

**OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION**

MEMORANDUM

December 19, 2017

TO: Phillip Fielder, P.E., Permits & Engineering Group Manager

THROUGH: Rick Groshong, Compliance & Enforcement Group Manager

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

THROUGH: Amalia Talty, P.E., Existing Source Permits Section

FROM: Joseph K. Wills, P.E., Existing Source Permits Section

SUBJECT: Evaluation of Permit Application No. **2016-0902-TVR2**
Oklahoma Gas & Electric Company
Redbud Generating Station (SIC 4911)
Facility ID No. 4240
Section 17, Township 14N, Range 1E, Oklahoma County, Oklahoma
Latitude: 35.68374°N, Longitude: 97.22969°W
Physical Address: 2092 Triple X Road, Luther, Oklahoma 73054

SECTION I. INTRODUCTION

The Redbud Generating Station (Redbud), owned by Oklahoma Gas & Electric Company (OG&E or applicant), has requested a renewal of their existing Part 70 operating permit. The facility was authorized to construct under Permit No. 2000-090-C (PSD), issued August 15, 2001. The facility is currently operating under Permit No. 2011-196-TVR, issued on February 6, 2012, and the Acid Rain Renewal Permit No. 2014-2281-ARR2, issued April 13, 2015.

In addition to the request to renew the Title V operating permit, OG&E has requested to update the information presented in the permit memorandum to reflect the completion of the General Electric Advance Gas Path (AGP) system. The facility has completed in installation of the General Electric Advance Gas Path system. In a letter dated on May 7, 2013, OG&E notified the Oklahoma Department of Environmental Quality of their plans to install the AGP system at this facility on all four of the existing combustion turbine generators as required by OAC 252:100-8-36.2(c)(1)&(2). The AGP technology enables more efficient operation and reliability by improving the design and materials of the hot gas path, bucket, nozzle and shroud components. This installation is also complemented by several of GE's advanced controls solutions, which allow for:

- An increased fuel efficiency and unit CT output.
- Better real-time response adjustments based on real-time changes in performance, environmental conditions and variations in fuel properties.

- Higher CT output during cold temperatures.

GE’s new AGP technology will expand the gas turbine output and heat rate performance as follows:

Table 1: AGP System Summary

EU ID	Previous Specifications¹	Current Specifications¹
Total Plant Capacity	1,220 MW	1,268 MW
CTs	Four (4) 160 MW units (1832.3 MMBtu/hr per turbine)	Four (4) 172 MW units (1832.369 MMBtu/hr per turbine)
HRSGs	Four (4) 599.1 MMBTUH units	Four (4) 599.1 MMBTUH units

¹ – MMBTUH values shown are based on Higher Heating Values (HHV).

In the May 7, 2013 notice, OG&E provided an analysis showing that the AGP project would not increase emissions for any pollutant above PSD significance levels. Although emission increases are expected from this project, no permit limitations were changed as a result of this project.

In accordance with OAC 252:100-43, periodic emission testing of the four gas turbines, Unit Nos. 1, 2, 3, and 4, is required to show compliance with emission limits. OG&E has elected to incorporate permit conditions requiring the utilization of their continuous emissions monitoring (CEM) system for the purpose of demonstrating continuous compliance with their CO emission limits. OG&E has also elected to incorporate permit conditions requiring the periodic testing for PM₁₀ to be conducted every 5 years during the Part 70 term for the purpose of demonstrating continuous compliance with their PM₁₀ emission limits. For more information, see Section VI, OAC 252:100-43 in this memorandum.

The facility, located in Oklahoma County, generates electricity for sale to the wholesale electric market to meet customer demands. The facility’s peak electrical generating capacity is approximately 1,268 MW.

This application has been determined to be a Tier II based on the request for renewal of a Part 70 operating permit. Since the facility emits more than 100 TPY of a regulated pollutant, it is subject to Title V permitting requirements. The facility will continue to be permitted as a major source.

SECTION II. FACILITY DESCRIPTION

The facility consists of four (4) combustion turbine (CT) generators with four (4) heat recovery steam generators (HRSG) each equipped with a duct burner and selective catalytic reduction (SCR) for control of emissions of nitrogen oxides (NOx), one (1) auxiliary boiler, one (1) emergency diesel fire water pump, and four (4) cooling towers. The table below lists the capacities as permitted.

Table 2: Specifications of Emission Units

Emission Unit	Specifications¹
Total plant capacity	1,268 MW
Combustion turbines (GE Model 7FA)	Four 172 MW units (1,832.369 MMBTUH/turbine)
HRSGs	Four 599.1 MMBTUH units
Auxiliary boiler (Foster Wheeler AG-5060)	93 MMBTUH
Emergency diesel fire water pump	300 HP engine
Emergency propane-fired generator	40 HP engine
Cooling towers (4)	Four towers, 92,000 GPM (each)

¹ – MMBTUH values shown are based on Higher Heating Values (HHV).

The combustion turbines and auxiliary boiler are fired exclusively with pipeline-quality natural gas. Water treatment equipment is required to support the boiler feed water and coolant for the required cooling towers.

SECTION III. EQUIPMENT

Table 3: Facility Emissions Sources

EU ID#	Point ID#	Make/Model	HP/Capacity	Serial #	Manuf. Date	Const. Date
Unit No. 1	T01	GE Model 7FA	172 MW	297893	12/07/01	08/08/03
Unit No. 2	T02	GE Model 7FA	172 MW	297894	03/15/02	08/07/03
Unit No. 3	T03	GE Model 7FA	172 MW	297895	03/15/02	07/07/03
Unit No. 4	T04	GE Model 7FA	172 MW	297896	03/20/02	09/15/03
Auxiliary Boiler	AUX01	Foster Wheeler AG-5060	93 MMBTUH	7373	2002	2003
Cooling Towers (4)	CT1 to CT4	Psychometric	92,000 GPM (each)	N/A	2002	2003
Emergency Diesel Fire Water Pump	FWP-01	JDFP-06WA	300 HP engine	RG6081A 146592	12/01	2003
Emergency SI Generator	GEN-01	Generac QT025A	40 HP	6350717	5/11	6/11

SECTION IV. EMISSIONS

Emission factors for the turbines are based on manufacturer’s guarantees (NOx and CO values for the turbines are based on parts per million by volume, dry basis, corrected to 15% oxygen), and 8,760 hours of operation per year. The turbine vendor provided emissions estimates for 100% load at 10°F, 60°F, and 98°F. The highest emission rate for each pollutant is listed in the following table. Emissions from the auxiliary boiler were based on vendor emissions data. Emissions from the emergency diesel fire water pump were based on AP-42 (10/96), Section 3.3. VOC emissions from the associated diesel storage tank are negligible. The auxiliary boiler operations are limited to 3,000 hours per year. The fire water pump operations are limited to 500 hours per year. The combustion turbines and auxiliary boiler are fired exclusively with pipeline-quality natural gas.

Table 4: Permit Emission Factors for Turbines

Pollutant	Emission Factors	Each Combined Cycle Unit	
		lb/hr	TPY
NO _x	3.5 ppm @ 15% O ₂	34.5	151.1
SO ₂	0.003 lb/MMBTU	6.9	30.4
PM ₁₀	0.011 lb/MMBTU	25.5	111.7
VOC	0.0068 lb/MMBTU	16.2	71.0
CO	17.2 ppm @ 15% O ₂	97.5	427.1
H ₂ SO ₄	5% of sulfur	0.6	2.6

Table 5: Emissions from Emergency Diesel Fire Water Pump

Unit	Pollutant	Factor (lb/hp-hr)	Emissions lb/hr	Emission TPY
Emergency Diesel Fire Water Pump (300 HP)	NO _x	0.031	9.30	2.32
	CO	0.00668	2.00	0.50
	SO ₂ *	0.0029	0.87	0.22
	VOC **	0.0025	0.75	0.19
	PM ₁₀	0.0022	0.66	0.16

* based on 0.4% by weight sulfur in fuel;

**sum of exhaust plus crankcase VOC.

Table 6: Emissions from Emergency Propane Generator

Unit	Pollutant	Factor gm/hp-hr	Emissions lb/hr	Emissions TPY
Generac Mdl QT025A	NO _x	7.66	0.67	0.17
	CO	42.12	3.71	0.93
	VOC	0.90	0.08	0.02

Using propane for fuel emissions of SO₂ and PM₁₀ are negligible.

Emissions are calculated for estimated 500 hours per year of operation.

Emissions from the cooling towers were calculated assuming a drift ratio of 0.002%, a water input of 92,000 GPM per tower, and a total solids content of 3,442 mg/liter. Combining four towers yield 12.68 lbs/hr or 55.54 TPY of TSP. The application conservatively assumed all TSP was PM₁₀. EPRI's report entitled *User's Manual – Cooling Tower Plume Prediction*, states on page 4-1 that this particulate ranges in size between 20 and 30 micron, thus none of the TSP would be expected to be PM₁₀.

Emissions from the auxiliary boiler are calculated using factors from the vendor. The auxiliary boiler operation is limited to 3,000 operating hours per year.

Table 7: Emissions from Auxiliary Boiler

Unit	Pollutant	Factor (lb/MMBTU)	Emissions lb/hr	Emission TPY
Auxiliary Boiler (93 MMBTUH)	NO _x	0.075	6.98	10.46
	CO	0.070	6.51	9.76
	SO ₂	0.0029	0.27	0.40
	VOC	0.0075	0.70	1.05
	PM ₁₀	0.00531	0.49	0.74

Table 8: Facility-Wide Emissions

Emission Unit	PM ₁₀		SO ₂		NO _x		VOC		CO	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Unit No. 1	25.5	111.7	6.9	30.4	34.5	151.1	16.2	71.0	97.5	427.1
Unit No. 2	25.5	111.7	6.9	30.4	34.5	151.1	16.2	71.0	97.5	427.1
Unit No. 3	25.5	111.7	6.9	30.4	34.5	151.1	16.2	71.0	97.5	427.1
Unit No. 4	25.5	111.7	6.9	30.4	34.5	151.1	16.2	71.0	97.5	427.1
Auxiliary Boiler	0.5	0.7	0.3	0.4	7.0	10.5	0.7	1.1	6.5	9.8
Cooling Towers (4)	12.7	55.5	--	--	--	--	--	--	--	--
Emergency Diesel Fire Water Pump	0.7	0.2	0.9	0.2	9.3	2.3	0.8	0.2	2.0	0.5
Emergency Propane Generator	--	--	--	--	0.67	0.17	0.08	0.02	3.71	0.93
TOTALS	115.8	503.2	28.7	122.2	155.0	617.4	66.4	285.3	402.2	1,719.6

The following table reviews emissions of HAP from the turbine sets. Speciated HAP emission factors are taken from Tables 3.1-3 of AP-42 (4/00). Formaldehyde emission factors were taken from GE correspondence dated 8/1/2001 (see permit application for Permit No. 2003-260-TV). The total of all HAP is 14.35 TPY, and no single HAP has emissions greater than or equal to 10 TPY, so the facility is not major under the definition of 40 CFR Part 63.

Table 9: HAP Emission Estimates for 4 Combustion Turbines ⁽¹⁾

HAPs	Emission Factor (lb/MMBTU)	Hourly Emissions (lb/hr)	Annual Emission Rate ⁽²⁾ (TPY)
1,3-Butadiene	4.30E-7	0.00	0.01
Acetaldehyde	4.00E-5	0.29	1.28
Acrolein	6.40E-6	0.05	0.21
Benzene	1.20E-5	0.09	0.39
Ethylbenzene	3.20E-5	0.23	1.03
Formaldehyde	1.30E-4	0.95	4.17
Naphthalene	1.30E-6	0.01	0.04
PAHs	2.20E-6	0.02	0.07
Propylene Oxide	2.90E-5	0.21	0.93
Toluene	1.30E-4	0.95	4.17

HAPs	Emission Factor (lb/MMBTU)	Hourly Emissions (lb/hr)	Annual Emission Rate ⁽²⁾ (TPY)
Xylene	6.40E-5	0.47	2.05
Total			14.35

⁽¹⁾ Avg. Annual Heat Input per CT is 1832.3 MMBTU/H. HAP emissions from auxiliary boiler and duct burners are negligible;

⁽²⁾ Annual Emissions are based on 8,760 hours of operation.

SECTION V. PSD REVIEW

The following list shows the previous PSD reviews for this facility:

- **For PSD Construction; Permit No. 2000-090-C (M-4) (PSD)**
- **For Startup/Shutdown Operations: Permit No. 2003-260-TV**
- **For Cooling Towers Emissions Increase: Permit No. 2003-260-TV (M-2)**

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. These requirements are addressed in the “Federal Regulations” section.

OAC 252:100-3 (Air Quality Standards and Increments) [Applicable]
 Primary Standards are in Appendix E and Secondary Standards are in Appendix F of the Air Pollution Control Rules. At this time, all of Oklahoma is in attainment of these standards.

OAC 252:100-5 (Registration of Air Contaminant Sources) [Applicable]
 This subchapter 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 have been submitted and fees paid for the past years.

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; and

- 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 HAP that the EPA may establish by rule.

Emission limitations and operational requirements necessary to assure compliance with all applicable requirements for all sources are taken from the existing permit or from the current permit application, or are developed from the applicable requirement.

OAC 252:100-9 (Excess Emission 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 to be relieved from an administrative penalty, 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.

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. Thus, the turbines, auxiliary boiler, diesel fire pump, and emergency propane generator are subject to the requirements of this subchapter. Appendix C specifies a PM emission limitation of 0.60 lbs/MMBTU for all equipment at this facility with a heat input rating of 10 MMBUTH or less. Appendix C specifies a PM emission limitation for all equipment at this facility with a heat input rating of greater than 10 MMBTUH but less than 1,000 MMBTUH based on the following calculation: $E = 1.0428080X^{-0.238561}$, where E is the allowable emission rate and X is the maximum heat input.

AP-42 (7/98), Table 1.4-2, lists total PM emissions for natural gas combustion from heaters, boilers, etc., to be 7.6 lb/million scf or about 0.0076 lb/MMBTU which is in compliance. Emissions data for all other equipment was obtained by either the manufacturer or vendor data. This permit requires the use of pipeline-quality natural gas for the turbines, duct burners, and auxiliary boiler to ensure compliance with Subchapter 19.

Table 10: PM Emission Limits for Fuel-Burning Equipment

Equipment	Maximum Heat Input (MMBTUH per unit)	Allowable Particulate Emission Rate (lb/MMBTU)	Potential Particulate Emissions (lb/MMBTU)
Turbines (4)	1,832.369	0.17	0.011
Duct Burners (4)	599.1	0.23	0.0076
Auxiliary Boiler	93	0.35	0.0053
Diesel Fire Pump	2.1	0.60	0.310
Propane Generator	0.376	0.60	0.0067

Section 19-12 limits emissions of particulate matter from industrial processes and direct-fired fuel-burning equipment based on their process weight rates. Since there are no significant particulate emissions from the nonfuel-burning processes at the facility, compliance with the standard is assured without any special monitoring provisions.

OAC 252:100-25 (Visible Emissions, and Particulates) [Applicable]
 No discharge of greater than 20% opacity is allowed except for 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. The engines and boilers will remain compliant with this rule by ensuring “complete combustion” or utilizing pipeline-quality natural gas as fuel in the proposed boiler(s). The combined cycle units are not subject to Subchapter 25 since they are subject to an opacity limitation of NSPS Subpart Da.

OAC 252:100-29 (Fugitive Dust) [Applicable]
 No person shall cause or permit the discharge of any visible fugitive dust emissions beyond the property line on which the emissions originated 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 to interfere with the maintenance of air quality standards. No activities are expected that would produce fugitive dust beyond the facility property line.

OAC 252:100-31 (Sulfur Compounds) [Applicable]
Part 5 limits sulfur dioxide emissions from new equipment (constructed after July 1, 1972). For gaseous fuels the limit is 0.2 lb/MMBTU heat input, three-hour average. The permit will require the turbines to be fired with pipeline-grade natural gas with SO₂ emissions of 9.79 lb/hr, based on AP-42 (7/98), Section 3.1, Table 3.1-2, which is equivalent to 0.003 lb/MMBTU. The diesel fire water pump will fire diesel fuel and have maximum sulfur compound emissions of 0.4 lbs/MMBTU which is well below the allowable emission limitation of 0.8 lb/MMBTU for liquid fuels. The propane generator engine will have maximum sulfur compound emissions of 0.0002 lb/MMBTU, also well below the allowable emission limitation of 0.8 lb/MMBTU.
Part 5 also requires a sulfur dioxide monitor for equipment rated above 250 MMBTU. Based on the pipeline-grade natural gas requirement, the natural gas burned at the site will have less than 0.1 percent sulfur and is, therefore, also exempt from the sulfur dioxide monitor requirement.

OAC 252:100-33 (Nitrogen Oxides) [Applicable]

This subchapter limits new fuel-burning equipment with rated heat input greater than or equal to 50 MMBTUH. For gas-fired fuel-burning equipment, emissions of NO_x shall not exceed 0.20 lb/MMBTU heat input (3-hour average). The 2-hr average emission limit of 34.5 lb/hr NO_x emissions from each combustion turbine with full duct burner firing, represents an equivalent emission rate of 0.015 lb/MMBTU, which is far below the standard of 0.2 lb/MMBTU. Therefore, the combustion turbines will be in compliance. The auxiliary boiler NO_x emission emissions rate of 0.075 lb/MMBTU is also in compliance with the 0.2 lb/MMBTU limitation. The diesel fire pump and the propane generator are below 50 MMBTUH heat input and are, therefore, not subject to this rule.

OAC 252:100-35 (Carbon Monoxide) [Not Applicable]

None of the following affected processes are located at this facility: gray iron cupola, blast furnace, basic oxygen furnace, petroleum catalytic cracking unit, or petroleum catalytic reforming unit.

OAC 252:100-37 (Volatile Organic Compounds) [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. The diesel tank associated with the fire water pump is below this threshold (1.5 psia vapor pressure).

Part 5 limits the VOC content of coatings used in coatings lines or operations. This facility will not normally conduct coating or painting operations except for routine maintenance of the facility and equipment, which is exempt.

Part 7 requires fuel-burning equipment to be operated and maintained so as to minimize emissions. Temperature and available air must be sufficient to provide essentially complete combustion. The turbines and engines are designed to provide essentially complete combustion of organic materials.

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. Since no AOC has been designated anywhere in the state, 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.

Periodic emission testing of the four gas turbines, Unit Nos. 1, 2, 3, and 4, is required to show compliance with emission limits. Currently, the facility has a NO_x continuous emissions monitor (CEM) system as required by the Acid Rain program; therefore, separate periodic testing for NO_x is not required as described in AQD’s “Periodic Testing Standardization,” dated December 1, 2011. The facility also has a CEM system for CO for the turbines. Requirements for the CO CEM system have been incorporated into the permit. The facility does not have a PM₁₀ CEM systems. In Table 8, the PM₁₀ emission limit for each gas turbine is 111.7 TPY. Based on the guidelines for periodic testing for criteria pollutants, which is described in AQD’s “Periodic Testing Standardization,” the periodic testing for PM₁₀ shall be conducted every 5 years during the Part 70 term because the PM₁₀ emission limit is between 100 TPY and 250 TPY. These requirements have been incorporated into the permit.

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

OAC 252:100-11	Alternative Reduction	not eligible
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 a subject area
OAC 252:100-47	Landfills	not type of emission unit

SECTION VII. FEDERAL REGULATIONS

PSD, 40 CFR Part 52 [Not Applicable]
 The facility is a listed source as a fossil fuel-fired electric plant of more than 250 MMBTU heat input with emissions greater than 100 TPY. The facility is a major stationary source for NO_x, CO, SO₂, PM₁₀, and VOC. Any future increases must be evaluated in the context of PSD significance levels: 40 TPY NO_x, 100 TPY CO, 40 TPY SO₂, 15 TPY PM₁₀, 10 TPY PM_{2.5}, 40 TPY VOC, 10 TPY TRS, 0.6 TPY lead, or 75,000 TPY GHG.

NSPS, 40 CFR Part 60 [Subparts Da, Dc, GG, and JJJ are Applicable]
Subpart Da affects electric utility steam generating units which have a heat input capacity from fuels greater than 250 MMBTUH which commence construction after September 18, 1978. The emissions resulting from the combustion of fuels in the duct burners are subject to Subpart Da. As such, these units will be subject to the provision of 40 CFR 60.44Da for nitrogen oxides,

compliance provisions of 40 CFR 60.48Da, emission monitoring requirements of 40 CFR 60.49Da, and the reporting requirements of 40 CFR 60.51Da.

Subpart Dc affects industrial-commercial-institutional steam generating units with a design capacity between 10 and 100 MMBTUH heat input and which commenced construction or modification after June 9, 1989. For gaseous-fueled units, the only applicable standard of Subpart Dc is a requirement to keep records of the fuels used. The 93 MMBTUH gas-fired auxiliary boiler is an affected unit as defined in the subpart since the heating capacity is above the de minimis level. Recordkeeping will be specified in the permit.

Subpart GG affects combustion turbines which commenced construction, reconstruction, or modification after October 3, 1977, and which have a heat input rating of 10 MMBTUH (based on the lower heating value of the fuel fired) or more. Each of the turbines has a rated heat input of 1,832 MMBTU/hr (based on the higher heating value of the fuel fired) and are subject to this subpart. Standards specified in Subpart GG limit NO_x emissions to 87 ppmvd or less. Performance testing by Reference Method 20 is required. Per §60.334, monitoring of the fuel nitrogen content is not required if the owner or operator does not take a NO_x allowance for fuel-bound nitrogen. Monitoring of the fuel sulfur content is not required when a gaseous fuel is fired in the turbine and the owner or operator demonstrates that the gaseous fuel meets the definition of “natural gas” using one of the methods in §60.334(h)(3)(i) or (ii). §60.331 defines natural gas as containing 20 grains or less of total sulfur per 100 standard cubic feet and is either composed of at least 70 percent methane by volume or has a gross caloric value between 950 and 1100 BTU/scf.

Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI-ICE). This subpart affects stationary compression ignition internal combustion engines based on power and displacement ratings, depending on date of construction, beginning with those constructed after July 11, 2005. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator. The reciprocating engine emergency diesel fire water pump was constructed before July 11, 2005.

Subpart JJJJ, Stationary Spark Ignition Internal Combustion Engines (SI-ICE). This subpart was published in the Federal Register on January 18, 2008. It 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 specific emission standards (either in g/hp-hr or as a concentration limit) vary based on engine class, engine power rating, lean-burn or rich-burn, fuel type, duty (emergency or non-emergency), and manufacture date. Engine manufacturers are required to certify certain engines to meet the emission standards and may voluntarily certify other engines. An initial notification is required only for owners and operators of engines greater than 500 HP that are non-certified. The propane-fired emergency generator is a certified engine and must comply with all applicable requirements of this subpart.

Subpart KKKK Stationary Combustion Turbines. This subpart establishes emission standards and compliance schedules for the control of emissions from stationary combustion turbines that commence construction, modification, or reconstruction after February 18, 2005. The turbines at this facility were constructed before February 18, 2005; therefore, the facility is not subject to Subpart KKKK.

NESHAP, 40 CFR Part 61

[Not Applicable]

There are no emissions of any of the regulated pollutants: arsenic, asbestos, benzene, beryllium, coke oven emissions, mercury, radionuclides, or vinyl chloride except for trace amounts of

benzene. Subpart J, Equipment Leaks of Benzene, concerns only process streams which contain more than 10% benzene by weight. Analysis of Oklahoma natural gas indicates a maximum benzene content of less than 1%.

NESHAP, 40 CFR Part 63

[Subpart ZZZZ Applicable]

Subpart YYYY, Stationary Combustion Turbines. This subpart was published in the Federal Register on March 5, 2004, and affects any existing stationary combustion turbine or any turbine constructed or reconstructed after January 14, 2003, that is located at a major source of HAP. As discussed in the emissions section above, this facility is not major for HAP. If the facility is modified in such a manner that it becomes major for HAPs, the turbines are required to be in compliance with Subpart YYYY on the date the facility becomes major. Air Quality reserves the right to reopen this permit if this or any other standard becomes applicable.

Subpart ZZZZ, Reciprocating Internal Combustion Engines (RICE). This subpart affects any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions. Owners and operators of the following new or reconstructed RICE must meet the requirements of Subpart ZZZZ by complying with either 40 CFR Part 60 Subpart III (for CI engines) or 40 CFR Part 60 Subpart JJJJ (for SI engines):

- 1) Stationary RICE located at an area source;
- 2) The following Stationary RICE located at a major source of HAP emissions:
 - i) 2SLB and 4SRB stationary RICE with a site rating of ≤ 500 brake HP;
 - ii) 4SLB stationary RICE with a site rating of < 250 brake HP;
 - iii) Stationary RICE with a site rating of ≤ 500 brake HP which combust landfill or digester gas equivalent to 10% or more of the gross heat input on an annual basis;
 - iv) Emergency or limited use stationary RICE with a site rating of ≤ 500 brake HP; and
 - v) CI stationary RICE with a site rating of ≤ 500 brake HP.

No further requirements apply for engines subject to NSPS under this part. Based on emission calculations, this facility is not a major source of HAPs. Stationary RICE located at an area source of HAP emissions are new if construction commenced on or after June 12, 2006. The propane emergency generator is considered a new stationary SI RICE located at an area source of HAP under this subpart, is a certified engine, and must comply with the requirements of Subpart JJJJ. The diesel fire pump engine is considered an existing CI RICE located at an area source of HAP, and was required comply with the applicable emission limitations, operating limitations, and other requirements no later than the compliance date of May 3, 2013. The following summary shows the requirements for the existing stationary CI RICE located at this facility.

Table 11: NESHAP Subpart ZZZZ Requirements

Engine Category	Requirements ¹
Existing stationary black start RICE and Emergency CI RICE and stationary CI RICE ³	Change oil and filter every 500 hours of operation or annually, whichever comes first; ² Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

¹ – During periods of startup you must minimize the engine’s time spent at idle and minimize the engine’s startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.

² – Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement.

³ – If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

All applicable requirements have been incorporated into the permit.

Subpart DDDDD, Industrial, Commercial and Institutional Boilers and Process Heaters. This subpart establishes notional emission limitations and work practice standards for hazardous air pollutants (HAP) emitted from industrial, commercial and institutional boilers and process heaters located at major sources of HAP. This facility is not a major source of HAP.

Subpart JJJJJ, Industrial, Commercial, and Institutional Boilers Area Sources. This subpart applies to new and existing industrial, commercial, and institutional boilers located at area sources of HAPs. The 93-MMBtu/hr natural gas-fired auxiliary boiler located at the facility was installed prior to June 4, 2010 and it is considered to be an existing source as defined in § 63.11194. The unit is a gas-fired boiler and, in accordance with § 63.11195, it is exempt from the requirements of this subpart.

CAM, 40 CFR Part 64 [Applicable]
 Compliance Assurance Monitoring (CAM) as published in the Federal Register on October 22, 1997, applies to any pollutant specific emission unit at a major source, that is required to obtain a Title V 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; and
- It has potential emissions, prior to the control device, of the applicable regulated air pollutant greater than the major source threshold of 100 TPY.

The turbines are designed with dry low-NO_x (DLN) burners to control emissions oxides of nitrogen. They also have selective catalytic reduction (SCR) as an add-on control for NO_x. While DLN is not an active device, SCR is. NO_x is a pollutant subject to limits and standards and controlled emissions exceed 100 TPY, so the turbines are subject to CAM with respect to NO_x. However, the turbines are subject to the NO_x control standards of 40 CFR 60, Subpart GG, and the monitoring requirements of that subpart are considered presumptively acceptable monitoring in accordance with 40 CFR 64.4 (b) (4).

Chemical Accident Prevention Provisions, 40 CFR Part 68 [Not Applicable]

The turbines burn natural gas only. Natural gas is a listed substance in CAAA 90 Section 112(r). However, this substance is not stored on site. The small quantity which is in the pipelines on the facility is much less than the 10,000 pound threshold and, therefore, is excluded from all requirements including the Risk Management Plan. The chemicals used to treat the process water are not on the list of regulated substances (Section 112r Clean Air Act 1990). More information on this federal program is available on the web page: www.epa.gov/rmp.

Acid Rain, 40 CFR Part 72 (Permit Requirements) [Applicable]

This facility is an affected source since it commenced operation after November 15, 1990, and is not subject to any of the exemptions under 40 CFR 72.7, 72.8 or 72.14. Paragraph 72.30(b)(2)(ii) requires a new source to submit an application for an Acid Rain permit at least 24 months prior to the start of operations. The facility is currently operating under Acid Rain Permit No. 2014-2281-ARR2, issued April 13, 2015.

Acid Rain, 40 CFR Part 73 (SO₂ Requirements) [Applicable]

This part provides for allocation, tracking, holding, and transferring of SO₂ allowances.

Acid Rain, 40 CFR Part 75 (Monitoring Requirements) [Applicable]

The facility shall comply with the emission monitoring and reporting requirements of this Part.

Acid Rain, 40 CFR Part 76 (NO_x Requirements) [Not Applicable]

This part provides for NO_x limitations and reductions for coal-fired utility units only. Since the facility will fire natural gas only, it is exempt.

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.

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

Federal NO_x and SO₂ Trading Programs, 40 CFR Part 97 [Subpart EEEEE is Applicable]
Subpart EEEEE, Cross-State Air Pollution Rule (CSAPR) NO_x Ozone Season Group 2 Trading Program. This subpart establishes various provisions for the CSAPR NO_x Ozone Season Group 2 Trading Program, under Section 110 of the Clean Air Act and under the Federal Implementation Plan (FIP) codified under 40 CFR § 52.38. Under this subpart, the permittee is required to designate an official representative, monitor emissions, keep records, and make reports in accordance with §§ 97.830 through 97.835. The monitoring program must comply with 40 CFR Part 75 or an alternative monitoring program must be requested and approved. CSAPR NO_x Ozone Season Group 2 allowances are periodically allocated to the facility and at the completion of the allowance transfer deadline for the control period in a given year the permittee is required to hold, in the source's compliance account administered by the EPA Clean Air Markets Division (CAMD), sufficient allowances available for deduction for such control period under § 97.824(a) in an amount not less than the tons of total NO_x emissions for the control period from all CSAPR NO_x Ozone Season Group 2 units at the facility. The control period starts on May 1 of a calendar year, except as provided in § 97.806(c)(3), and ends on September 30 of the same year. For the CSAPR NO_x Ozone Season Group 2 Trading Program, the deadline for obtaining sufficient allowances is midnight of November 1 (if November 1 is a business day) or midnight of the first business day after November 1 (if November 1 is not a business day). Fines and future allowance deductions will be levied as described in § 97.806 if the permittee holds insufficient allowances at the completion of the allowance transfer deadline. The process of establishing an allowance account and requirements for administering an account are included in § 97.820. The recording of allowance allocations is described in § 97.821. Submission and recording of allowance transfers is described in §§ 97.822 and 97.823. Compliance with ozone season emissions limitations and assurance provisions are described in §§ 97.824 and 97.825. Extra allowances may be banked (see § 97.826) and these vintage allowances may be used in later years with certain restrictions. These allowances do not constitute a property right. No Title V permit revision is required for any allocation, holding, deduction, or transfer of allowances in accordance with this subpart. Turbines #1, #2, #3, and #4 are CSAPR NO_x Ozone Season Group 2 units subject to the requirements of this subpart. The permit includes the requirement to comply with all applicable requirements of this subpart.

Mandatory Greenhouse Gas Reporting, 40 CFR Part 98 [Subparts C and D Applicable]
Subpart C, General Stationary Fuel Combustion Sources. This subpart establishes mandatory greenhouse gas reporting requirements for stationary fuel combustion sources. For the purpose

of this subpart, stationary fuel combustion sources are devices that combust solid, liquid, or gaseous fuel, generally for the purposes of producing electricity, generating steam, or providing useful heat or energy for industrial, commercial, or institutional use, or reducing the volume of waste by removing combustible matter. The auxiliary Boiler is subject to reporting under this subpart. This subpart specifically excludes source subject to Subpart D of this Part; therefore, the turbines are exempt from the requirements of this subpart.

Subpart D, Electric Generation. This subpart establishes mandatory greenhouse gas reporting requirements for electricity generation sources. For the purpose of this subpart, The electricity generation source category comprises electricity generating units that are subject to the requirements of the Acid Rain Program and any other electricity generating units that are required to monitor and report to EPA CO₂ mass emissions year-round according to 40 CFR part 75. The Gas Turbines (CT01-CT04) are subject to reporting under this subpart.

SECTION VIII. COMPLIANCE

Tier Classification and Public Review

This application has been determined to be a Tier II based on the request for renewal of a Part 70 operating permit.

The applicant published the “Notice of Filing Tier II Permit Application” on August 16, 2016, in *The Oklahoman*, a daily newspaper of general circulation in the State of Oklahoma and which is a daily newspaper published in Oklahoma county and having general circulation therein. The notice stated that the application for Title V renewal permit was available for review at the Luther Library in Luther, OK and at the DEQ main office at 707 N. Robinson, Oklahoma City, Oklahoma. The draft permit will be submitted for a 30-day public review period.

The permittee has submitted an affidavit that they are not seeking permit for land used for any operation upon land owned by others without their knowledge. The affidavit certifies that the application involves only land owned by the applicant or applicant business. Information on all permits is available for review by the public in the Air Quality Section of the DEQ web site: <http://www.deq.state.ok.us>. This draft permit will also be available on the DEQ web site.

State Review

This facility is not located within 50 miles of the state boarder of Oklahoma and any other state.

EPA Review

At the appropriate time, the “proposed” permit will be forwarded to EPA Region VI for a 45-day review period.

Inspection

An on-site Full Compliance Evaluation (FCE) was conducted at this facility on November 23, 2015, from approximately 1400 to 1600 hours. Holly Taber, Environmental Programs Specialist for the DEQ, conducted the evaluation. Bob Butler, Environmental Chemist Supervisor, and Jeffrey Courtney, Plant Chemist, represented the facility during the evaluation. Jermy Blodgett, Air Quality Coordinator for OG&E, was contacted via telephone and email. The evaluation was based on the permit conditions and requirements identified in Permit No. 2011-196-TVR and Permit No. 2014-2281-AR2.

Based on the information provided or obtained through the evaluation, two compliance issues were discovered at the facility:

1. Per OAC 252:100-9-8(a), all periods of EEs regardless of the cause are violations. EE IDs 27889, 28043, 32283, and 33024 were reported as required by OAC 252:100-9-7 and found eligible for an AD in accordance with OAC 252:100-9-8. No further action is necessary.
2. Per OAC 252:100-9-8(a), all periods of EEs regardless of the cause are violations. EE ID 27843 and 34423 were reported as a primary cause of "Other" on the Subchapter 9 reports; therefore, a valid affirmative defense was not established. These EEs are violations of Specific Condition No. 1 of Permit No. 2011-196-TVR.

In addition to the alleged issues of noncompliance above, the following area of concern was noted during the evaluation:

Permit No. 2011-196-TVR identifies two Specific Conditions by the same number. Specific Condition 15 appears twice in the specific conditions of the permit. This concern has been corrected for this permit.

The compliance issues identified will not prevent issuance of the permit.

Performance Testing

Performance Stack testing for commercial operations was commence between July 21, 2003 and September 12, 2003, (CT01 9-9-03, CT02 7/21/03, CT03 8/8/03, CT04 9/12/03) on all four units including PM₁₀. In all cases, the PM₁₀ emissions with duct burners firing were less than the revised permit limit of 25.5 lb/hr for each unit. The summary of the acceptance testing results are shown as follows:

Table 12: Unit #1 Performance Testing

Unit #1: Combustion Turbine with Duct Burner Firing Heat Input (HHV): 1,869 MMBTUH at 100% full load						
Pollutant	Permit Limit (lb/hr)	Average @ full (lb/hr)	Permit Limit (TPY)	Average @ full (TPY)	Permit Limit (ppmvd)^C	Average @ full (ppmvd)^C
NO _x ^A	34.5	24.48	151.1	107.24	3.5	2.85
CO ^B	97.5	2.03	427.1	8.91	17.2	0.39
VOC	16.2	0.14	71.0	0.62	N/A	N/A
SO ₂	6.9	0.20	30.4	0.87	N/A	N/A
PM ₁₀	25.5	12.2	111.7	53.3	N/A	N/A
Ammonia	25.5	0.77	111.7	3.38	7	0.24

^A 3-hour rolling average. ^B 1-hour rolling average. ^C Ammonia, NO_x and CO concentrations are corrected to 15% O₂.

Table 13: Unit #2 Performance Testing

Unit #2: Combustion Turbine with Duct Burner Firing Heat Input (HHV): 1,561 MMBTUH at 100% full load						
Pollutant	Permit Limit (lb/hr)	Average @ full (lb/hr)	Permit Limit (TPY)	Average @ full (TPY)	Permit Limit (ppmvd)^C	Average @ full (ppmvd)^C
NO _x ^A	34.5	26.61	151.1	116.57	3.5	3.16
CO ^B	97.5	2.13	427.1	9.32	17.2	0.41
VOC	16.2	0.004	71.0	0.018	N/A	N/A
SO ₂	6.9	0.20	30.4	0.86	N/A	N/A
PM ₁₀	25.5	10.6	111.7	46.4	N/A	N/A
Ammonia	25.5	0.60	111.7	2.63	7	0.19

^A 3-hour rolling average. ^B 1-hour rolling average. ^C Ammonia, NO_x and CO concentrations are corrected to 15% O₂.

Table 14: Unit #3 Performance Testing

Unit #3: Combustion Turbine with Duct Burner Firing Heat Input (HHV): 1,578 MMBTUH at 100% full load						
Pollutant	Permit Limit (lb/hr)	Average @ full (lb/hr)	Permit Limit (TPY)	Average @ full (TPY)	Permit Limit (ppmvd)^C	Average @ full (ppmvd)^C
NO _x ^A	34.5	24.48	151.1	107.24	3.5	2.85
CO ^B	97.5	2.03	427.1	8.91	17.2	0.39
VOC	16.2	0.14	71.0	0.62	N/A	N/A
SO ₂	6.9	0.20	30.4	0.87	N/A	N/A
PM ₁₀	25.5	12.2	111.7	53.3	N/A	N/A
Ammonia	25.5	0.77	111.7	3.38	7	0.24

^A 3-hour rolling average. ^B 1-hour rolling average. ^C Ammonia, NO_x and CO concentrations are corrected to 15% O₂.

Table 15: Unit #4 Performance Testing

Unit #4: Combustion Turbine with Duct Burner Firing Heat Input (HHV): 1,655 at 100% full load						
Pollutant	Permit Limit (lb/hr)	Average @ full (lb/hr)	Permit Limit (TPY)	Average @ full (TPY)	Permit Limit (ppmvd) ^C	Average @ full (ppmvd) ^C
NO _x ^A	34.5	24.48	151.1	107.24	3.5	2.85
CO ^B	97.5	2.03	427.1	8.91	17.2	0.39
VOC	16.2	0.14	71.0	0.62	N/A	N/A
SO ₂	6.9	0.20	30.4	0.87	N/A	N/A
PM ₁₀	25.5	12.2	111.7	53.3	N/A	N/A
Ammonia	25.5	0.77	111.7	3.38	7	0.24

^A 3-hour rolling average. ^B 1-hour rolling average. ^C Ammonia, NO_x and CO concentrations are corrected to 15% O₂.

The turbines are equipped with CEMS to monitor compliance with applicable emission limitations. Relative Accuracy Test Audit (RATA) testing for turbines #1, #2, #3, and #4 was last conducted on May 1, 2017, May 2, 2017, May 3, 2017, and May 4, 2017, respectively.

Fees Paid

The required application fee for a renewal of a Part 70 operating permit is \$7,500. A payment of \$7,500 was received on August 5, 2016.

SECTION IX. SUMMARY

The facility is constructed as described in the permit application. Ambient air quality standards are not threatened at this site. There are no active Air Quality compliance and enforcement issues concerning this facility that will prevent issuance of the permit. Issuance of the permit is recommended, contingent upon public and EPA review.

**PERMIT TO OPERATE
AIR POLLUTION CONTROL FACILITY
SPECIFIC CONDITIONS**

**Oklahoma Gas & Electric Company
Redbud Generating Station**

Permit No. 2016-0902-TV2

The permittee is authorized to operate in conformity with the specifications submitted to Air Quality on August 5, 2016. The Evaluation Memorandum dated December 19, 2017, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain operating permit limitations or permit requirements. Continuing operations under this permit constitutes acceptance of, and consent to, the conditions contained herein:

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

Each of Four Combustion Turbines with Duct Burner Firing for Normal Operations			
Pollutant	lb/hr	TPY	ppmvd^C
NO _x	34.5 ^A	151.1 ^D	3.5 ^A
CO	97.5 ^B	427.1 ^D	17.2 ^B
VOC	16.2	71.0	N/A
SO ₂	6.9	30.4	N/A
PM ₁₀	25.5	111.7	N/A
Lead	0.001	0.001	N/A
H ₂ SO ₄	0.6	2.6	N/A
Ammonia	25.5	111.7	7

^A – 3-hour rolling average, calculated with normal operating hourly data, excluding startup and shutdown data (per definitions in Specific Condition #1).

^B – 1-hour rolling average calculated with normal operating hourly data, excluding startup and shutdown data (per definitions in Specific Condition #1).

^C – Ammonia, NO_x and CO concentrations are corrected to 15% O₂.

^D – NO_x and CO total annual emissions (12-month rolling total).

For startup and shutdown periods, the alternative emissions limitations for each combustion turbine are listed below:

Event	Maximum Duration (hr)	NO_x Emissions (lbs)	CO Emissions (lbs)
Startup (cold)	4	734	1,848
Startup (warm)	4	265	735
Shutdown	1	20	115

See definitions of terms listed below.

The 3-hour average calculation of NO_x emissions may exceed the normal standards (34.5 lb/hr and 3.5 ppmvd) for up to 7 hours after startup. Such occurrences are not considered exceedances of emission standards and are not required to be reported to DEQ unless they exceed the limits in the above table of alternative emission limitations.

Startup definition: Start-up begins when fuel is supplied to the Gas Turbine. Start-up ends when the gas turbine reaches DLN mode (Mode 6Q as direct by the control system) and the SCR is in service. Given that the SCR system will be in service within 30 minutes after the turbine reaches the DLN mode.

Shutdown definition: Shutdown begins when either the SCR is taken out of service or the turbine exits the DLN mode given that the SCR system must not be taken out of service more than 15 minutes prior to leaving the DLN mode. Shutdown ends with the termination of fuel flow to the turbine.

Cold Start: A startup beginning more than 24 hours after the same unit (gas turbine) shutdown.

Warm Startup: A startup beginning less than 24 hours after the same unit shutdown.

Pollutant	Auxiliary Boiler		Cooling Towers	
	lb/hr	TPY	lb/hr	TPY
NO _x	--	10.46	--	--
CO	--	9.76	--	--
VOC	--	1.05	--	--
SO ₂	--	0.40	--	--
PM ₁₀	--	0.74	12.68	55.54

The fire pump engine and the emergency generator engine are limited to 100 hours per year each for testing and maintenance, and total hours for each is limited to 500 hours per year.

2. The fuel-burning equipment shall use only pipeline-quality natural gas except for the emergency diesel fire-water pump engine which shall burn diesel fuel with a maximum fuel sulfur content of 0.4% by weight and the emergency generator which will burn propane with maximum sulfur content of 0.4% by weight. Compliance can be shown by the following: for pipeline grade natural gas, a current gas company bill, or testing (as per 40 CFR Part 75 Appendix D); for other gaseous fuel, a current lab analysis, gas contract, tariff sheet, MSDS, etc.; for fuel oil, supplier’s latest delivery ticket(s). [OAC 252:100-31]
3. A serial number or another acceptable form of permanent (non-removable) identification shall be on each turbine. The facility shall maintain a picture of the permanent non-removable identification plate of each turbine. [OAC 252:100-8-6]
4. The permittee shall be authorized to operate each combustion turbine with associated HRSG and duct burner and cooling tower continuously (24 hours per day, every day of the year). The auxiliary boiler is limited to 3,000 hours per year. [OAC 252:100-8-6]
5. The permittee shall incorporate the following BACT methods for reduction of emissions. Emission limitations are as stated in Specific Condition No. 1. [OAC 252: 100-8-34(b)]
 - a. Emissions from each combined cycle unit shall be controlled by properly operated and maintained Selective Catalytic Reduction and by specified fuel type (Specific Condition #2).

- b. Emissions from the auxiliary boiler shall be controlled by adhering to Good Operating Practices and specified fuel type (Specific Condition #2).
 - c. Emissions from the Diesel Fire Pump Engine and the Propane Emergency Generator shall be controlled by use of the specified fuel type (Specific Condition #2).
6. Each turbine is subject to the federal New Source Performance Standards (NSPS) for Stationary Gas Turbines, 40 CFR Part 60, Subpart GG, and shall comply with all applicable requirements. [40 CFR Part 60, Subpart GG]
- a. § 60.332: Standard for nitrogen oxides
 - b. § 60.333: Standard for sulfur dioxide
 - c. § 60.334: Monitoring of operations
 - d. § 60.335: Test methods and procedures
7. The emergency engines shall each be fitted with a non-resettable hour-meter. [OAC 252:100-8-6(a)]
8. The duct burners are subject to federal New Source Performance Standards, 40 CFR Part 60, Subpart Da, and shall comply with all applicable requirements. [40 CFR Part 60, Subpart Da]
- a. § 60.42Da: Standard for particulate matter
 - b. § 60.43Da: Standard for sulfur dioxide
 - c. § 60.44Da: Standard for nitrogen oxides
 - d. § 60.48Da: Compliance provisions
 - e. § 60.49Da: Emission monitoring
 - f. § 60.50Da: Compliance determination procedures and methods
 - g. § 60.51Da: Reporting requirements
9. The permittee shall maintain a record of the amount of natural gas burned in the auxiliary boiler for compliance with NSPS Subpart Dc. [40 CFR Part 60, Subpart Dc]
10. The permittee shall comply with all acid rain control permitting requirements and for SO₂ and NO_x emissions allowances of 40 CFR Part 72 - 75.17967
11. Compliance with PM₁₀ hourly and annual emission limits for the four (4) cooling towers (total) shall be calculated using the following:
- a. The average total dissolved solids (TDS) concentration in the cooling tower water make up (weekly);
 - b. The average cooling tower cycle;
 - c. The average total cooling tower input/flow (gallons/minute); and
 - d. The drift ratio of 0.002%.

12. The permittee shall maintain records as listed below. These records shall be maintained on-site for at least five years after the date of recording and shall be provided to regulatory personnel upon request.
 - a. Operating hours for each auxiliary boiler, diesel fire pump, and propane generator (monthly and 12 month rolling total).
 - b. Total fuel consumption for each turbine (monthly and 12-month rolling totals).
 - c. Sulfur content of natural gas (Compliance can be shown by the following methods: for pipeline grade natural gas, a current gas company bill, or as per 40 CFR Part 75 Appendix D; for other gaseous fuel, a current lab analysis, gas contract, tariff sheet, MSDS, etc. The maximum total sulfur content of “natural gas” is 20 grains/100 SCF (680 ppmw or 338 ppmv) or less.).
 - d. Diesel fire-pump and generator propane fuel consumption (total annual) and sulfur content of each delivery.
 - e. Total fuel consumption for the auxiliary boiler (monthly).
 - f. CEMS data required by the Acid Rain program.
 - g. For the fuel(s) burned, the appropriate document(s) as described in Specific Condition 2.
 - h. Combustion turbine NO_x and CO total annual emissions (TPY) (12 month rolling total).
 - i. Combustion turbine operating hours for each startup and shutdown; pounds of NO_x and CO emissions per startup and shutdown events.
 - j. The average total dissolved solids (TDS) concentration in the cooling tower water make up (weekly).
 - k. PM₁₀ emissions for each cooling tower (monthly, 12-month rolling average).
 - l. Records required by NESHAP Subpart ZZZZ.
 - m. Records required by NSPS Subpart JJJJ.
 - n. Records required by OAC 252:100-8-36.2(c).
 - o. RATA test results from periodic CEMS quality assurance tests as required by Specific Condition 18.
 - p. Periodic testing results as required by Specific Condition 19.

13. The owner/operator shall comply with all applicable requirements of the NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE) , Subpart ZZZZ, for each affected engine including but not limited to: [40 CFR § 63.6580 to § 63.6675]
 - 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?
 - e. § 63.6603 What emission limitations and operating limitations must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?
 - f. § 63.6605 What are my general requirements for complying with this subpart?
 - g. § 63.6612 By what date must I conduct initial performance tests or other initial compliance demonstrations if I own or operate a stationary ICE 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?

- h. § 63.6615 When must I conduct subsequent performance tests?
 - i. § 63.6620 What performance tests and other procedures must I use?
 - j. § 63.6625 What are my monitoring, installation, operation, and maintenance requirements?
 - k. § 63.6630 How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements?
 - l. § 63.6635 How do I monitor and collect data to demonstrate continuous compliance?
 - m. § 63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?
 - n. § 63.6645 What notifications must I submit and when?
 - o. § 63.6650 What reports must I submit and when?
 - p. § 63.6655 What records must I keep?
 - q. § 63.6660 In what form and how long must I keep my records?
 - r. § 63.6665 What parts of the General Provisions apply to me?
 - s. § 63.6670 Who implements and enforces this subpart?
 - t. § 63.6675 What definitions apply to this subpart?
14. If any engines at the facility are subject to 40 CFR Part 60, Subpart JJJJ, subject engines shall comply with all applicable standards for owners or operators of stationary spark ignition internal combustion engines: [40 CFR § 60.4230 to § 60.4248]
- a. § 60.4230: Am I subject to this subpart?
 - b. § 60.4231: What emission standards must I meet if I am a manufacturer of stationary SI internal combustion engines or equipment containing such engines?
 - c. § 60.4232: How long must my engines meet the emissions standards if I am a manufacturer of stationary SI internal combustion engines?
 - d. § 60.4233: What emission standards must I meet if I am an owner or operator of a stationary SI internal combustion engine?
 - e. § 60.4234: How long must I meet the emissions standards if I am an owner or operator of a stationary SI internal combustion engine?
 - f. § 60.4235: What fuel requirements must I meet if I am an owner or operator of a stationary SI internal combustion engine subject to this subpart?
 - g. § 60.4236: What is the deadline for importing or installing stationary SI ICE produced in the previous model year?
 - h. § 60.4237: What are the monitoring requirements if I am an owner or operator of an emergency stationary SI internal combustion engine?
 - i. § 60.4238: What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines \leq 19 KW (25 HP) or a manufacturer of equipment containing such engines?
 - j. § 60.4239: What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines $>$ 19 KW (25 HP) that use gasoline or a manufacturer of equipment containing such engines?
 - k. § 60.4240: What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines $>$ 19 KW (25 HP) that are rich burn engines that use LPG or a manufacturer of equipment containing such engines?

- l. § 60.4241: What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines participating in the voluntary certification program or a manufacturer of equipment containing such engines?
 - m. § 60.4242: What other requirement must I meet if I am a manufacturer of stationary SI internal combustion engines or equipment containing stationary SI internal combustion engines or a manufacturer of equipment containing such engines?
 - n. § 60.4243: What are my compliance requirements if I am an owner or operator of a stationary SI internal combustion engine?
 - o. § 60.4244: What test methods and other procedures must I use if I am an owner or operator of a stationary SI internal combustion engine?
 - p. § 60.4245: What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary SI internal combustion engine?
 - q. § 60.4246: What parts of the General Provisions apply to me?
 - r. § 60.4247: What parts of the mobile source provisions apply to me if I am a manufacturer of stationary SI internal combustion engines or a manufacturer of equipment containing such engines?
 - s. § 60.4248: What definitions apply to this subpart?
15. Turbines #1, #2, #3, and #4 are subject to the Cross-State Air Pollution Rule (CSAPR) NO_x Ozone Season Group 2 Trading Program. The permittee shall comply with all applicable requirements, including but not limited to: [40 CFR § 97.801 to § 97.835]
- a. § 97.801 Purpose.
 - b. § 97.802 Definitions.
 - c. § 97.803 Measurements, abbreviations, and acronyms.
 - d. § 97.804 Applicability.
 - e. § 97.805 Retired unit exemption.
 - f. § 97.806 Standard requirements.
 - g. § 97.807 Computation of time.
 - h. § 97.808 Administrative appeal procedures.
 - i. § 97.810 State NO_x Ozone Season Group 2 trading budgets, new unit set-asides, Indian country new unit set-aside, and variability limits.
 - j. § 97.811 Timing requirements for CSAPR NO_x Ozone Season Group 2 allowance allocations.
 - k. § 97.812 CSAPR NO_x Ozone Season Group 2 allowance allocations to new units.
 - l. § 97.813 Authorization of designated representative and alternate designated representative.
 - m. § 97.814 Responsibilities of designated representative and alternate designated representative.
 - n. § 97.815 Changing designated representative and alternate designated representative; changes in owners and operators; changes in units at the source.
 - o. § 97.816 Certificate of representation.
 - p. § 97.817 Objections concerning designated representative and alternate designated representative.
 - q. § 97.818 Delegation by designated representative and alternate designated representative.

- r. § 97.820 Establishment of compliance accounts, assurance accounts, and general accounts.
 - s. § 97.821 Recordation of CSAPR NO_x Ozone Season Group 2 allowance allocations and auction results.
 - t. § 97.822 Submission of CSAPR NO_x Ozone Season Group 2 allowance transfers.
 - u. § 97.823 Recordation of CSAPR NO_x Ozone Season Group 2 allowance transfers.
 - v. § 97.824 Compliance with CSAPR NO_x Ozone Season Group 2 emissions limitation.
 - w. § 97.825 Compliance with CSAPR NO_x Ozone Season Group 2 assurance provisions.
 - x. § 97.826 Banking.
 - y. § 97.827 Account error.
 - z. § 97.828 Administrator's action on submissions.
 - aa. § 97.830 General monitoring, recordkeeping, and reporting requirements.
 - bb. § 97.831 Initial monitoring system certification and recertification procedures.
 - cc. § 97.832 Monitoring system out-of-control periods.
 - dd. § 97.833 Notifications concerning monitoring.
 - ee. § 97.834 Recordkeeping and reporting.
 - ff. § 97.835 Petitions for alternatives to monitoring, recordkeeping, or reporting requirements.
16. This facility is considered an existing Prevention of Significant Deterioration (PSD) facility. As such, the facility is subject to the provisions of OAC 252:100-8-36.2(c) for any project as defined therein. [OAC 252:100-8-36.2(c)]
17. The Permit Shield (Standard Conditions, Section VI) is extended to the following requirements that have been determined to be inapplicable to this facility at this time: [OAC 252:100-8-6(d)(2)]
- a. 40 CFR Part 60, NSPS except for Subparts Da, Dc, GG, and JJJJ.
 - b. 40 CFR Part 61, NESHAP
 - c. 40 CFR Part 64, Compliance Assurance Monitoring
 - d. OAC 252:100-21, PM Emissions from Wood-Waste Burning Equipment
 - e. OAC 252:100-19-12, PM Emissions from Directly Fired Fuel-Burning Units and Industrial Processes.
18. The permittee shall operate and maintain a continuous emission monitoring systems (CEMS) for measuring emissions of CO from Emission Units Unit Nos. 1, 2, 3, and 4. The CEMS shall be certified and quality-assured using the methods and procedures of 40 CFR 60, Appendices B and F. [OAC 252:100-8-6 (a)(3)(A)]
19. At least once every five years (during the permit term), the permittee shall conduct tests of PM₁₀ emissions from Emission Units Unit Nos. 1, 2, 3, and 4 when operating under representative conditions. Testing shall be conducted using approved reference methods. Written documentation of the results of emission testing shall be submitted with an application for renewal. [OAC 252:100-8-6 (a)(3)(A)]

20. No later than 30 days after each anniversary date of the issuance of the initial Title V operating permit (October 4, 2006), 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)]

21. With the exception for the Acid Rain Permit No. 2014-2281-ARR2, this permit replaces and supersedes all previous Air Quality operating permits for this facility, which are now canceled.

Oklahoma Gas & Electric Company
Attn: Mr. Michael Hixon
321 N. Harvey, MC 610
Oklahoma City, Oklahoma 73102

SUBJECT: Title V Renewal Permit No. **2016-0902-TV R2**
Oklahoma Gas & Electric Company
Redbud Generating Station
Facility ID No. 4240
Section 17, Township 14N, Range 1E, Oklahoma County, Oklahoma

Dear Mr. Hixon:

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

1. Publish at least one legal notice (one day) of “Notice of Tier II Draft Permit” 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 this draft permit and a copy of the application at a convenient location (preferably a public location) **within the county** of the facility.
3. Send to AQD a copy of the proof of publication notice from Item #1 above together with any additional comments or requested changes which you may have on the draft permit within 20 days of publication.
4. At the end of the public review period, send AQD a written notice of any public comments that you may have received from the public.

Thank you for your cooperation. If you have any questions, please refer to the permit number above and contact me or the permit writer, Joseph K. Wills, P.E., at (405) 702-4100.

Sincerely,

Phillip Fielder, P.E.,
Permits and Engineering Group Manager
AIR QUALITY DIVISION

DRAFT

Oklahoma Gas & Electric Company
Attn: Mr. Michael Hixon
321 N. Harvey, MC 610
Oklahoma City, Oklahoma 73102

SUBJECT: Title V Renewal Permit No. **2016-0902-TVR2**
Oklahoma Gas & Electric Company
Redbud Generating Station
Facility ID No. 4240
Section 17, Township 14N, Range 1E, Oklahoma County, Oklahoma

Dear Mr. Hixon:

Enclosed is the permit authorizing operation of the facility referenced 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 refer to the permit number above and contact me or the permit writer, Joseph K. Wills, P.E., at (405) 702-4100.

Sincerely,

DRAFT

Phillip Fielder, P.E.
Permits and Engineering Group Manager
AIR QUALITY DIVISION

DRAFT



PART 70 PERMIT

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

Permit No. 2016-0902-TV2

Oklahoma Gas & Electric Company,
having complied with the requirements of the law, is hereby granted permission to operate
the Redbud Generating Station located in Sec. 17, Township 14N, Range 1E, Oklahoma
County, Oklahoma, subject to standard conditions dated June 21, 2016 and specific
conditions, both attached.

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

DRAFT

Director, Air Quality Division

Date

**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 (PM₁₀). 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]