (GCCS) Plan submitted to DEQ Land Protection Division (LPD). The project authorized under Permit 2008-196-C (M-2), issued on August 29, 2011, was completed, and the GCCS now consists of gas collection wells and associated header piping routed to an open flare and/or to a gas-to-energy plant.

AEL is a privately owned and operated municipal solid waste landfill originally permitted by the predecessor of the Land Protection Division for 70 acres of permitted disposal area. Permit No. 3557021 was issued September 14, 1981. All of the original disposal area was located in the SE/4 of Section 36, but a modification to the permit expanded into the SW/4 of Section 36. This addition of approximately 150 acres was authorized October 17, 2006. The most recent modification occurred in July 2015, bringing the total capacity of the landfill to 15.69 million Mg. As a result of this modification, the facility became subject to NSPS Subpart XXX. .

AQD received the Title V permit renewal application on July 11, 2019. No essential process changes or modifications have been made at this facility except that one temporary flare, which was permitted in Permit No. 2014-0406-TVR, which was removed from the facility in March 2015. The Title V renewal permit goes through a Tier II permitting procedure. Upon applicant's request, this permit will proceed through a concurrent public and EPA review. AQD also uses this opportunity to update applicable state rules and federal regulations related to the facility. This permit, Permit No. 2019-0801-TVR2, will be issued together with the AEL permit, Permit No. 2018-1562-TVR2.

SECTION II. PROCESS DESCRIPTION

The purpose of the original GCCS installation was to minimize the potential for odors and/or off-site migration of the gas. The new GCCS satisfies the same purposes and additionally allows for the recovery and potential beneficial use of the LFG. The gas treatment process consists of compression, chilling, and dehydration of the landfill gas. Further discussion of the previous and new systems designs, including collection of both LFG and any condensate, may be found in the AQD and LPD permits for the landfill.

The facility includes two Caterpillar generators supported by 2,233-hp Caterpillar G3520 engines, a utility flare, blower skid, and electrical components. The blower assembly is a prefabricated, skid mounted unit and includes a LFG blower, an electrical control panel, flow measurement devices and miscellaneous piping, valves, fittings and other appurtenances as necessary to operate the equipment. The flare has a maximum landfill gas flow rate of 2,000 standard cubic feet per minute (SCFM). The flare vents at 18 feet above grade through a one foot diameter exhaust, with exit temperature estimated to be 750°F.

SECTION III. AIR EMISSIONS FROM TULSA LFG FACILITY

Criteria Pollutants

The flare reduces the volatile organic compounds (VOCs) and non-methane organic compounds (NMOCs) produced by decomposition of solid wastes. However, combustion process results in an emissions increase of carbon monoxide (CO), nitrogen oxide compounds (NOx), and particulate matter less than ten microns in diameter (PM_{10}) after combustion. Potential to Emit (PTE) calculations in the memoranda associated with Permit No. 2008-196-C and subsequent operating permits 2008-192-TV, 2008-192-TV (M-1), and 2014-0406-TVR were based on the following assumptions.

Methane Content of LFG	50%
Flare Capacity	2,000 SCFM
Methane Flow Rate	1,000 SCFM
Methane Heating Value	1,000 BTU/SCF
LFG Heating Value	500 BTU/SCF
Flare Heat Rate	60 MMBTUH

Emission factors of NO_x and CO are based on AP-42 Section 13.5 (2/18), Table 13.5-1 and Table 13.5-2, respectively. Emission factors of VOC and HAP are based on AP-42 Sections 2.4 (11/98), Table 2.4-1. Emission factors of PM are based on AP-42 Sections 2.4 (11/98), Table 2.4-5. No correlation with $PM_{2.5}$ was found, so the value for PM_{10} is assumed to apply to $PM_{2.5}$ as well. More specifically, emissions of SO_2 were based on Equations 3, 4, 7 and 8 of Section 2.4 (11/98). All PTE computations assumed continuous operation (8760 hours per year) at 2,000 SCFM flow rate and a VOC and HAP destruction efficiency of 98%. A default sulfur concentration of 46.9 ppmv is taken from the discussion in Section 2.4 (11/98). Although a draft of Section 2.4 (Municipal Solid Waste Landfills) dated October 2008 is available, it has not been accepted and is not used in this memorandum. Table 1 lists inputs to the various equations cited, as well as results of the calculations for SO_2 emissions. Table 2 shows the estimated emissions for the flare.

Table 1. Flare SO_2 Emissions
(Based on 8,760 hours/year of operations

LFG Sulfur (S) concentration	46.9	ppmv
MW Sulfur Dioxide (SO_2)	64.06	lb/lbmol
Percent of S converted to SO_2	100	percent
Temperature of LFG	25	Celsius
Density of gas	0.0026	$lbmol/ft^3$
Sulfur flowrate to flare	0.0938	SCFM
TOTAL	**0.90**	**lb/hr**
	3.94	**TPY**

Table 2. Estimated Emissions for the Flare, 2,000 SCFM
(Based on 8,760 hours/year of operations)

Pollutants	Emission Factors	Emission Rate (lb/hr)	Emission Rate (TPY)
NO_x	0.068 lb/MMBTU	4.08	17.87
CO	0.31 lb/MMBTU	18.60	81.47
Particulate Matter, PM_{10}, or $PM_{2.5}$	0.00104 lb/hr/scfm of CH_4	1.00	4.38
SO_2	--------	0.90	3.94
HAP	--------	0.52	2.28
VOC		0.10	0.43

LFG fuels the engines that power the generators used to create electricity. Emission factors for pollutants are taken from manufacturer's guarantees, which consider the low BTU content of the LFG, as well as other sources. The NO_X and VOC factors are taken from the NSPS Subpart JJJJ standard. The CO emission factor is taken from the BACT analysis as 3.3 g/bhp-hr in Permit No. 2014-0406-TVR. Samples of the LFG were taken in April and May 2010, revealing BTU content of 456 BTU per cubic feet (CF). Table 3 shows data for three of the criteria pollutants. The two engines are treated as a single 4,466 hp source and the TPY figure assumes continuous operation of all engines (8,760 hours per year each).

Table 3. Three Pollutants Emissions From Two Engines
(Based on 8,760 hours/year of operations)

Pollutant	Emission factor (grams per hp-hr)	Emissions	
		Lbs/hr	TPY
NO_X	2.0	19.7	86.2
CO	3.3	32.5	142.3
VOC	1.0	9.85	43.1

According to Table 2.4-5 of AP-42 (10/08 Draft), the emission factor for particulate matter is stated as 48 pounds per million cubic feet (MMCF) of methane (CH_4). Further, AP-42 suggests that practically all PM will be $PM_{2.5}$, so any figure calculated may be taken to represent PM, PM_{10}, or $PM_{2.5}$. It is first necessary to calculate the methane flow rate. Each engine has heat input of 14.1 MMBTUH, for a combined heat rate of 28.2 MMBTUH. Applicant assumes methane to have heating value of 1,000 BTU/CF, so each cubic feet of LFG has heat content of 456 BTU/CF and the molar fraction of methane in LFG is estimated 0.456. Thus, the methane flow rate is

$$28.2 \text{ MMBTUH} \times 1 \text{ CF}/456 \text{ BTU} \times 0.456 = 0.0282 \text{ MMCF of } CH_4/\text{hr}.$$

Thus, rates of PM are 0.0282 MMCF of CH_4/hr × 48 lb/MMCF of CH_4= 1.35 lb/hr or 5.93 TPY.

Because the sulfur content of the LFG is unknown, two calculations are performed. First, the AP-42 default value of 46.9 ppmv is used, in conjunction with equations 3, 4, and 7 from Section 2.4 of AP-42. With LFG flow of 13.8 MMm^3/yr, this analysis yields 1.88 TPY. If the requirements of OAC 252:100-31-25 are to be met, SO_2 emissions could not exceed 0.2 lb/MMBTU. This implies that emissions of SO_2 shall not exceed 5.64 lb/hr or 24.7 TPY. Because the first calculation

is based on a default value, applicant requests that the conservatively higher value based on §31-25 be authorized.

Table 4 lists the results of the criteria pollutant discussions.

Table 4. Criteria Pollutants Emissions From Two Engines
(Based on 8,760 hours/year of operations)

Pollutant	Emission Factor	TPY for two engines
NO_X	2 g/hp-hr	86.2
CO	3.3 g/hp-hr	142.3
$PM_{10} = PM_{2.5}$	48 lb/MMCF of CH_4	5.93
VOC	1.0 g/hp-hr	43.1
SO_2	0.20 lb/MMBTU	24.7

Electric generation is maximized by routing LFG through the engines. Operating and maintenance requirements for the engines and demand for generated power will cause some LFG to be flared. According to results from EPA's LandGEM v.3.02, the landfill is projected to produce 3,042 cubic feet per minute (cfm) of LFG (1,521 cfm methane) in 2020, which is roughly 44% more than can be used by the engines. Actual production amounts are well below this projection and are less than the engines' fuel requirements, as well. However, continued acceptance of waste and expected expansion of the GCCS will eventually exceed the engines' requirements, so that excess LFG will be combusted by the flare. It appears unlikely that LFG production will exceed engine capacity in the normal five-year term of a Part 70 operating permit, but this permit authorizes combined emissions for the engines and the flare to cover all possibilities. The flare may also be used as backup if an engine is down for repairs or maintenance. LandGEM projects LFG and methane to approximately triple over the next 30 years, but additional equipment will not be necessary for a long time, and the proposed limits could be valid for an extended period.

Hazardous Air Pollutants (HAP)

HAP content of LFG was estimated using default factors from AP-42. Emissions were calculated in the same manner as above, using equations 3, 4, and 5 from Section 2.4. Default destruction efficiency factors were also taken from AP-42, yielding fairly small results for all constituents. This method shows total HAP for the Caterpillar engines to be 2.30 TPY, of which 1.70 TPY is toluene. Data from other sources using this type of engine show higher factors for formaldehyde, so a value of 0.43 g/hp-hr shown on a Caterpillar spec sheet is used, giving 9.27 TPY of formaldehyde emissions from each engine. The total HAP emissions, including formaldehyde, from two engines are 20.84 TPY.

GHG Emissions

As discussed earlier in this Emissions Section, the project is designed to process 0.0282 MMCFH of methane. An analysis of the landfill and its projected growth indicates that this amount exceeds any current projection. According to draft Section 2.4-6 of AP-42 (10/08), fully developed emissions generated by the landfill will reach a steady-state of roughly equal proportions of methane and CO_2. Thus, steady-state flow of CO_2 is 0.0282 MMCFH. At 0.117 pounds per cubic foot, this amounts to 421 lb/hr or 1,842 TPY of CO_2 that is unaffected by the project, and might be considered as strictly flow-through. Additional CO_2 is generated from combustion in the

engines. Using the 110 lb/MMBTU CO_2 factor shown in Table 3.2-2 of AP-42 with the combined 28.2 MMBTUH rating of the engines implies emissions of 3,102 lb/hr, or 13,600 TPY. Table 3.2-2 also indicates a methane emission factor of 1.25 lb/MMBTU, for total methane emissions of 35.3 lb/hr or 154 TPY (roughly 3,850 TPY CO_2e).

If the entire 28.4 MMBTUH were combusted in the flare, Table 13.5-1 of AP-42 (2/18) indicates hydrocarbon emissions (THC as methane) of 0.14 lb/MMBTU, yielding a methane equivalent of 3.95 lb/hr or 17.3 TPY (roughly 433 TPY CO_2e).

Combining the pass through CO_2, expected engine combustion CO_2, and flare hydrocarbons, and converting all to CO_2e, yields 19,725 TPY of CO_2e. Other VOC emissions of 14.8 TPY listed earlier in the Emissions Section cannot be easily characterized as to GHG status, but even at a CO_2e ratio of 25:1, they would contribute less than two percent to the values aggregated thus far. The GHG estimation is sufficiently good and no further analysis is necessary.

Air Emissions Summary

Since the LFG can only be fed to either flare for pure combustion or to two engines for electricity generation, the higher emission figures between the two emission sources are selected as the facility emissions. For the GHG emissions, the combined emissions of 19,725 TPY is used to represent the facility emissions as a worst-case scenario. Table 5 shows the potential facility emissions of all air pollutants.

Table 5. Potential Facility Air Emissions
(Based on 8,760 hours/year of operations)

Pollutants	Flare	Two Engines	Facility
	TPY	TPY	TPY
NO_x	17.87	86.20	104.07
CO	81.47	142.30	223.77
VOC	0.43	43.10	43.53
PM_{10}	4.38	5.93	10.31
$PM_{2.5}$	4.38	5.93	10.31
SO_2	3.94	24.70	28.64
HAP	2.28	20.84	23.12
GHG as CO_2e			19,725

SECTION IV. TOTAL SITE EMISSIONS INCLUDING AEL LANDFILL FACILITY

AEL and Tulsa LFG are two separate entities; however, emissions from the AEL and Tulsa LFG will be aggregated for purposes of PSD applicability and NSPS and NESHAP regulations. The potential to emit from the AEL are presented in Table 6 of Permit No. 2018-1562-TVR2. The potential emissions from the Tulsa LFG are estimated in Table 5 of Permit No. 2019-0801-TVR2. Table 6 shows the total site-wide emissions which include the emissions from the AEL and Tulsa LFG.

Table 6. Total Potential Facility-Wide Air Emissions
(Based on 8,760 hours/year of operations)

Pollutants	AEL Permit 2018-1562-TVR2	Tulsa LFG Permit 2019-0801-TVR2	Total
	TPY	TPY	TPY
NO_x	------	104.07	104.07
CO	------	223.77	223.77
VOC	13.21	43.53	56.74
PM_{10}	26.28	10.31	36.59
$PM_{2.5}$	3.92	10.31	14.23
SO_2	------	28.64	28.64
HAP	8.38	23.12	31.50
GHG	156,005	19,725	175,730

The total site-wide emissions shown in Table 6 are less than the PSD major source thresholds for all criteria pollutants. The site is considered a major source for HAPs.

SECTION V. INSIGNIFICANT ACTIVITIES

No insignificant activities were listed in the application.

SECTION VI. OKLAHOMA AIR POLLUTION CONTROL RULES

OAC 252:100-1 (General Provisions) [Applicable]
Subchapter 1 includes definitions but there are no regulatory requirements.

OAC 252:100-2 (Incorporation by Reference) [Applicable]
This subchapter incorporates by reference applicable provisions of Title 40 of the Code of Federal Regulations listed in OAC 252:100, Appendix Q. These requirements are addressed in the "Federal Regulations" section.

OAC 252:100-3 (Air Quality Standards and Increments) [Applicable]
Subchapter 3 enumerates the primary and secondary ambient air quality standards and the significant deterioration increments. At this time, all of Oklahoma is in "attainment" of these standards.

OAC 252:100-5 (Registration, Emissions Inventory and Annual Operating Fees) [Applicable]
Subchapter 5 requires sources of air contaminants to register with Air Quality, file emission inventories annually, and pay annual operating fees based upon total annual emissions of regulated pollutants. Emission inventories were submitted and fees paid for previous years as required.

OAC 252:100-8 (Permits for Part 70 Sources) [Applicable]
Part 5 includes the general administrative requirements for part 70 permits. Any planned changes in the operation of the facility which result in emissions not authorized in the permit and which exceed the "Insignificant Activities" or "Trivial Activities" thresholds require prior notification to AQD and may require a permit modification. Insignificant activities mean individual emission

units that either are on the list in Appendix I (OAC 252:100) or whose actual calendar year emissions do not exceed the following limits:

- 5 TPY of any one criteria pollutant
- 2 TPY of any one hazardous air pollutant (HAP) or 5 TPY of multiple HAPs or 20% of any threshold less than 10 TPY for a single HAP that the EPA may establish by rule

Emissions limitations have been established for each emission unit based on the existing operating permit, on information from the construction permit application, or are developed from the applicable requirement.

OAC 252:100-9 (Excess Emissions Reporting Requirements) [Applicable]
Except as provided in OAC 252:100-9-7(a)(1), the owner or operator of a source of excess emissions shall notify the Director as soon as possible but no later than 4:30 p.m. the following working day of the first occurrence of excess emissions in each excess emission event. No later than thirty (30) calendar days after the start of any excess emission event, the owner or operator of an air contaminant source from which excess emissions have occurred shall submit a report for each excess emission event describing the extent of the event and the actions taken by the owner or operator of the facility in response to this event. Request for mitigation, as described in OAC 252:100-9-8, shall be included in the excess emission event report. Additional reporting may be required in the case of ongoing emission events and in the case of excess emissions reporting required by 40 CFR Parts 60, 61, or 63.

OAC 252:100-13 (Open Burning) [Applicable]
Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in this subchapter. Operation of the flares are recognized under §13-7-6(B), which requires that the flares be smokeless.

OAC 252:100-17 (Incinerators) [Not Applicable]
This subchapter specifies design and operating requirements and emissions limitations for incinerators and municipal waste combustors. Flares are specifically exempt, per §17-2.1.

OAC 252:100-19 (Particulate Matter) [Applicable]
Section 19-4 regulates emissions of PM from new and existing fuel-burning equipment, with emission limits based on maximum design heat input rating. Fuel-burning equipment is defined in OAC 252:100-19 as any internal combustion engine or gas turbine, or other combustion device used to convert the combustion of fuel into usable energy. The flares do not meet the definition of "fuel-burning unit," but the engines are subject to the requirements of this subchapter. Appendix C specifies a PM emission limitation of 0.55 lb/MMBTU for the Caterpillar engines with heat input rating of 14.1 MMBTUH. Emissions calculated in Section III above indicate that the factor for the Caterpillar engines is 0.048 lb/MMBTU, well below the threshold.

OAC 252:100-25 (Visible Emissions and Particulates) [Applicable]
No discharge of greater than 20% opacity is allowed except for short-term occurrences that consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity. Utility flares burning landfill gas are designed to burn smokeless. This facility has a low potential to exceed these standards when landfill gas is used in the engines.

OAC 252:100-29 (Fugitive Dust) [Applicable]
This subchapter states that no person shall cause or permit the discharge of any visible fugitive dust emissions beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards. This facility has negligible potential to violate this requirement under normal operating conditions; therefore, it is not necessary to require specific precautions to be taken.

OAC 252:100-31 (Sulfur Compounds) [Applicable]
Part 2 also limits the ambient air impact of hydrogen sulfide emissions from any new or existing source to 0.2 ppm for a 24-hour average (equivalent to 283 $\mu g/m^3$). According to Section III (Emissions), the default amount of sulfur present is 46.9 ppmv, which is also assumed to be the worst case scenario. Assuming that all sulfur is present as hydrogen sulfide in an ambient LFG flow (45.6 % of methane), given 98% destruction efficiency in the flare, and assuming the same efficiency for stoichiometric combustion in the engine with stack temperature at 905ºF, yields a residual concentration of 0.056 ppmv in the engine exhaust stream, which is less than 0.1 ppm.
Part 5 limits sulfur dioxide emissions from new fuel-burning equipment (constructed after December 31, 1974). For gaseous fuels the limit is 0.2 lb/MMBtu heat input. The flare does not meet the definition of "fuel-burning equipment," and the amount authorized for the engines is set not to exceed this threshold.
Part 5 also limits hydrogen sulfide emissions from new petroleum or natural gas process equipment (constructed after December 31, 1974). There is, and will be, no "petroleum or natural gas process" equipment at this facility, per the definitions of §31-2.

OAC 252:100-33 (Nitrogen Oxides) [Not Applicable]
This subchapter limits new gas-fired fuel-burning equipment with rated heat input greater than or equal to 50 MMBtu/hr to emissions of 0.2 lb of NO_x per MMBtu. The flares do not meet the definition of "fuel-burning equipment" and the engines have heat input significantly less than 50 MMBTUH each.

OAC 252:100-35 (Carbon Monoxide) [Not Applicable]
This subchapter affects gray iron cupolas, blast furnaces, basic oxygen furnaces, petroleum catalytic cracking units, and petroleum catalytic reforming units. There are no affected sources.

OAC 252:100-37 (Volatile Organic Compounds) [Part 7 Applicable]
Part 3 requires storage tanks constructed after December 28, 1974, with a capacity of 400 gallons or more and storing a VOC with a vapor pressure greater than 1.5 psia to be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. There are no tanks storing organic materials with a vapor pressure greater than 1.5 psia.
Part 5 limits the VOC content of coatings used in coating lines or operations. This facility does not normally conduct coating or painting operations except for routine maintenance of the facility and equipment, which is not an affected operation.
Part 7 requires fuel-burning equipment to be operated and maintained so as to minimize VOC emissions. Temperature and available air must be sufficient to provide essentially complete combustion. The engines are designed to meet these requirements.

OAC 252:100-42 (Toxic Air Contaminants (TAC)) [Applicable]
This subchapter regulates toxic air contaminants (TAC) that are emitted into the ambient air in areas of concern (AOC). Any work practice, material substitution, or control equipment required by the Department prior to June 11, 2004, to control a TAC, shall be retained, unless a modification is approved by the Director. Because no AOC has been designated there are no specific requirements for this facility at this time.

OAC 252:100-43 (Testing, Monitoring, and Recordkeeping) [Applicable]
This subchapter provides general requirements for testing, monitoring and recordkeeping and applies to any testing, monitoring or recordkeeping activity conducted at any stationary source. To determine compliance with emissions limitations or standards, the Air Quality Director may require the owner or operator of any source in the state of Oklahoma to install, maintain and operate monitoring equipment or to conduct tests, including stack tests, of the air contaminant source. All required testing must be conducted by methods approved by the Air Quality Director and under the direction of qualified personnel. A notice-of-intent to test and a testing protocol shall be submitted to Air Quality at least 30 days prior to any EPA Reference Method stack tests. Emissions and other data required to demonstrate compliance with any federal or state emission limit or standard, or any requirement set forth in a valid permit shall be recorded, maintained, and submitted as required by this subchapter, an applicable rule, or permit requirement. Data from any required testing or monitoring not conducted in accordance with the provisions of this subchapter shall be considered invalid. Nothing shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

OAC 252:100-47 (Control of Emissions from Existing Municipal Landfills) [Not Applicable]
Existing MSW landfills with a design capacity of 2.5 million megagrams and 2.5 million cubic meters are required to obtain a Part 70 permit. Landfills having NMOC emissions of at least 50 Mg/yr are required to install a GCCS in accordance with the requirements of 40 CFR Part §60.752. This facility is subject to 40 CFR Part 60, NSPS, Subpart XXX. This subchapter affects existing MSW landfills. Since this landfill was modified after May 30, 1991, this landfill is not considered existing, therefore, this landfill is not subject to this subchapter.

The following Oklahoma Air Pollution Control Rules are not applicable to this facility:

OAC 252:100-11	Alternative Reduction	not requested
OAC 252:100-15	Mobile Sources	not in source category
OAC 252:100-17	Incinerators	not type of emission unit
OAC 252:100-23	Cotton Gins	not type of emission unit
OAC 252:100-24	Feed & Grain Facility	not in source category
OAC 252:100-39	Nonattainment Areas	not in area

SECTION VII. FEDERAL REGULATIONS

PSD, 40 CFR Part 52 [Not Applicable]
Total emissions are less than the level of significance of 250 TPY of any single regulated pollutant and the facility is not one of the listed stationary sources with a threshold of 100 TPY.

NSPS, 40 CFR Part 60 [Subparts A and XXX Applicable]

Subpart A, General Provisions. This subpart specifies standards only for control devices used to achieve compliance with an applicable NSPS Subpart. A flare is a "Best Demonstrated Technology (BDT)" for landfill gas destruction. 40 CFR §60.18 specifies that no visible emissions exceed a total of 5 minutes during any two consecutive hours. For non-assisted flare, the net heating value of combusted gas shall be greater than 7.45 MJ/SCM (200 BTU/SCF) and an exit velocity less than 18.3 m/s (60 ft/s). Maximum permitted velocity (V_{max}) can be determined by the equation:

$$log_{10}(V_{max}) = \frac{H_T + 28.8}{31.7}$$

Subpart Cc, Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills. This subpart contains emission guidelines and compliance times for the control of certain designated pollutants from certain designated municipal solid waste landfills. OAC 252:100-47 is the state rule covering the same requirements. At the present time, the facility is a Part 70 source and is subject to the requirements under NSPS Subpart XXX and not subject to this subpart.

Subpart Cf, Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills. This subpart affects each landfill that accepts MSW after November 08, 1987, and commences construction, reconstruction, or modification before July 17, 2014. OAC 252:100-47 is the state rule covering the same requirements. These emission guidelines are required to be adopted by AQD and incorporated into AQD's OAC 252:100-47. At the present time, the facility is a Part 70 source and is subject to the requirements under NSPS Subpart XXX and not subject to this subpart.

Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills. This subpart applies to each municipal solid waste landfill (MSWL) that commenced construction, reconstruction, or modification, or began accepting waste on or after May 30, 1991 but before July 18, 2014. MSWL with a design capacity greater than 2.5 million cubic meters and 2.5 million megagrams are subject to a Part 70 permitting requirement. Installation of a LFG collection and control system with a minimum destruction efficiency of 98% is required to minimize NMOC emissions if NMOC emissions are greater than 50 megagrams per year. The facility was modified after July 17, 2014; therefore, it is subject to the requirements under NSPS Subpart XXX and is no longer subject to this subpart.

Subpart XXX, Municipal Solid Waste Landfills. This subpart affects each landfill that commences construction, reconstruction, or modification after July 17, 2014. The facility was modified on July 24, 2015, which is after July 17, 2014. Therefore, this facility is subject to this subpart. MSWLs having a design capacity greater than 2.5 million cubic meters and 2.5 million megagrams are subject to Part 70 (Title V) permitting. Installation of an LFG collection and control system is required to minimize NMOC emissions with a destruction efficiency 98% if NMOC emissions are greater than 34 megagrams per year, based on calculation. Design capacity of the facility is greater than 2.5 million megagrams. This facility has emissions greater than 34 megagrams per year and has in place the required collection and control system. The permit requires the facility to comply with all applicable requirements.The facility has submitted a collection and control system plan per 40 CFR §60.762(b)(2)(i). The facility has installed a system subject to §60.762 (b)(2)(ii)(C).

The principal requirements of 40 CFR §60.762 covering the design of the system specific to Tulsa LFG are found in §60.762 (b)(2)(iii). Option (iii)(A) is a flare. Option (iii)(B) is a control system

designed to reduce NMOC emissions by 98% or to reduce outlet NMOC concentrations to 20 ppmvd (as hexane) at 3% O_2. Option (iii)(C) routes the gas to a treatment system that processes the gas for sale or other use. Tulsa LFG uses options A and C. Emissions from any system designed under the third option must meet the standards described for the first two options. Use of a flare (A) requires compliance with the conditions of 40 CFR §60.18 and §60.764(e) of XXX.

Operational standards for the collection and control system are found in §60.763. Test methods are described in 40 CFR §60.764(d) and (e). Compliance provisions of §60.765 apply at all times, including during start-up, shut-down, and malfunction (SSM), according to §60.765(e). Monitoring requirements for the flare are found §60.766(c), and monitoring requirements for the treatment system are found in §60.766(d). Reporting and recordkeeping requirements are covered in §60.767 and §60.768, respectively. Specifications for active collection systems are found in §60.769. As further clarification, note that AEL and Tulsa LFG are subject to Subpart XXX standards for the collection and combustion of NMOC emissions. Tulsa LFG is subject to the operational standards, monitoring, compliance provisions, reporting and recordkeeping, as they relate specifically to the GCCS and to the gas-to-energy project.

Subpart JJJJ, Stationary Spark Ignition Combustion Engines (SI ICE) promulgates emission standards for all new SI engines ordered after June 12, 2006, and all SI engines modified or reconstructed after June 12, 2006, regardless of size. The engines in this facility were manufactured and installed after 2010, and are subject to standards for landfill gas engines. However, this facility is considered a major source of HAPs. According to 40 CFR §63.6600(c), both engines will be subject to 40 CFR 63 ZZZZ, and will not be subject to this subpart. However, the emission factors of NO_X and VOC, which were originally taken from the NSPS Subpart JJJJ standard, will be continuously used in this permit. Because there were no engine emission exceedance for NOx and CO pollutants from engine regular testing results since the fourth quarter of 2014 to the present time. There is no need to create new emission basis for the engines.

NESHAP, 40 CFR Part 61 [Subpart M Applicable]

Subpart M, National Emission Standard for Asbestos. This subpart affects facilities that generate or receive asbestos. The landfill is not one of the sources identified in §61.142-§61.149, but is a municipal solid waste site affected under §61.154. American Environmental Landfill is generally responsible for compliance with Subpart M. However, Tulsa LFG will be responsible for notification and procedures identified in 40 CFR §61.154(j) if wastes containing asbestos must be excavated during drilling operations associated with the gas collection and recovery system.

NESHAP, 40 CFR Part 63 [Subparts AAAA and ZZZZ Applicable]

Subpart DD, Off-site Waste and Recovery Operations. This subpart affects facilities that receive and process off-site material such as hazardous and non-hazardous wastewater, solvents, or oil and are major sources of HAP. This emissions source (the Landfill and the Tulsa LFG treatment system) is not involved with any activities related to this subpart; therefore, this emissions source will not be subject to this subpart.

Subpart AAAA, Municipal Solid Waste Landfills. This subpart establishes national emission standards for hazardous air pollutants for existing and new municipal solid waste (MSW) landfills. This subpart requires all landfills described in §63.1935 to meet the requirements of 40 CFR Part

60, subpart Cc, Cf, WWW, or XXX. This subpart also requires such landfills to meet the startup, shutdown, and malfunction (SSM) requirements of the general provisions of this part and provides that compliance with the operating conditions shall be demonstrated by parameter monitoring results that are within the specified ranges. It also includes additional reporting requirements.

The AEL landfill is subject to AAAA per 40 CFR §63.1935(a)(3). Compliance requirements for the control facility set by §63.1960 are identical to those in 40 CFR part 60, subpart XXX, 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 §60.766(b)(1), (c)(1), and (d) are used to demonstrate compliance with the operating conditions for control systems. If a deviation occurs, the facility has failed to meet the control device operating conditions described in this subpart and has deviated from the requirements of this subpart. Finally, the facility must develop a written SSM plan according to the provisions in 40 CFR §63.6(e)(3). A copy of the SSM plan must be maintained on site. Failure to write or maintain a copy of the SSM plan is a deviation from the requirements of this subpart. Recordkeeping and reporting is discussed in 40 CFR §63.1981 - §63.1983, and follows the requirements of NSPS Subpart XXX and the General Provisions of NSPS, except that the annual report described in 40 CFR §60.767(g) must be submitted every six months.

As further clarification, note that AEL and Tulsa LFG are subject to Subpart AAAA standards for the collection and combustion of NMOC emissions. Tulsa LFG is subject to the operational standards, monitoring, compliance provisions, reporting and recordkeeping, as they relate specifically to the GCCS and to the gas-to-energy project.

Subpart ZZZZ, Reciprocating Internal Combustion Engines (RICE). This subpart affects new and existing engines at major and area sources. All engines at this location are "new" sources. According to 40 CFR §63.6600(c), owners and operators of new or reconstructed engines at major sources that burn more than 10% LFG do not have to comply with the emission limits or operating requirements of Tables 1 and 2 of the subpart. General requirements concerning safety and good practice are listed in 40 CFR §63.6605(b).

CAM, 40 CFR Part 64 [Not Applicable]

This part applies to any pollutant-specific emissions unit at a major source that is required to obtain an operating permit, for any application for an initial operating permit submitted after April 18, 1998, that addresses "large emissions units," or any application that addresses "large emissions units" as a significant modification to an operating permit, or for any application for renewal of an operating permit, if it meets all of the following criteria.

- It is subject to an emission limit or standard for an applicable regulated air pollutant
- It uses a control device to achieve compliance with the applicable emission limit or standard
- It has potential emissions, prior to the control device, of the applicable regulated air pollutant of 100 TPY or 10/25 TPY of a HAP

Regarding two Caterpillar 2,233-hp G3520 engines, their formaldehyde emissions are total 18.54 TPY with 9.27 TPY for each engine, which is less than 10 TPY for a single pollutant. Therefore, the engine is not subject to this 40 CFR Part 64.

The utility flare is a control device, however, the utility flare is not used to achieve compliance with an emission limits or standard for an applicable regulated air pollutants. The utility flare serves two purposes, one is to combust methane to avoid safety concern and the other is to burn out sulfur-containing compounds to eliminate odor problems. The facility does not meet the applicability criteria and is therefore not an affected facility.

The landfill NMOC is created by theoretical calculation as shown in 40 CFR NESHAP Subpart AAAA §63.1959 and is not created by any instrument/equipment measurement. The assurance of compliance can be achieved by proper GCCS design and operational procedures to meet requirement, which are shown in 40 CFR §63.1960 - §63.1962. There is no need to set up any monitoring system; therefore, this facility is not subject to this 40 CFR Part 64.

Chemical Accident Prevention Provisions, 40 CFR Part 68 [Not Applicable]
This facility does not process or store more than the threshold quantity of any regulated substance (Section 112r of the Clean Air Act 1990 Amendments). More information on this federal program is available on the web page: *www.epa.gov/rmp*

Stratospheric Ozone Protection, 40 CFR Part 82 [Applicable]
These standards require phase out of Class I & II substances, reductions of emissions of Class I & II substances to the lowest achievable level in all use sectors, and banning use of nonessential products containing ozone-depleting substances (Subparts A & C); control servicing of motor vehicle air conditioners (Subpart B); require Federal agencies to adopt procurement regulations which meet phase out requirements and which maximize the substitution of safe alternatives to Class I and Class II substances (Subpart D); require warning labels on products made with or containing Class I or II substances (Subpart E); maximize the use of recycling and recovery upon disposal (Subpart F); require producers to identify substitutes for ozone-depleting compounds under the Significant New Alternatives Program (Subpart G); and reduce the emissions of halons (Subpart H).
Subpart A identifies ozone-depleting substances and divides them into two classes. Class I controlled substances are divided into seven groups; the chemicals typically used by the manufacturing industry include carbon tetrachloride (Class I, Group IV) and methyl chloroform (Class I, Group V). A complete phase-out of production of Class I substances is required by January 1, 2000 (January 1, 2002, for methyl chloroform). Class II chemicals, which are hydrochlorofluorocarbons (HCFCs), are generally seen as interim substitutes for Class I CFCs. Class II substances consist of 33 HCFCs. A complete phase-out of Class II substances, scheduled in phases starting by 2002, is required by January 1, 2030.
Subpart F requires that any persons servicing, maintaining, or repairing appliances except for motor vehicle air conditioners; persons disposing of appliances, including motor vehicle air conditioners; refrigerant reclaimers, appliance owners, and manufacturers of appliances and recycling and recovery equipment comply with the standards for recycling and emissions reduction.
The standard conditions of the permit address the requirements specified at § 82.156 for persons opening appliances for maintenance, service, repair, or disposal; § 82.158 for equipment used during the maintenance, service, repair, or disposal of appliances; § 82.161 for certification by an approved technician certification program of persons performing maintenance, service, repair, or disposal of appliances; § 82.166 for recordkeeping; § 82.158 for leak repair requirements; and §

82.166 for refrigerant purchase records for appliances normally containing 50 or more pounds of refrigerant.

This facility does not utilize any Class I & II substances.

SECTION VIII. COMPLIANCE

Tier Classification and Public Review

This application has been classified as Tier II based upon a request for renewal of a Title V operating permit. Public review of the application and permit are required. The applicant has submitted an affidavit that they are not seeking a permit for land use or for any operation upon land owned by others without their knowledge. The affidavit certifies that the applicant has a current lease given to accomplish the permitted purpose.

The applicant published the "Notice of Filing a Tier II Application" *Sand Spring Leader*, a daily newspaper printed and published in the City of Tulsa, Tulsa County, Oklahoma on **July 17, 2019**. The notice stated that the permit application was available for public review at the Charles Page Library, 551 East 4th Street, Sand Spring, Oklahoma 74063, or at the Air Quality Division's Main Office in Oklahoma City, Oklahoma. The permit application was also available for public review on the Air Quality Section of the DEQ Web Page at *https://www.deq.ok.gov*. A draft of this permit will also be made available for public review for a period of 30 days as stated in another newspaper announcement. The "Notice of Tier II Draft Permit" will state that the draft permit is available for public review at a location accessible to the public in the same county as the facility, at the AQD main office, and on the Air Quality section of the DEQ web page. The information on all permit actions is available for review by the public in the Air Quality section of the DEQ web page at https://www.deq.ok.gov.

The applicant has requested concurrent public and EPA review periods. The draft permit will be available for public review on the Air Quality section of the DEQ web page at https://www.deq.ok.gov. The proposed permit will be sent to EPA for a 45-day review period.

This facility is not located within 50 miles of the border of Oklahoma so no notice to other states is required.

If the Administrator does not object in writing during the 45-day EPA review period, any person that meets the requirements of this subsection may petition the Administrator within 60 days after the expiration of the Administrator's 45-day review period to make such objection. Any such petition shall be based only on objections to the permit that the petitioner raised with reasonable specificity during the public comment period provided for in 27A O.S. § 2-14-302.A.2., unless the petitioner demonstrates that it was impracticable to raise such objections within such period, or unless the grounds for such objection arose after such period. If the Administrator objects to the permit as a result of a petition filed under this subsection, the DEQ shall not issue the permit until EPA's objection has been resolved, except that a petition for review does not stay the effectiveness of a permit or its requirements if the permit was issued after the end of the 45-day review period and prior to an EPA objection. If the DEQ has issued a permit prior to receipt of an EPA objection under this subsection, the DEQ will modify, terminate, or revoke such permit, and shall do so

consistent with the procedures in 40 CFR §§ 70.7(g)(4) or (5)(i) and (ii) except in unusual circumstances. If the DEQ revokes the permit, it may thereafter issue only a revised permit that satisfies EPA's objection. In any case, the source will not be in violation of the requirement to have submitted a timely and complete application.

Inspection

On Tuesday, January 29, 2019, from 10:48 to 11:26, an Air Quality full compliance evaluation (FCE) was conducted at the Tulsa LFG, LLC. The compliance evaluation was conducted by Mr. Stephen Statum, Environmental Programs Specialist for the Department of Environmental Quality, Air Quality Division. Mr. Trevor Grundstrom, Plant Manager, represented the Tulsa LFG, LLC. The facility was constructed and is operating as described in the permit renewal application. Identification plates with the make, model, and serial number were attached to the LFG-fired engines. No engines have been replaced since the previous FCE on May 10, 2013. Tulsa LFG, LLC appeared to maintain the required records. Most records are maintained in electronic format at the facility. In this FCE, no compliance issues were discovered. Since there are no physical changes at the facility from January 2019 to May 2021, there is no need to inspect the facility again.

Engine Testing

Performance testing of the Caterpillar engines was regularly performed and the testing results are shown below. Each engine was operated at 100% of rated bhp. All numbers are expressed as g/hp-hr in the following table.

Unit Number	Serial Number	Test Date	CO Limit	CO Results	NOx Limit	NOx Results	Pass/Fail
E1	GZJ00625	09/25/2018	3.3	3.12	2.0	0.56	Pass
E2	GZJ00472	10/30/2018	3.3	2.98	2.0	0.37	Pass
E1	GZJ00625	09/18/2019	3.3	2.95	2.0	0.33	Pass
E2	GZJ00472	09/23/2020	3.3	3.18	2.0	0.17	Pass

Fees Paid

Part 70 operating permit renewal application fee of $7,500 was received on July 11, 2019.

SECTION IX. SUMMARY

The Tulsa LFG facility was constructed and is operating as described in the permit application. Ambient air quality standards are not threatened at this site. There are no active Air Quality compliance or enforcement issues concerning this facility. Issuance of the operating permit is recommended, contingent on EPA and public review.

PART 70 PERMIT

AIR QUALITY DIVISION
STATE OF OKLAHOMA
DEPARTMENT OF ENVIRONMENTAL QUALITY
707 NORTH ROBINSON, SUITE 4100
P. O. BOX 1677
OKLAHOMA CITY, OKLAHOMA 73101-1677

Permit No. 2019-0801-TVR2

Tulsa LFG, LLC,

having complied with the requirements of the law, is hereby granted permission to operate generating sets and an active gas collection and control system (GCCS), collocated with American Environmental Landfill, Inc. at 207 N. 177th West Avenue, Sand Spring, in S ½ Section 36, Township 20N, Range 10E, Osage County, Oklahoma, subject to Major Source Standard Conditions dated June 21, 2016, and Specific Conditions, both attached.

This permit shall expire five (5) years from the issuance date below, except as Authorized under Section VIII of the Standard Conditions.

Kendal Stegmann
Division Director, Air Quality Division

Date

Draft/Proposed

PERMIT TO OPERATE
AIR POLLUTION CONTROL FACILITY
SPECIFIC CONDITIONS

Tulsa LFG, LLC **Permit Number 2019-0801-TVR2**
Sand Springs Landfill Facility

The permittee is authorized to operate in conformity with the specifications submitted to Air Quality on July 9, 2019, July 11, 2019, July 30, 2019, and November 13, 2020. The Evaluation Memorandum dated May 11, 2021 explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain operating limitations or permit requirements. Continuing operations under this permit constitutes acceptance of, and consent to, the conditions contained herein.

1. Points of emissions and emission limitations for each point. [OAC 252:100-8-6(a)]

Source	NO_X		CO		$PM_{10} = PM_{2.5}$	SO_2	VOC
Flare	17.9 TPY		97.2 TPY		4.5 TPY	4.0 TPY	0.5 TPY
Cat. #1	9.85 lb/hr	43.1 TPY	16.2 lb/hr	71.2 TPY	2.96 TPY	12.4 TPY	21.6 TPY
Cat. #2	9.85 lb/hr	43.1 TPY	16.2 lb/hr	71.2 TPY	2.96 TPY	12.4 TPY	21.6 TPY

Emissions of formaldehyde are to be reported on the basis of 0.43 grams per hp-hr, unless performance testing indicates a different factor. There is no need to set up hourly emission limitations for the flare, and for the PM, SO_2, and VOC pollutants from both engines.

2. The permittee is allowed to operate the facility 24 hours per day, every day of the year. [OAC 252:100-8-6(a)]

3. The facility shall comply with NSPS (New Source Performance Standards), 40 CFR Part 60, Subpart XXX, Municipal Solid Waste Landfills that commence construction, reconstruction, or modification after July 17, 2014. The LFG shall be routed to a flare or treated and sent to generator sets or shall be transported off site as a commercially useful product. Requirements for each system are described in separate Specific Conditions. American Environmental Landfill, Inc. (AEL) and Tulsa LFG, LLC (Tulsa LFG) are subject to Subpart XXX standards for the collection and combustion of NMOC emissions. Tulsa LFG is subject to the operational standards, monitoring, compliance provisions, reporting and recordkeeping, as they relate specifically to the GCCS and to the gas to energy facility. [40 CFR Part 60, §60.760 – §60.769]

   a. §60.760 Applicability, designation of affected source, and delegation of authority.
   b. §60.761 Definitions
   c. §60.762 Standards for air emissions from municipal solid waste landfills.
   d. §60.763 Operational standards for collection and control systems.
   e. §60.764 Test methods and procedures.
   f. §60.765 Compliance provisions.
   g. §60.766 Monitoring of operations.
   h. §60.767 Reporting requirements.
   i. §60.768 Recordkeeping requirements.
   j. §60.769 Specifications for active collection systems.

4. When LFG is routed to the permanent flare, the following conditions apply. [40 CFR §60.762(b)(2)(iii)(A)]

   a. Permittee shall properly operate and maintain the flare in accordance with current industry standards.
   b. The flare shall be designed for a maximum flow rate of 2,000 scfm.
   c. The flare shall achieve a control efficiency of 98%.
   d. The flare shall have an alarm system to notify operators of pilot malfunction.
   e. Records that document proper maintenance, malfunctions and repairs shall be maintained.

5. When LFG is routed offsite for sale, the requirements of 40 CFR 60.762 (b)(2)(iii)(A) or (B), as appropriate, shall be met. [40 CFR §60.762(b)(2)(iii)(C)]

6. The facility is subject to CFR 40 Part 63, Subpart AAAA, and. shall comply with all requirements of 40 CFR Part 63, Subpart AAAA including, but not limited to, the following. AEL and Tulsa LFG are subject to Subpart AAAA standards for the collection and combustion of NMOC emissions. Tulsa LFG is subject to the operational standards, monitoring, compliance provisions, reporting and recordkeeping, as they relate specifically to the GCCS and to the gas-to-energy project. [40 CFR Part 63, §63.1930 – §63.1990]

   a. The facility shall comply with the requirements of 40 CFR Part 60, Subpart XXX.
   b. The permittee shall develop and implement a written Startup, Shutdown, and Malfunction (SSM) plan according to the provisions in 40 CFR §63.6(e)(3). A copy of the SSM plan shall be maintained on site.
   c. The permittee shall also keep records and reports as specified in the general provisions of 40 CFR Part 60 and Part 63 as shown in Table 1 of this Subpart AAAA. Applicable records in the general provisions include items such as SSM plans and the SSM plan reports.

7. Regarding the 2,233-hp Caterpillar G3520 engines, the permittee, or the owner/operator (O/O), shall comply with all applicable requirements in 40 CFR Part 63, National Emission Standard for Hazardous Air Pollutants (NESHAP), Subpart ZZZZ, for any existing, new, or reconstructed reciprocating internal combustion engines (RICE) including, but not limited to, the following. [40 CFR §§ 63.6580 to 63.6675]

   What This Subpart Covers
   a. § 63.6580 What is the purpose of subpart ZZZZ?
   b. § 63.6585 Am I subject to this subpart?
   c. § 63.6590 What parts of my plant does this subpart cover?
   d. § 63.6595 When do I have to comply with this subpart?

   Emission and Operating Limitations
   e. § 63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?
   f. § 63.6601 What emission limitations must I meet if I own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250

brake HP and less than or equal to 500 brake HP located at a major source of HAP emissions?

g. § 63.6602 What emission limitations and other requirements must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?
h. § 63.6603 What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?
i. § 63.6604 What fuel requirements must I meet if I own or operate a stationary CI RICE?

General Compliance Requirements

j. § 63.6605 What are my general requirements for complying with this subpart?

Testing and Initial Compliance Requirements

k. § 63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?
l. § 63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?
m. § 63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?
n. § 63.6615 When must I conduct subsequent performance tests?
o. § 63.6620 What performance tests and other procedures must I use?
p. § 63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?
q. § 63.6630 How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements?

Continuous Compliance Requirements

r. § 63.6635 How do I monitor and collect data to demonstrate continuous compliance?
s. § 63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?

Notifications, Reports, and Records

t. § 63.6645 What notifications must I submit and when?
u. § 63.6650 What reports must I submit and when?
v. § 63.6655 What records must I keep?
w. § 63.6660 In what form and how long must I keep my records?

Other Requirements and Information

x. § 63.6665 What parts of the General Provisions apply to me?
y. § 63.6670 Who implements and enforces this subpart?
z. § 63.6675 What definitions apply to this subpart?

8. At least once per calendar quarter, the permittee shall conduct tests of NO_X and CO emissions in exhaust gases from the engines in Specific Condition No. 1 and from each replacement engine/turbine when operating under representative conditions for that period. Testing is required for any engine/turbine that runs for more than 220 hours during that calendar quarter. A quarterly test may be conducted no sooner than 20 calendar days after the most recent test. Testing shall be conducted using a portable analyzer in accordance with a protocol meeting the requirements of the latest AQD Portable Analyzer Guidance document, or an equivalent method approved by Air Quality. When four consecutive quarterly tests show the engine/turbine to be in compliance with the emissions limitations shown in the permit, then the testing frequency may be reduced to semi-annual testing. A semi-annual test may be conducted no sooner than 60 calendar days nor later than 180 calendar days after the most recent test. Likewise, when the following two consecutive semi-annual tests show compliance, the testing frequency may be reduced to annual testing. An annual test may be conducted no sooner than 120 calendar days nor later than 365 calendar days after the most recent test. Upon any showing of non-compliance with emissions limitations or testing that indicates that emissions are within 10% of the emission limitations, the testing frequency shall revert to quarterly. Testing performed under a previous permit may be used to justify a reduced monitoring frequency, i.e., quarterly to semiannual or annual, and may be used in lieu of testing required by this permit for an applicable reporting period, i.e., quarter, six-month, or annual period coinciding with issuance of this permit. Reduced testing frequency does not apply to engines with oxidative or catalytic converters. [OAC 252:100-43]

9. When periodic compliance testing shows engine exhaust emissions in excess of the lb/hr limits in Specific Condition Number 1, the permittee shall comply with the provisions of OAC 252:100-9 for excess emissions. [OAC 252:100-9]

10. Replacement, including temporary periods (6 months or less for maintenance purposes) of any internal combustion engine shown in this permit with an engine of lesser or equal emissions of each pollutant, is authorized under the following conditions. [OAC 252:100-8-6(f)]

    a. The replacement engine or turbine shall comply with the same emissions limits as the engine or turbine that it replaced. This applies to lb/hr and TPY limits specified in this permit.
    b. The authorization of replacement of an engine or turbine includes temporary periods of 6 months or less for maintenance purposes.
    c. The permittee shall notify AQD in writing not later than 7 days prior to start-up of the replacement engine or turbine. Said notice shall identify the old engine/turbine and shall include the new engine/turbine make and model, serial number, horsepower rating, and pollutant emission rates (g/hp-hr, lb/hr, and TPY) at maximum horsepower for the altitude/location.
    d. Quarterly emissions tests for the replacement engine(s)/turbine(s) shall be conducted to confirm continued compliance with NO_X and CO emission limitations. A copy of the first quarter testing shall be provided to AQD within 60 days of start-up of each replacement engine/turbine. The test report shall include the engine/turbine fuel usage, stack flow (ACFM), stack temperature (°F), and pollutant emission rates (g/hp-hr, lbs/hr, and TPY) at maximum rated horsepower for the altitude/location.

e. Replacement equipment and emissions are limited to equipment and emissions which are not a modification under NSPS or NESHAP.
f. Replacement equipment and emissions are limited to equipment and emissions which are not a modification or a significant modification under PSD. For existing PSD facilities, the permittee shall calculate the PTE or the net emissions increase resulting from the replacement to document that it does not exceed significance levels and submit the results with the notice required by paragraph (c) of this Specific Condition. The permittee shall attach each such notice to their copy of the relevant permit. For each such change, the written notification required above shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change. The permit shield described in OAC 252:100-8-6(d) does not apply to any change made pursuant to this paragraph.
g. Engines whose installation and operation are authorized under this Specific Condition which are subject to 40 CFR Part 63, Subpart ZZZZ and/or 40 CFR Part 60, Subpart JJJJ shall comply with all applicable requirements.

11. The owner or operator shall keep the following records for a period of at least 5 years at the facility. Records may be kept in electronic format. [OAC 252:100-43]

a. Records required by 40 CFR Part 60 Subpart XXX.
b. Records required by 40 CFR Part 63 Subpart AAAA.
c. Records documenting proper maintenance, malfunctions and repairs of the GCCS under Specific Condition #4e.
d. Records required by 40 CFR Part 63 Subpart ZZZZ.
e. Periodic testing of NO_X and CO exhaust from the engines.
f. Hours of operation for any quarter in which testing is not conducted.
g. O&M records for any engine/turbine not tested in each quarter.

12. No later than 30 days after each anniversary date of the issuance of the original Title V operating permit (September 23, 2009), the permittee shall submit to Air Quality Division of DEQ, with a copy to the US EPA, Region 6, a certification of compliance with the terms and conditions of this permit. [OAC 252:100-8-6 (c)(5)(A) & (D)]

13. This Part 70 operating permit supersedes and replaces all previous Air Quality operating permits for the Tulsa LFG, LLC, which are now canceled. [OAC 252:100-8-6 (a)(2)]

NOTICE For Tulsa LFG, LLC, Sand Springs Landfill Facility

MAJOR SOURCE AIR QUALITY PERMIT
STANDARD CONDITIONS
(June 21, 2016)

SECTION I. DUTY TO COMPLY

A. This is a permit to operate / construct this specific facility in accordance with the federal Clean Air Act (42 U.S.C. 7401, et al.) and under the authority of the Oklahoma Clean Air Act and the rules promulgated there under. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

B. The issuing Authority for the permit is the Air Quality Division (AQD) of the Oklahoma Department of Environmental Quality (DEQ). The permit does not relieve the holder of the obligation to comply with other applicable federal, state, or local statutes, regulations, rules, or ordinances. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

C. The permittee shall comply with all conditions of this permit. Any permit noncompliance shall constitute a violation of the Oklahoma Clean Air Act and shall be grounds for enforcement action, permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application. All terms and conditions are enforceable by the DEQ, by the Environmental Protection Agency (EPA), and by citizens under section 304 of the Federal Clean Air Act (excluding state-only requirements). This permit is valid for operations only at the specific location listed.
[40 C.F.R. §70.6(b), OAC 252:100-8-1.3 and OAC 252:100-8-6(a)(7)(A) and (b)(1)]

D. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations. [OAC 252:100-8-6(a)(7)(B)]

SECTION II. REPORTING OF DEVIATIONS FROM PERMIT TERMS

A. Any exceedance resulting from an emergency and/or posing an imminent and substantial danger to public health, safety, or the environment shall be reported in accordance with Section XIV (Emergencies). [OAC 252:100-8-6(a)(3)(C)(iii)(I) & (II)]

B. Deviations that result in emissions exceeding those allowed in this permit shall be reported consistent with the requirements of OAC 252:100-9, Excess Emission Reporting Requirements.
[OAC 252:100-8-6(a)(3)(C)(iv)]

C. Every written report submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F.
[OAC 252:100-8-6(a)(3)(C)(iv)]

SECTION III. MONITORING, TESTING, RECORDKEEPING & REPORTING

A. The permittee shall keep records as specified in this permit. These records, including monitoring data and necessary support information, shall be retained on-site or at a nearby field office for a period of at least five years from the date of the monitoring sample, measurement, report, or application, and shall be made available for inspection by regulatory personnel upon request. Support information includes all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Where appropriate, the permit may specify that records may be maintained in computerized form.

[OAC 252:100-8-6 (a)(3)(B)(ii), OAC 252:100-8-6(c)(1), and OAC 252:100-8-6(c)(2)(B)]

B. Records of required monitoring shall include:

(1) the date, place and time of sampling or measurement;
(2) the date or dates analyses were performed;
(3) the company or entity which performed the analyses;
(4) the analytical techniques or methods used;
(5) the results of such analyses; and
(6) the operating conditions existing at the time of sampling or measurement.

[OAC 252:100-8-6(a)(3)(B)(i)]

C. No later than 30 days after each six (6) month period, after the date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to AQD a report of the results of any required monitoring. All instances of deviations from permit requirements since the previous report shall be clearly identified in the report. Submission of these periodic reports will satisfy any reporting requirement of Paragraph E below that is duplicative of the periodic reports, if so noted on the submitted report. [OAC 252:100-8-6(a)(3)(C)(i) and (ii)]

D. If any testing shows emissions in excess of limitations specified in this permit, the owner or operator shall comply with the provisions of Section II (Reporting Of Deviations From Permit Terms) of these standard conditions. [OAC 252:100-8-6(a)(3)(C)(iii)]

E. In addition to any monitoring, recordkeeping or reporting requirement specified in this permit, monitoring and reporting may be required under the provisions of OAC 252:100-43, Testing, Monitoring, and Recordkeeping, or as required by any provision of the Federal Clean Air Act or Oklahoma Clean Air Act. [OAC 252:100-43]

F. Any Annual Certification of Compliance, Semi Annual Monitoring and Deviation Report, Excess Emission Report, and Annual Emission Inventory submitted in accordance with this permit shall be certified by a responsible official. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."

[OAC 252:100-8-5(f), OAC 252:100-8-6(a)(3)(C)(iv), OAC 252:100-8-6(c)(1), OAC 252:100-9-7(e), and OAC 252:100-5-2.1(f)]

G. Any owner or operator subject to the provisions of New Source Performance Standards ("NSPS") under 40 CFR Part 60 or National Emission Standards for Hazardous Air Pollutants ("NESHAPs") under 40 CFR Parts 61 and 63 shall maintain a file of all measurements and other information required by the applicable general provisions and subpart(s). These records shall be maintained in a permanent file suitable for inspection, shall be retained for a period of at least five years as required by Paragraph A of this Section, and shall include records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of an affected facility, any malfunction of the air pollution control equipment; and any periods during which a continuous monitoring system or monitoring device is inoperative.

[40 C.F.R. §§60.7 and 63.10, 40 CFR Parts 61, Subpart A, and OAC 252:100, Appendix Q]

H. The permittee of a facility that is operating subject to a schedule of compliance shall submit to the DEQ a progress report at least semi-annually. The progress reports shall contain dates for achieving the activities, milestones or compliance required in the schedule of compliance and the dates when such activities, milestones or compliance was achieved. The progress reports shall also contain an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted. [OAC 252:100-8-6(c)(4)]

I. All testing must be conducted under the direction of qualified personnel by methods approved by the Division Director. All tests shall be made and the results calculated in accordance with standard test procedures. The use of alternative test procedures must be approved by EPA. When a portable analyzer is used to measure emissions it shall be setup, calibrated, and operated in accordance with the manufacturer's instructions and in accordance with a protocol meeting the requirements of the "AQD Portable Analyzer Guidance" document or an equivalent method approved by Air Quality.

[OAC 252:100-8-6(a)(3)(A)(iv), and OAC 252:100-43]

J. The reporting of total particulate matter emissions as required in Part 7 of OAC 252:100-8 (Permits for Part 70 Sources), OAC 252:100-19 (Control of Emission of Particulate Matter), and OAC 252:100-5 (Emission Inventory), shall be conducted in accordance with applicable testing or calculation procedures, modified to include back-half condensables, for the concentration of particulate matter less than 10 microns in diameter (PM_{10}). NSPS may allow reporting of only particulate matter emissions caught in the filter (obtained using Reference Method 5).

K. The permittee shall submit to the AQD a copy of all reports submitted to the EPA as required by 40 C.F.R. Part 60, 61, and 63, for all equipment constructed or operated under this permit subject to such standards. [OAC 252:100-8-6(c)(1) and OAC 252:100, Appendix Q]

SECTION IV. COMPLIANCE CERTIFICATIONS

A. No later than 30 days after each anniversary date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to the AQD, with a copy to the US EPA, Region 6, a certification of compliance with the terms and conditions of this permit and of any other applicable requirements which have become effective since the issuance of this permit.

[OAC 252:100-8-6(c)(5)(A), and (D)]

B. The compliance certification shall describe the operating permit term or condition that is the basis of the certification; the current compliance status; whether compliance was continuous or intermittent; the methods used for determining compliance, currently and over the reporting period. The compliance certification shall also include such other facts as the permitting authority may require to determine the compliance status of the source.

[OAC 252:100-8-6(c)(5)(C)(i)-(v)]

C. The compliance certification shall contain a certification by a responsible official as to the results of the required monitoring. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete." [OAC 252:100-8-5(f) and OAC 252:100-8-6(c)(1)]

D. Any facility reporting noncompliance shall submit a schedule of compliance for emissions units or stationary sources that are not in compliance with all applicable requirements. This schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with any applicable requirements for which the emissions unit or stationary source is in noncompliance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the emissions unit or stationary source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based, except that a compliance plan shall not be required for any noncompliance condition which is corrected within 24 hours of discovery.

[OAC 252:100-8-5(e)(8)(B) and OAC 252:100-8-6(c)(3)]

SECTION V. REQUIREMENTS THAT BECOME APPLICABLE DURING THE PERMIT TERM

The permittee shall comply with any additional requirements that become effective during the permit term and that are applicable to the facility. Compliance with all new requirements shall be certified in the next annual certification. [OAC 252:100-8-6(c)(6)]

SECTION VI. PERMIT SHIELD

A. Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC 252:100-8) shall be deemed compliance with the applicable requirements identified and included in this permit. [OAC 252:100-8-6(d)(1)]

B. Those requirements that are applicable are listed in the Standard Conditions and the Specific Conditions of this permit. Those requirements that the applicant requested be determined as not applicable are summarized in the Specific Conditions of this permit. [OAC 252:100-8-6(d)(2)]

SECTION VII. ANNUAL EMISSIONS INVENTORY & FEE PAYMENT

The permittee shall file with the AQD an annual emission inventory and shall pay annual fees based on emissions inventories. The methods used to calculate emissions for inventory purposes shall be based on the best available information accepted by AQD.
[OAC 252:100-5-2.1, OAC 252:100-5-2.2, and OAC 252:100-8-6(a)(8)]

SECTION VIII. TERM OF PERMIT

A. Unless specified otherwise, the term of an operating permit shall be five years from the date of issuance. [OAC 252:100-8-6(a)(2)(A)]

B. A source's right to operate shall terminate upon the expiration of its permit unless a timely and complete renewal application has been submitted at least 180 days before the date of expiration. [OAC 252:100-8-7.1(d)(1)]

C. A duly issued construction permit or authorization to construct or modify will terminate and become null and void (unless extended as provided in OAC 252:100-8-1.4(b)) if the construction is not commenced within 18 months after the date the permit or authorization was issued, or if work is suspended for more than 18 months after it is commenced. [OAC 252:100-8-1.4(a)]

D. The recipient of a construction permit shall apply for a permit to operate (or modified operating permit) within 180 days following the first day of operation. [OAC 252:100-8-4(b)(5)]

SECTION IX. SEVERABILITY

The provisions of this permit are severable and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
[OAC 252:100-8-6 (a)(6)]

SECTION X. PROPERTY RIGHTS

A. This permit does not convey any property rights of any sort, or any exclusive privilege.
[OAC 252:100-8-6(a)(7)(D)]

B. This permit shall not be considered in any manner affecting the title of the premises upon which the equipment is located and does not release the permittee from any liability for damage to persons or property caused by or resulting from the maintenance or operation of the equipment for which the permit is issued. [OAC 252:100-8-6(c)(6)]

SECTION XI. DUTY TO PROVIDE INFORMATION

A. The permittee shall furnish to the DEQ, upon receipt of a written request and within sixty (60) days of the request unless the DEQ specifies another time period, any information that the DEQ may request to determine whether cause exists for modifying, reopening, revoking, reissuing,

terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the DEQ copies of records required to be kept by the permit.
[OAC 252:100-8-6(a)(7)(E)]

B. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 27A O.S. § 2-5-105(18). Confidential information shall be clearly labeled as such and shall be separable from the main body of the document such as in an attachment.
[OAC 252:100-8-6(a)(7)(E)]

C. Notification to the AQD of the sale or transfer of ownership of this facility is required and shall be made in writing within thirty (30) days after such sale or transfer.
[Oklahoma Clean Air Act, 27A O.S. § 2-5-112(G)]

SECTION XII. REOPENING, MODIFICATION & REVOCATION

A. The permit may be modified, revoked, reopened and reissued, or terminated for cause. Except as provided for minor permit modifications, the filing of a request by the permittee for a permit modification, revocation and reissuance, termination, notification of planned changes, or anticipated noncompliance does not stay any permit condition.
[OAC 252:100-8-6(a)(7)(C) and OAC 252:100-8-7.2(b)]

B. The DEQ will reopen and revise or revoke this permit prior to the expiration date in the following circumstances: [OAC 252:100-8-7.3 and OAC 252:100-8-7.4(a)(2)]

(1) Additional requirements under the Clean Air Act become applicable to a major source category three or more years prior to the expiration date of this permit. No such reopening is required if the effective date of the requirement is later than the expiration date of this permit.
(2) The DEQ or the EPA determines that this permit contains a material mistake or that the permit must be revised or revoked to assure compliance with the applicable requirements.
(3) The DEQ or the EPA determines that inaccurate information was used in establishing the emission standards, limitations, or other conditions of this permit. The DEQ may revoke and not reissue this permit if it determines that the permittee has submitted false or misleading information to the DEQ.
(4) DEQ determines that the permit should be amended under the discretionary reopening provisions of OAC 252:100-8-7.3(b).

C. The permit may be reopened for cause by EPA, pursuant to the provisions of OAC 100-8-7.3(d). [OAC 100-8-7.3(d)]

D. The permittee shall notify AQD before making changes other than those described in Section XVIII (Operational Flexibility), those qualifying for administrative permit amendments, or those defined as an Insignificant Activity (Section XVI) or Trivial Activity (Section XVII). The notification should include any changes which may alter the status of a “grandfathered source,” as defined under AQD rules. Such changes may require a permit modification.
[OAC 252:100-8-7.2(b) and OAC 252:100-5-1.1]

E. Activities that will result in air emissions that exceed the trivial/insignificant levels and that are not specifically approved by this permit are prohibited. [OAC 252:100-8-6(c)(6)]

SECTION XIII. INSPECTION & ENTRY

A. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized regulatory officials to perform the following (subject to the permittee's right to seek confidential treatment pursuant to 27A O.S. Supp. 1998, § 2-5-105(17) for confidential information submitted to or obtained by the DEQ under this section):

(1) enter upon the permittee's premises during reasonable/normal working hours where a source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
(2) have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
(3) inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
(4) as authorized by the Oklahoma Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit.

[OAC 252:100-8-6(c)(2)]

SECTION XIV. EMERGENCIES

A. Any exceedance resulting from an emergency shall be reported to AQD promptly but no later than 4:30 p.m. on the next working day after the permittee first becomes aware of the exceedance. This notice shall contain a description of the emergency, the probable cause of the exceedance, any steps taken to mitigate emissions, and corrective actions taken.

[OAC 252:100-8-6 (a)(3)(C)(iii)(I) and (IV)]

B. Any exceedance that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to AQD as soon as is practicable; but under no circumstance shall notification be more than 24 hours after the exceedance. [OAC 252:100-8-6(a)(3)(C)(iii)(II)]

C. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error. [OAC 252:100-8-2]

D. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that: [OAC 252:100-8-6 (e)(2)]

(1) an emergency occurred and the permittee can identify the cause or causes of the emergency;
(2) the permitted facility was at the time being properly operated;

(3) during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit.

E. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof. [OAC 252:100-8-6(e)(3)]

F. Every written report or document submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F.
[OAC 252:100-8-6(a)(3)(C)(iv)]

SECTION XV. RISK MANAGEMENT PLAN

The permittee, if subject to the provision of Section 112(r) of the Clean Air Act, shall develop and register with the appropriate agency a risk management plan by June 20, 1999, or the applicable effective date. [OAC 252:100-8-6(a)(4)]

SECTION XVI. INSIGNIFICANT ACTIVITIES

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate individual emissions units that are either on the list in Appendix I to OAC Title 252, Chapter 100, or whose actual calendar year emissions do not exceed any of the limits below. Any activity to which a State or Federal applicable requirement applies is not insignificant even if it meets the criteria below or is included on the insignificant activities list.

(1) 5 tons per year of any one criteria pollutant.
(2) 2 tons per year for any one hazardous air pollutant (HAP) or 5 tons per year for an aggregate of two or more HAP's, or 20 percent of any threshold less than 10 tons per year for single HAP that the EPA may establish by rule.
[OAC 252:100-8-2 and OAC 252:100, Appendix I]

SECTION XVII. TRIVIAL ACTIVITIES

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate any individual or combination of air emissions units that are considered inconsequential and are on the list in Appendix J. Any activity to which a State or Federal applicable requirement applies is not trivial even if included on the trivial activities list.
[OAC 252:100-8-2 and OAC 252:100, Appendix J]

SECTION XVIII. OPERATIONAL FLEXIBILITY

A. A facility may implement any operating scenario allowed for in its Part 70 permit without the need for any permit revision or any notification to the DEQ (unless specified otherwise in the permit). When an operating scenario is changed, the permittee shall record in a log at the facility the scenario under which it is operating. [OAC 252:100-8-6(a)(10) and (f)(1)]
B. The permittee may make changes within the facility that:

(1) result in no net emissions increases,
(2) are not modifications under any provision of Title I of the federal Clean Air Act, and
(3) do not cause any hourly or annual permitted emission rate of any existing emissions unit to be exceeded;

provided that the facility provides the EPA and the DEQ with written notification as required below in advance of the proposed changes, which shall be a minimum of seven (7) days, or twenty four (24) hours for emergencies as defined in OAC 252:100-8-6 (e). The permittee, the DEQ, and the EPA shall attach each such notice to their copy of the permit. For each such change, the written notification required above shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change. The permit shield provided by this permit does not apply to any change made pursuant to this paragraph. [OAC 252:100-8-6(f)(2)]

SECTION XIX. OTHER APPLICABLE & STATE-ONLY REQUIREMENTS

A. The following applicable requirements and state-only requirements apply to the facility unless elsewhere covered by a more restrictive requirement:

(1) Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in the Open Burning Subchapter. [OAC 252:100-13]
(2) No particulate emissions from any fuel-burning equipment with a rated heat input of 10 MMBTUH or less shall exceed 0.6 lb/MMBTU. [OAC 252:100-19]

(3) For all emissions units not subject to an opacity limit promulgated under 40 C.F.R., Part 60, NSPS, no discharge of greater than 20% opacity is allowed except for: [OAC 252:100-25]

   (a) Short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity;
   (b) Smoke resulting from fires covered by the exceptions outlined in OAC 252:100-13-7;
   (c) An emission, where the presence of uncombined water is the only reason for failure to meet the requirements of OAC 252:100-25-3(a); or
   (d) Smoke generated due to a malfunction in a facility, when the source of the fuel producing the smoke is not under the direct and immediate control of the facility and the immediate constriction of the fuel flow at the facility would produce a hazard to life and/or property.

(4) No visible fugitive dust emissions shall be discharged beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards. [OAC 252:100-29]

(5) No sulfur oxide emissions from new gas-fired fuel-burning equipment shall exceed 0.2 lb/MMBTU. No existing source shall exceed the listed ambient air standards for sulfur dioxide. [OAC 252:100-31]

(6) Volatile Organic Compound (VOC) storage tanks built after December 28, 1974, and with a capacity of 400 gallons or more storing a liquid with a vapor pressure of 1.5 psia or greater under actual conditions shall be equipped with a permanent submerged fill pipe or with a vapor-recovery system. [OAC 252:100-37-15(b)]

(7) All fuel-burning equipment shall at all times be properly operated and maintained in a manner that will minimize emissions of VOCs. [OAC 252:100-37-36]

SECTION XX. STRATOSPHERIC OZONE PROTECTION

A. The permittee shall comply with the following standards for production and consumption of ozone-depleting substances: [40 CFR 82, Subpart A]

(1) Persons producing, importing, or placing an order for production or importation of certain class I and class II substances, HCFC-22, or HCFC-141b shall be subject to the requirements of §82.4;
(2) Producers, importers, exporters, purchasers, and persons who transform or destroy certain class I and class II substances, HCFC-22, or HCFC-141b are subject to the recordkeeping requirements at §82.13; and
(3) Class I substances (listed at Appendix A to Subpart A) include certain CFCs, Halons, HBFCs, carbon tetrachloride, trichloroethane (methyl chloroform), and bromomethane (Methyl Bromide). Class II substances (listed at Appendix B to Subpart A) include HCFCs.

B. If the permittee performs a service on motor (fleet) vehicles when this service involves an ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all applicable requirements. Note: The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant. [40 CFR 82, Subpart B]

C. The permittee shall comply with the following standards for recycling and emissions reduction except as provided for MVACs in Subpart B: [40 CFR 82, Subpart F]

(1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156;
(2) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to § 82.158;
(3) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161;
(4) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record-keeping requirements pursuant to § 82.166;

(5) Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to § 82.158; and
(6) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.

SECTION XXI. TITLE V APPROVAL LANGUAGE

A. DEQ wishes to reduce the time and work associated with permit review and, wherever it is not inconsistent with Federal requirements, to provide for incorporation of requirements established through construction permitting into the Source's Title V permit without causing redundant review. Requirements from construction permits may be incorporated into the Title V permit through the administrative amendment process set forth in OAC 252:100-8-7.2(a) only if the following procedures are followed:

(1) The construction permit goes out for a 30-day public notice and comment using the procedures set forth in 40 C.F.R. § 70.7(h)(1). This public notice shall include notice to the public that this permit is subject to EPA review, EPA objection, and petition to EPA, as provided by 40 C.F.R. § 70.8; that the requirements of the construction permit will be incorporated into the Title V permit through the administrative amendment process; that the public will not receive another opportunity to provide comments when the requirements are incorporated into the Title V permit; and that EPA review, EPA objection, and petitions to EPA will not be available to the public when requirements from the construction permit are incorporated into the Title V permit.
(2) A copy of the construction permit application is sent to EPA, as provided by 40 CFR § 70.8(a)(1).
(3) A copy of the draft construction permit is sent to any affected State, as provided by 40 C.F.R. § 70.8(b).
(4) A copy of the proposed construction permit is sent to EPA for a 45-day review period as provided by 40 C.F.R.§ 70.8(a) and (c).
(5) The DEQ complies with 40 C.F.R. § 70.8(c) upon the written receipt within the 45-day comment period of any EPA objection to the construction permit. The DEQ shall not issue the permit until EPA's objections are resolved to the satisfaction of EPA.
(6) The DEQ complies with 40 C.F.R. § 70.8(d).
(7) A copy of the final construction permit is sent to EPA as provided by 40 CFR § 70.8(a).
(8) The DEQ shall not issue the proposed construction permit until any affected State and EPA have had an opportunity to review the proposed permit, as provided by these permit conditions.
(9) Any requirements of the construction permit may be reopened for cause after incorporation into the Title V permit by the administrative amendment process, by DEQ as provided in OAC 252:100-8-7.3(a), (b), and (c), and by EPA as provided in 40 C.F.R. § 70.7(f) and (g).
(10) The DEQ shall not issue the administrative permit amendment if performance tests fail to demonstrate that the source is operating in substantial compliance with all permit requirements.

B. To the extent that these conditions are not followed, the Title V permit must go through the Title V review process.

SECTION XXII. CREDIBLE EVIDENCE

For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any provision of the Oklahoma implementation plan, nothing shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

[OAC 252:100-43-6]

NOTICE For Tulsa LFG, LLC, Sand Springs Landfill Facility

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
NOTICE OF TIER II DRAFT PERMIT

A Tier II application for renewal of an Air Quality Major Source operating permit (Title V) has been filed with the Oklahoma Department of Environmental Quality (DEQ) by applicant, Tulsa LFG, LLC located at 680 Anderson Drive, Foster Plaza #10, Suite 590, Pittsburgh, PA 15220.

The applicant requests approval to renew the existing Title V Permit to operate an active gas collection and control system (GCCS), including a utility flare and landfill gas fired engines at the Sand Springs Landfill Facility, which is located at 207 N. 177th West Avenue, Sand Spring, Oklahoma 74603.. The driving direction to the Sand Springs Landfill Facility is from downtown Sand Spring, go 4.5 miles west on U.S. Highway 412, turn north onto N. 177th West Avenue, go 0.5 miles and turn west into the Facility, which is legally described as, Section 36, Township 20N, Range 11E, in Osage County, Oklahoma.

In response to the application, DEQ has prepared a draft permit (Permit Number: 2019-0801-TVR2), which may be reviewed at the Charles Page Library, 551 East 4th Street, Sand Spring, Oklahoma 74063, or at the Air Quality Division's Main Office in Oklahoma City, Oklahoma. (see address below). The information on all permit actions is available for review in the Air Quality Section of DEQ's Web Page: https://www.deq.ok.gov.

This draft permit would authorize the facility to emit the following regulated pollutants, 104.07 ton per year (TPY) of nitrogen oxides (NOx), 223.77 TPY of carbon monoxide (CO), 28.64 TPY of sulfur dioxide (SO_2), 56.74 TPY of volatile organic compounds (VOC), 36.59 TPY of particulate matter (PM_{10}), 31.50 TPY of hazardous air pollutants (HAP), and 175,730 TPY of Greenhouse Gas (GHG) as CO_2e.

The public comment period ends 30 days after the date of publication of this notice. Any person may submit written comments concerning the draft permit to the Air Quality Division contact listed below. A public meeting on the draft permit may also be requested in writing at the same address. Note that all public meetings are to be arranged and conducted by DEQ/CSD staff.

For additional information, contact Ms. Stephanie Taylor, SCS Engineers, 8575 West 110th Street, Overland Park, Kansas 66210, Telephone No. (913)-749-0733; or contact DEQ at: Chief Engineer, Permits Section, Air Quality Division, 707 N. Robinson, Suite 4100, P.O. Box 1677, Oklahoma City, Oklahoma, 73101-1677. Telephone No. (405) 702-4100.

Scott A. Thompson
Executive Director

Kevin Stitt
Governor

Mr. Trevor Grundstrom, Plant Manager
Tulsa LFG, LLC
680 Anderson Drive
Foster Plaza #10, 5th Floor
Pittsburgh, PA 15220

Permit No.: 2019-0801-TVR2
Permit Writer: Mark Chen, P.E

SUBJECT: Title V Operating Permit Renewal Application **No. 2019-0801-TVR2**
Tulsa LFG, LLC. (Facility ID 6539)
At American Environmental Landfill Sand Springs Facility
207 N. 177th West Avenue, Sand Spring 74603
Latitude N 36.16412°, Longitude W 96.18892°
SE ¼ Section 36, Township 20N, Range 10E, Sand Spring, Osage County

Dear Mr. Grundstrom:

Enclosed is the permit authorizing operation of the referenced facility above. Please note that this permit is issued subject to standard and specific conditions, which are attached. These conditions must be carefully followed since they define the limits of the permit and will be confirmed by periodic inspections.

Also note that you are required to annually submit an emissions inventory for this facility. An emissions inventory must be completed on approved AQD forms and submitted (hardcopy or electronically) by April 1st of every year. Any questions concerning the form or submittal process should be referred to the Emissions Inventory Staff at 405-702-4100.

Thank you for your cooperation. If we may be of further service, or you have any questions about this permit, please contact the permit writer, mark.chen@deq.ok.gov, or at (405) 702-4196.

Sincerely,

Phillip Fielder, P.E.
Chief Engineer
AIR QUALITY DIVISION

Scott A. Thompson
Executive Director

Kevin Stitt
Governor

Mr. Trevor Grundstrom, Plant Manager
Tulsa LFG, LLC
680 Anderson Drive
Foster Plaza #10, 5th Floor
Pittsburgh, PA 15220

Permit No.: 2019-0801-TVR2
Permit Writer: Mark Chen, P.E

SUBJECT: Title V Operating Permit Renewal Application **No. 2019-0801-TVR2**
Tulsa LFG, LLC. (Facility ID 6539)
At American Environmental Landfill Sand Springs Facility
207 N. 177th West Avenue, Sand Spring 74603
Latitude N 36.16412°, Longitude W 96.18892°
SE ¼ Section 36, Township 20N, Range 10E, Sand Spring, Osage County

Dear Mr. Grundstrom:

Air Quality Division has completed the initial review of your permit application referenced above. This application has been determined to be a Tier II application. In accordance with 27A O.S. 2-14-301 and 302 and OAC 252:4-7-13(c) the enclosed draft permit is now ready for public review. The requirements for public review of the application and draft permit include the following steps, which you must accomplish:

1. Publish at least one legal notice (one day) in at least one newspaper of general circulation within the county where the facility is located. (Instructions enclosed)
2. Provide for public review (for a period of 30 days following the date of the newspaper announcement) a copy of the application and draft permit at a convenient location (preferentially at a public location) within the county of the facility.
3. Send AQD a written affidavit of publication for the notices from Item #1 above together with any additional comments or requested changes, which you may have for the permit application within 20 days of publication.

The permit review time is hereby tolled pending the receipt of the affidavit of publication. Thank you for your cooperation. If you have any questions, please refer to the permit number above and contact the permit writer at mark.chen@deq.ok.gov or at (405) 702-4196.

Sincerely,

Phillip Fielder

Phillip Fielder, P.E.
Chief Engineer
AIR QUALITY DIVISION

Enclosures

Department of Environmental Quality (DEQ)
Air Quality Division (AQD)
Acronym List
4-15-21

ACFM	Actual Cubic Feet per Minute
AD	Applicability Determination
AFRC	Air-to-Fuel Ratio Controller
API	American Petroleum Institute
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
BAE	Baseline Actual Emissions
BHP	Brake Horsepower (bhp)
BTU	British thermal unit (Btu)
C&E	Compliance and Enforcement
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CAS	Chemical Abstract Service
CAAA	Clean Air Act Amendments
CC	Catalytic Converter
CCR	Continuous Catalyst Regeneration
CD	Consent Decree
CEM	Continuous Emission Monitor
CFC	Chlorofluorocarbon
CFR	Code of Federal Regulations
CI	Compression Ignition
CNG	Compressed Natural Gas
CO	Carbon Monoxide or Consent Order
COA	Capable of Accommodating
COM	Continuous Opacity Monitor
D	Day
DEF	Diesel Exhaust Fluid
DG	Demand Growth
DSCF	Dry Standard (At Standard Conditions) Cubic Foot (Feet)
EGU	Electric Generating Unit
EI	Emissions Inventory
EPA	Environmental Protection Agency
ESP	Electrostatic Precipitator
EUG	Emissions Unit Group
EUSGU	Electric Utility Steam Generating Unit
FCE	Full Compliance Evaluation
FCCU	Fluid Catalytic Cracking Unit
FIP	Federal Implementation Plan
FR	Federal Register
GACT	Generally Achievable Control Technology
GAL	Gallon (gal)
GDF	Gasoline Dispensing Facility
GEP	Good Engineering Practice
GHG	Greenhouse Gases
GR	Grain(s) (gr)
H_2CO	Formaldehyde
H_2S	Hydrogen Sulfide
HAP	Hazardous Air Pollutants
HC	Hydrocarbon
HCFC	Hydrochlorofluorocarbon
HFR	Horizontal Fixed Roof
HON	Hazardous Organic NESHAP
HP	Horsepower (hp)
HR	Hour (hr)
I&M	Inspection and Maintenance
IBR	Incorporation by Reference
ICE	Internal Combustion Engine
LAER	Lowest Achievable Emission Rate
LB	Pound(s) [Mass] (lb, lbs, lbm)
LB/HR	Pound(s) per Hour (lb/hr)
LDAR	Leak Detection and Repair
LNG	Liquefied Natural Gas
LT	Long Ton(s) (metric)
M	Thousand (Roman Numeral)
MAAC	Maximum Acceptable Ambient Concentration
MACT	Maximum Achievable Control Technology
MM	Prefix used for Million (Thousand-Thousand)
MMBTU	Million British Thermal Units (MMBtu)
MMBTUH	Million British Thermal Units per Hour (MMBtu/hr)
MMSCF	Million Standard Cubic Feet (MMscf)
MMSCFD	Million Standard Cubic Feet per Day
MSDS	Material Safety Data Sheet
MWC	Municipal Waste Combustor
MWe	Megawatt Electrical
NA	Nonattainment
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NESHAP	National Emission Standards for Hazardous Air Pollutants
NH_3	Ammonia
NMHC	Non-methane Hydrocarbon
NGL	Natural Gas Liquids
NO_2	Nitrogen Dioxide
NOx	Nitrogen Oxides
NOI	Notice of Intent
NSCR	Non-Selective Catalytic Reduction

NSPS	New Source Performance Standards
NSR	New Source Review
O_3	Ozone
O&G	Oil and Gas
O&M	Operation and Maintenance
O&NG	Oil and Natural Gas
OAC	Oklahoma Administrative Code
OC	Oxidation Catalyst
PAH	Polycyclic Aromatic Hydrocarbons
PAE	Projected Actual Emissions
PAL	Plant-wide Applicability Limit
Pb	Lead
PBR	Permit by Rule
PCB	Polychlorinated Biphenyls
PCE	Partial Compliance Evaluation
PEA	Portable Emissions Analyzer
PFAS	Per- and Polyfluoroalkyl Substance
PM	Particulate Matter
$PM_{2.5}$	Particulate Matter with an Aerodynamic Diameter <= 2.5 Micrometers
PM_{10}	Particulate Matter with an Aerodynamic Diameter <= 10 Micrometers
POM	Particulate Organic Matter or Polycyclic Organic Matter
ppb	Parts per Billion
ppm	Parts per Million
ppmv	Parts per Million Volume
ppmvd	Parts per Million Dry Volume
PSD	Prevention of Significant Deterioration
psi	Pounds per Square Inch
psia	Pounds per Square Inch Absolute
psig	Pounds per Square Inch Gage
RACT	Reasonably Available Control Technology
RATA	Relative Accuracy Test Audit
RAP	Regulated Air Pollutant
RFG	Refinery Fuel Gas
RICE	Reciprocating Internal Combustion Engine
RO	Responsible Official
ROAT	Regional Office at Tulsa
RVP	Reid Vapor Pressure
SCC	Source Classification Code
SCF	Standard Cubic Foot
SCFD	Standard Cubic Feet per Day
SCFM	Standard Cubic Feet per Minute
SCR	Selective Catalytic Reduction
SER	Significant Emission Rate
SI	Spark Ignition
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SNCR	Selective Non-Catalytic Reduction
SO_2	Sulfur Dioxide
SOx	Sulfur Oxides
SOP	Standard Operating Procedure
SRU	Sulfur Recovery Unit
T	Tons
TAC	Toxic Air Contaminant
THC	Total Hydrocarbons
TPY	Tons per Year
TRS	Total Reduced Sulfur
TSP	Total Suspended Particulates
TV	Title V of the Federal Clean Air Act
$\mu g/m^3$	Micrograms per Cubic Meter
US EPA	U. S. Environmental Protection Agency
VFR	Vertical Fixed Roof
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compound
VOL	Volatile Organic Liquid
VRT	Vapor Recovery Tower
VRU	Vapor Recovery Unit
YR	Year
2SLB	2-Stroke Lean Burn
4SLB	4-Stroke Lean Burn
4SRB	4-Stroke Rich Burn