

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

**MEMORANDUM**

**June 28, 2021**

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

**THROUGH:** Rick Groshong, Sr. Manager, Compliance, Enforcement, and Surveillance

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

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

**FROM:** Jian Yue, P.E., New Source Permits Section

**SUBJECT:** Evaluation of Permit Application No. **2020-0434-TVR**  
Oklahoma Municipal Power Authority  
Charles D. Lamb Energy Center (SIC 4911, NAICS 221112)  
Facility ID: 10350  
Latitude: 36.81384°N, Longitude: 97.12518°W  
Section 18, Township 27N, Range 2E, Kay County, Oklahoma  
Physical Address: 4250 W. Doolin Avenue, Ponca City, OK 74601

**SECTION I. INTRODUCTION**

Oklahoma Municipal Power Authority (OMPA) has submitted an application for a renewal of the Part 70 operating permit for their Charles D. Lamb Energy Center. The facility is currently operating under Permit No. 2012-1553-TV (M-1) issued on November 14, 2019. The facility is an electricity-generating station located in an attainment area. The electricity-generating units in the facility are also acid rain program affected units and Acid Rain Permit No. 2013-0288-AR was issued on April 27, 2016. An Acid Rain renewal Permit No. 2020-0433-ARR is currently under review. The facility is not subject to Prevention of Significant Deterioration (PSD) requirements and is a minor source for Hazardous Air Pollutants (HAPs).

**SECTION II. FACILITY DESCRIPTION**

OMPA operates a Siemens SGT6-2000E natural gas-fired, simple cycle combustion turbine electric generating peaking unit which makes up the Charles D. Lamb Energy Center. The facility delivers power to the local grid during periods of high demand. The turbine has a maximum gross power output of 122 megawatts (MW) with a peak heat input of approximately 1,305.4 MMBtu/hr. The turbine fires pipeline-quality natural gas only. The turbine can be expected to experience a regular cycle of startup and shutdown events during which NO<sub>x</sub> and CO emission rates are higher than at normal baseload levels. The emissions limits apply at all

times, including startup and shutdown events, and thus represent the most conservative estimate for the annual emission totals.

**SECTION III. PERMIT HISTORY**

Permits	Date Issued	Description
2012-1553-C	7/24/2013	Initial construction permit
2013-0288-AR	4/27/2016	Initial Acid Rain permit
2012-1553-TV	6/28/2016	Initial Title V operating permit
2012-1553-TV (M-1)	11/14/2019	Significant modification to remove the fuel usage limit which was originally put in place in order to keep greenhouse gas (GHG) emissions below major source threshold.

**SECTION IV. REQUESTED CHANGES**

The applicant has not requested any changes from the current permit in place.

**SECTION V. EQUIPMENT**

EU ID#	Point ID#	EU Name/Model	MW	Mfg. Date
1	1	Siemens SGT6-2000E Gas Turbine	122	July 2014

**SECTION VI. EMISSIONS**

The maximum power output is 122 MW based on manufacturer’s data and a heat rate of 10.7 MMBtu/MW-hr.

Annual NOx emissions in tons per year (TPY) are based on the NSPS Subpart KKKK standard (15 ppm NOx at 15% O<sub>2</sub>, 150 ppm NOx when the turbine is operating at less than 75% of peak load and below 30 MW, or 96 ppm NOx when the turbine is operating at less than 75% of peak load and above 30 MW) corrected for exhaust stream oxygen contents in vendor-supplied data (maximum exhaust air flow rate of 690,910 cfm at 13.9% O<sub>2</sub>). The lb/hr limit for NOx is estimated based on the 0.2-lb/MMBtu limit in OAC 252:100-33-2 and applies at all times, including start-up, shut-down, and maintenance (SSM) events.

CO, VOC, and PM (total) emissions are based on the maximum rates among the vendor-supplied load and season scenarios. All PM is assumed to be less than 1 µm; therefore, the calculated emissions are the same for PM, PM<sub>10</sub>, and PM<sub>2.5</sub>. The individual PM values are based on AP-42 (4/00), Table 3.1-3.

The SO<sub>2</sub> emission factor is based on AP-42 (4/00), Table 3.1-2a.

Emissions of acetaldehyde, acrolein, benzene, 1,3 butadiene ethylbenzene, formaldehyde, naphthalene, PAH, propylene oxide, toluene, and xylenes are based on AP-42 (4/00), Table 3.1-3.

To demonstrate conservative review, all hourly emission estimates were multiplied by a safety factor of 2 except for NOx, CO, and total HAP. For CO and total HAP, the hourly estimates were multiplied by a safety factor of 10. No additional safety factor was applied to the NOx hourly emission estimate.

**Potential Emissions**

Pollutant	Emission Factor	Estimated Emissions		Hourly Emission Safety Factor	Potential Emissions*	
	(lb/MMBtu)	(lb/hr)	(TPY)		(lb/hr)	(TPY)
NOx	0.2/0.024	261.08	41.7	1	261.08	137.22
CO	0.023	30.02	131.51	10	300.24	131.51
VOC	0.001	1.70	7.43	2	3.40	7.43
SO <sub>2</sub>	0.0034	4.44	19.44	2	8.88	19.44
PM (total)	0.0061	7.96	34.88	2	15.92	34.88
PM	0.0047	6.14	26.87	2	12.28	26.87
PM (filterable)	0.0019	2.48	10.86	2	4.96	10.86
Acetaldehyde	4.00E-05	0.05	0.23	2	0.10	0.23
Acrolein	6.40E-06	0.01	0.04	2	0.02	0.04
Benzene	1.20E-05	0.02	0.07	2	0.04	0.07
1,3 Butadiene	4.30E-07	0.00	0.00	2	0.00	0.00
Ethylbenzene	3.20E-05	0.04	0.18	2	0.08	0.18
Formaldehyde	7.10E-04	0.93	4.06	2	1.86	4.06
Naphthalene	1.30E-06	0.00	0.01	2	0.00	0.00
PAH	2.20E-06	0.00	0.01	2	0.00	0.00
Propylene Oxide	2.90E-05	0.04	0.17	2	0.08	0.17
Toluene	1.30E-04	0.17	0.74	2	0.34	0.74
Xylenes	6.40E-05	0.08	0.37	2	0.16	0.37
Total HAP	--	1.34	5.88	10	13.4	5.88

\*Based on full power and 8,760 hours per year and safety factor for hourly emissions.

**SECTION VII. INSIGNIFICANT ACTIVITIES**

The insignificant activities identified and justified on Part 1b of the forms in the application and duplicated below. Records must be available to confirm the insignificance of the activities. Appropriate recordkeeping is required for those activities indicated below with an asterisk “\*” and is specified in the Specific Conditions. Any Activity to which a state or federal applicable requirement applies is not insignificant even if it is included on this list.

\*Activities with potential emissions of 5 TPY or less. None identified but may be used in the future.

**SECTION VIII. 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]  
Subchapter 3 enumerates the primary and secondary ambient air quality standards and the significant deterioration increments. At this time, all of Oklahoma is in “attainment” of these standards.

OAC 252:100-5 (Registration, Emissions Inventory and Annual Operating Fees) [Applicable]  
Subchapter 5 requires sources of air contaminants to register with Air Quality, file emission inventories annually, and pay annual operating fees based upon total annual emissions of regulated pollutants. Emission inventories 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 that result in emissions not authorized in the permit and that exceed the “Insignificant Activities” or “Trivial Activities” thresholds require prior notification to AQD and may require a permit modification. Insignificant activities refer to those individual emission units either listed in Appendix I or whose actual calendar year emissions do not exceed the following limits.

- 5 TPY of any one criteria pollutant
- 2 TPY of any one hazardous air pollutant (HAP) or 5 TPY of multiple HAP 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 permit applications, previously issued permits, or developed from the applicable requirement.

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

OAC 252:100-13 (Open Burning) [Applicable]  
 Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in this subchapter.

OAC 252:100-19 (Particulate Matter (PM)) [Applicable]  
 This subchapter specifies a particulate matter (PM) emission limitation of 0.6 lb/MMBTU from fuel-burning units with a rated heat input of 10 MMBTUH or less. Section 19-4 regulates emissions of PM from fuel-burning equipment. For fuel-burning equipment greater than 10 MMBTUH, this subchapter specifies a PM emission limitation based upon the heat input of the equipment is calculated according to the following equations:

$$E = 1.6 X^{-0.30103} - \text{For Units } \geq 1,000 \text{ MMBTUH but } < 10,000 \text{ MMBTUH}$$

Where:

E = allowable total particulate matter emissions in pounds per MMBTU and  
 X = the maximum heat input in MMBTU per hour.

EU	MMBtuh	SC 19 Limit
1	1,305	0.1846 lb/MMBtu

The permit requires the use of pipeline natural gas (contains 0.5 gr/100 scf of total sulfur as defined under 40 CFR Part 72) for all fuel-burning units to ensure compliance with Subchapter 19.

OAC 252:100-25 (Visible Emissions and Particulates) [Applicable]  
 No discharge of greater than 20% opacity is allowed except for short-term occurrences that consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity. EU subject to an opacity limit under NSPS are exempt from the requirements of this subchapter. The turbine is not subject to an opacity limit under NSPS and is subject to this subchapter. When burning natural gas, there is very little possibility of exceeding the opacity standards; therefore, no periodic observation is necessary.

Continuous opacity monitoring (COM) is required for fossil fuel-fired steam generators in accordance with 40 CFR Part 51, Appendix P. 40 CFR Part 51, Appendix P establishes a de minimis level of 250 MMBTUH for COM. The new turbine is not considered a fossil fuel-fired steam generator and is not subject to these requirements.

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 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. Under normal operating conditions, this facility does not cause fugitive dust problems; therefore, it is not necessary to require specific precautions to be taken.

OAC 252:100-31 (Sulfur Compounds) [Applicable]

Part 2, Section 31.7 limits the ambient air concentration of hydrogen sulfide (H<sub>2</sub>S) emissions from any facility to 0.2 ppmv (24-hour average) at standard conditions which is equivalent to 283  $\mu\text{g}/\text{m}^3$  (based on EPA standard conditions). Based on modeling conducted for the General Permit for Oil and Gas Facilities (GP-OGF), the ambient impacts of H<sub>2</sub>S from oil and gas facilities handling, treating, and combusting sweet natural gas and storing sweet crude oil or condensate will be in compliance with the ambient air concentration limit. This facility burns pipeline natural gas, which contains less sulfur than field gas handled at oil and gas facilities, and will not have the potential to exceed the H<sub>2</sub>S ambient air concentration limit.

Part 5 limits sulfur dioxide emissions from new fuel-burning equipment (constructed after July 1, 1972). For gaseous fuels the limit is 0.2 lb/MMBTU heat input averaged over 3 hours. SO<sub>2</sub> emissions associated with the combustion turbine are expected to be 0.0034 lb/MMBTU during maximum operation. The permit requires the use of pipeline quality natural gas containing 0.5 gr/100 scf or less of total sulfur for the turbine to ensure compliance with this subpart.

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

NO<sub>x</sub> emissions are limited to 0.20 lb/MMBTU from all new gas-fired fuel-burning equipment with a rated heat input of 50 MMBTUH or greater. The combustion turbine is subject to this subchapter and the permit establishes a limit of 0.2 lb/MMBTU for the turbine.

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

None of the following affected processes are part of the OMPA facility: gray iron foundry, blast furnace, basic oxygen furnace, petroleum catalytic reforming unit, or petroleum catalytic cracking unit.

OAC 252:100-37 (Volatile Organic Compounds) [Applicable]

Part 5 limits the VOC content of coating used in coating 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. Owners or operators of sources that emit less than 100 pounds of VOC per 24-hour day are exempt from the requirements of OAC 252:100-37-25.

Part 7 requires fuel-burning equipment to be operated and maintained so as to minimize emissions. The equipment at this location is subject to this requirement.

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 Area of Concern (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.

The gas turbine was evaluated for periodic testing in accordance with the Periodic Testing Standardization guidance issued December 1, 2011, on a pollutant by pollutant basis. The frequency of the periodic testing requirement is based on the quantity of the pollutant emitted. Periodic testing requirements are not required for an emission unit that is subject to an applicable requirement that already requires periodic testing, continuous emission monitoring (CEM), or predictive emission monitoring (PEMS). For this facility, NO<sub>x</sub> and CO are the only pollutants which are potentially subject to the periodic testing requirements. All other pollutants emitted from this facility are less than 40 TPY per unit.

**Periodic Testing Review**

EU	Pollutant	TPY	Current Monitoring	Periodic Testing
Gas Turbine	NO <sub>x</sub>	137.22	40 CFR Part 60 CEMS	NO
	CO	131.51	None	Yes, conduct periodic testing at least once during the permit term.

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

OAC 252:100-11	Alternative Reduction	not requested
OAC 252:100-15	Mobile Sources	not in source category
OAC 252:100-17	Incinerators	not type of emission unit
OAC 252:100-23	Cotton Gins	not type of emission unit
OAC 252:100-24	Feed & Grain Facility	not in source category
OAC 252:100-39	Nonattainment Areas	not in area category
OAC 252:100-47	Municipal Solid Waste Landfills	not in source category

**SECTION IX. FEDERAL REGULATIONS**

PSD, 40 CFR Part 52

[Not Applicable]

Total emissions are less than the major source threshold of 250 TPY of any single regulated pollutant and the facility is not one of the 26 specific industries with a threshold of 100 TPY.

NSPS, 40 CFR Part 60

[Subpart KKKK is Applicable]

Subpart GG, Stationary Gas Turbines. This subpart affects combustion turbines which commenced construction, reconstruction, or modification after October 3, 1977, and which have a heat input rating of 10 MMBTUH or more. Because the turbine is regulated under 40 CFR Part 60, Subpart KKKK, the turbine is not subject to Subpart GG.

Subpart KKKK, Stationary Combustion Turbines. This subpart is applicable to all stationary combustion turbines that commenced construction, modification or reconstruction after February 18, 2005, with a heat input equal to or greater than 10.7 gigajoules per hour (10 MMBtu/hr), based on the higher heating value of fuel. Therefore, this NSPS is applicable to the combustion turbine.

Pursuant to 40 CFR § 60.4320(a) and Table 1 to Subpart KKKK, the NSPS NO<sub>x</sub> limit applicable to the combustion turbine, for natural gas combustion, is 15 ppm at 15 percent oxygen or 54 nanogram per Joule (ng/J) of useful output [0.43 pounds per megawatt-hour (lb/MW-hr)].

Pursuant to 40 CFR § 60.4320(a) and Table 1 to Subpart KKKK, the NSPS NO<sub>x</sub> limit applicable to the combustion turbine, *operating at less than 75 percent of peak load and below 30 MW*, is 150 ppm at 15 percent oxygen or 1,100 nanogram per Joule (ng/J) of useful output [8.7 pounds per megawatt-hour (lb/MW-hr)].

Pursuant to 40 CFR § 60.4320(a) and Table 1 to Subpart KKKK, the NSPS NO<sub>x</sub> limit applicable to the combustion turbine, *operating at less than 75 percent of peak load and above 30 MW*, is 96 ppm at 15 percent oxygen or 590 nanogram per Joule (ng/J) of useful output [4.7 pounds per megawatt-hour (lb/MW-hr)].

The NSPS SO<sub>2</sub> limit for the turbine is 0.90 lb/MW-hr gross output, **or** limit fuel so that any fuel combusted contains total potential sulfur emissions equal to or less than 0.060 pound SO<sub>2</sub> per million British thermal units (lb SO<sub>2</sub>/MMBtu) heat input. The facility expects emissions of SO<sub>2</sub> during natural gas combustion to be less than 0.034 lb/MW-hr. Emissions of SO<sub>2</sub> are well below 0.90 lb/MW-hr; therefore, per 40 CFR § 60.4365(a), the facility obtains and keeps on record the fuel quality characteristics of the natural gas from the suppliers. The fuel data documents that the natural gas contains 20 grains of sulfur or less per 100 standard cubic feet.

Subpart TTTT, Greenhouse Gas Emissions for Electric Utility Generating Units. Subpart TTTT applies to any steam generating unit, IGCC, or stationary combustion turbine that commenced construction after January 8, 2014. Per §60.2 Definitions, *Commenced* means, with respect to the definition of *new source* in section 111(a)(2) of the Act, that an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification. The bids for the general work contract were submitted on November 12, 2013. After a review period and approval by the OMPA Board of



Directors, *Contract C-4400 General Work Contract – Revision 2* was issued on January 3, 2014 and fully signed and executed on January 8, 2014. This contract was issued to TIC - The Industrial Company (TIC) and a Notice to Proceed (also dated January 8, 2014), released TIC to commence work on the project. Therefore, per NSPS definition, OMPA commenced construction on January 8, 2014 and Subpart TTTT is not applicable.

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 [Not Applicable]

Subpart YYYY, Stationary Combustion Turbines. This subpart was promulgated on March 5, 2004 and affects stationary combustion turbines that are located at major source of HAP. The facility is an area source of HAP.

CAM, 40 CFR Part 64 [Not 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
- It has potential emissions, prior to the control device, of the applicable regulated air pollutant of 100 TPY

There is no control device used at this facility.

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

This facility does not process or store more than the threshold quantity of any regulated substance (Section 112r of the Clean Air Act 1990 Amendments). More information on this federal program is available on the web page: [www.epa.gov/rmp](http://www.epa.gov/rmp).

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

This facility is an affected source since the simple cycle unit commenced operation after November 15, 1990. The facility is operating under Acid Rain Permit No. 2013-0288-AR, issued on April 27, 2016.

Acid Rain, 40 CFR Part 73 (SO<sub>2</sub> Requirements) [Applicable]

This Part provides for allocation, tracking, holding, and transferring of SO<sub>2</sub> allowances.

Acid Rain, 40 CFR Part 75 (Monitoring Requirements) [Applicable]  
The facility shall comply with the emission monitoring and reporting requirements of this part.  
The facility installed a CEMS in accordance with 75.10(a) to monitor NO<sub>x</sub> emissions.

Acid Rain, 40 CFR Part 76 (NO<sub>x</sub> Requirements) [Not Applicable]  
This Part provides for NO<sub>x</sub> limitations and reductions for coal-fired utility units. Since the facility fires natural gas only, it is exempt.

Stratospheric Ozone Protection, 40 CFR Part 82 [Subparts A and F are Applicable]  
These standards require phase out of Class I & II substances, reductions of emissions of Class I & II substances to the lowest achievable level in all use sectors, and banning use of nonessential products containing ozone-depleting substances (Subparts A & C); control servicing of motor vehicle air conditioners (Subpart B); require Federal agencies to adopt procurement regulations which meet phase out requirements and which maximize the substitution of safe alternatives to Class I and Class II substances (Subpart D); require warning labels on products made with or containing Class I or II substances (Subpart E); maximize the use of recycling and recovery upon disposal (Subpart F); require producers to identify substitutes for ozone-depleting compounds under the Significant New Alternatives Program (Subpart G); and reduce the emissions of halons (Subpart H).

Subpart A identifies ozone-depleting substances and divides them into two classes. Class I controlled substances are divided into seven groups; the chemicals typically used by the manufacturing industry include carbon tetrachloride (Class I, Group IV) and methyl chloroform (Class I, Group V). A complete phase-out of production of Class I substances is required by January 1, 2000 (January 1, 2002, for methyl chloroform). Class II chemicals, which are hydrochlorofluorocarbons (HCFCs), are generally seen as interim substitutes for Class I CFCs. Class II substances consist of 33 HCFCs. A complete phase-out of Class II substances, scheduled in phases starting by 2002, is required by January 1, 2030.

Subpart F requires that any persons servicing, maintaining, or repairing appliances except for motor vehicle air conditioners; persons disposing of appliances, including motor vehicle air conditioners; refrigerant reclaimers, appliance owners, and manufacturers of appliances and recycling and recovery equipment comply with the standards for recycling and emissions reduction.

Conditions are included in the standard conditions of the permit to address the requirements specified at §82.156 for persons opening appliances for maintenance, service, repair, or disposal; §82.158 for equipment used during the maintenance, service, repair, or disposal of appliances; §82.161 for certification by an approved technician certification program of persons performing maintenance, service, repair, or disposal of appliances; §82.166 for recordkeeping; § 82.158 for leak repair requirements; and §82.166 for refrigerant purchase records for appliances normally containing 50 or more pounds of refrigerant.

Federal NO<sub>x</sub> and SO<sub>2</sub> Trading Programs, 40 CFR Part 97 [Subpart BBBB Applicable]  
Subpart BBBB, Transport Rule (TR) Ozone Season NO<sub>x</sub> Trading Program. The is subpart establishes allowance and monitoring provisions for the TR NO<sub>x</sub> Ozone Season Trading Program, under section 110 of the Clean Air Act and under a Federal Implementation Plan (FIP) codified as 40 CFR §52.38. The gas turbine is considered to be TR NO<sub>x</sub> Ozone Season units subject to the requirements of this subpart. Under this subpart, the permittee is required to designate an official

representative, monitor emissions, keep records, and make reports in accordance with §§97.530 through 97.535 and the monitoring program must comply with §§75.53, 75.62 and 75.73 or an alternative monitoring program must be requested and approved. TR NO<sub>x</sub> Ozone Season 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 §97.524(a) in an amount not less than the tons of total NO<sub>x</sub> emissions for the control period from all TR NO<sub>x</sub> Ozone Season units at the facility. The control period starts on May 1 of a calendar year, except as provided in §97.506(c)(3), and ends on September 30 of the same year. For the TR Ozone Season NO<sub>x</sub> 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 §97.506 if the permittee holds insufficient allowances at the completion of the allowance transfer deadline. The process of establishing an allowance account and requirements for administrating an account are included in §97.520. The recording of allowance allocations is described in §97.521. Submission and recording of allowance transfers is described in §§97.522 and 97.523. Compliance with ozone season emissions limitations and assurance provisions are described in §§97.524 and 97.525. Extra allowances may be banked (see §97.526) 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. The permit includes the requirement to comply with all applicable requirements of this subpart.

**SECTION X. COMPLIANCE**

The Specific Conditions of this permit contain various testing, monitoring, recordkeeping, and reporting requirements in order to document on-going compliance with emission limits. The specific method used to document compliance was based on the type of emission unit, the type of process equipment, the specific pollutants emitted, and the amount of permitted emissions taking into account other regulatory requirements that an emission unit may be subject to.

In addition to the permitting requirements, the following periodic inspections were conducted since issuance of the last Title V permit.

<b>Inspection Type</b>	<b>Date</b>	<b>Summary/Results</b>
NSPS Review	2/7/2018	No violation noted
NSPS Review	2/21/2019	No violation noted
NSPS Review	8/23/2019	No violation noted
NSPS Review	2/10/2020	No violation noted

There have been no other enforcement actions since issuance of the last Title V permit.

**SECTION XI. TIER CLASSIFICATION AND PUBLIC REVIEW**

This application has been determined to be **Tier II** based on the request for renewal of a Part 70 operating permit. Part 70 operating permit renewal fee of \$7,500 has been received.

The permittee has submitted an affidavit that they are not seeking a permit for land use or for any operation upon land owned by others without their knowledge. The affidavit certifies that the applicant owns the land.

The applicant published the “Notice of Filing a Tier II Application” in *The Ponca City News*, a daily newspaper printed in the City of Ponca City, Kay County, Oklahoma, on November 6, 2020. The notice stated that the application can be reviewed at the Ponca City Library, and also at the Air Quality Division’s main office in Oklahoma City. The information on all permit actions is available for review by the public in the Air Quality section of the DEQ web page at <https://www.deq.ok.gov>.

The applicant will publish the “Notice of Tier II Draft Permit” as a legal notice in a newspaper of general circulation in the area where the source is located. The notice of draft permit will state that the draft permit will be available for public review at a location in the county where the facility is located, and that the draft permit will also be available for public review at the Air Quality Division main office. The draft permit will be available for a 30-day public review period. The draft permit will also be available for public review on the Air Quality section of the DEQ web page at <https://www.deq.ok.gov>.

### **State Review**

The facility is located within 50 miles of the border with the state of Kansas. The state of Kansas will be notified of the draft permit.

### **EPA Review**

The applicant requested and was granted concurrent public and EPA review periods. The proposed permit will be sent to EPA for a 45-day review period.

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

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

## **SECTION XII. SUMMARY**

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

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

**Oklahoma Municipal Power Authority  
Charles D. Lamb Energy Center**

**Permit Number 2020-0434-TV**

The permittee is authorized to operate in conformity with the specifications submitted to the Air Quality Division (AQD) on October 26, 2020. The Evaluation Memorandum dated June 28, 2021, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain operating limitations or permit requirements. Continuing operations under this permit constitutes acceptance of, and consent to, the conditions contained herein.

1. Points of emissions and emissions limitations and standards for each point:

[OAC 252:100-8-6(a)(1)]

**EUG1- Siemens SGT6-2000E Gas Turbine**

**Permit Limit**

<b>Pollutant</b>	<b>(lb/hr)</b>	<b>(TPY)</b>	<b>lb/MMBTU</b>	<b>ppmvd<sup>2</sup></b>
NO <sub>x</sub>	261.1	137.2	0.2 <sup>1</sup>	15.0, 150.0 <sup>3</sup> , 96.0 <sup>4</sup>
CO	300.2	131.5	-	-
VOC	3.4	7.4	-	-
SO <sub>2</sub>	8.9	19.4	0.2 <sup>1</sup>	-

1. Three-hour average.
  2. Corrected to 15% O<sub>2</sub>. Rolling four-hour average.
  3. When the turbine is operating at less than 75% of peak load and below 30 MW.
  4. When the turbine is operating at less than 75% of peak load and above 30 MW.
2. The permittee shall be authorized to operate the turbine, continuously (24 hours per day, any day of the year). [OAC 252:100-8-6]
3. The turbine shall only be fired with pipeline-quality natural gas (contains 0.5 gr/100 scf or less total sulfur as defined under 40 CFR Part 72). Compliance can be shown by the following methods: for gaseous fuel, a current gas company bill, lab analysis, stain-tube analysis, gas contract, tariff sheet, or other approved methods. Compliance shall be demonstrated at least once a calendar year. [OAC 252:100-19] [OAC 252:100-31]
4. A serial number or another acceptable form of permanent (non-removable) identification shall be on the turbine. [OAC 252:100-8-6]
5. When monitoring shows concentrations or emissions in excess of the lb/hr, lb/mmbtu, or ppmvd limits of Specific Condition No. 1, the owner or operator shall comply with the provisions of OAC 252:100-9 for excess emissions. [OAC 252:100-9]

6. The facility is subject to the Acid Rain Program and shall comply with all applicable requirements including the following:
  - a. SO<sub>2</sub> actual emissions equal or less than allowances held.
  - b. Report quarterly emissions to EPA per 40 CFR Part 75.
  - c. Conduct RATA tests per 40 CFR Part 75.
  - d. Maintain a QA/QC plan for the monitoring system.
  
7. The permittee shall maintain records of operations as listed below. These records shall be maintained on site or at a local field office for at least five years after the date of recording and shall be provided to regulatory personnel upon request. [OAC 252:100-43]
  - a. For fuel(s) burned, the appropriate document(s) as described in Specific Condition No. 3.
  - b. RATA test results.
  - c. Records as required by NSPS Subpart KKKK.
  - d. Records as required by 40 CFR Part 75.
  
8. No later than 30 days after each anniversary date of the issuance of the original Title V permit (June 28, 2016), 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)]
  
9. The turbine is subject to the NSPS for Stationary Combustion Turbines 40 CFR Part 60, Subpart KKKK and shall comply with all applicable requirements including but not limited to: [40 CFR § 60.4300 to § 60.4420]
  - a. Introduction  
§60.4300 What is the purpose of this subpart?
  - b. Applicability  
§ 60.4305 Does this subpart apply to my stationary combustion turbine?
  - c. § 60.4310 What types of operations are exempt from these standards of performance?  
Emission Limits
  - d. § 60.4315 What pollutants are regulated by this subpart?
  - e. § 60.4320 What emission limits must I meet for nitrogen oxides (NO<sub>x</sub>)?
  - f. § 60.4325 What emission limits must I meet for NO<sub>x</sub> if my turbine burns both natural gas and distillate oil (or some other combination of fuels)?
  - g. § 60.4330 What emission limits must I meet for sulfur dioxide (SO<sub>2</sub>)?  
General Compliance Requirements
  - h. §60.4333 What are my general requirements for complying with this subpart?  
Monitoring
  - i. § 60.4335 How do I demonstrate compliance for NO<sub>x</sub> if I use water or steam injection?
  - j. § 60.4340 How do I demonstrate continuous compliance for NO<sub>x</sub> if I do not use water or steam injection?
  - k. § 60.4345 What are the requirements for the continuous emission monitoring system equipment, if I choose to use this option?

- l. § 60.4350 How do I use data from the continuous emission monitoring equipment to identify excess emissions?
- m. § 60.4355 How do I establish and document a proper parameter monitoring plan?
- n. § 60.4360 How do I determine the total sulfur content of the turbine's combustion fuel?
- o. § 60.4365 How can I be exempted from monitoring the total sulfur content of the fuel?
- p. § 60.4370 How often must I determine the sulfur content of the fuel?  
Reporting
- q. § 60.4375 What reports must I submit?
- r. § 60.4380 How are excess emissions and monitor downtime defined for NO<sub>x</sub>?
- s. § 60.4385 How are excess emissions and monitoring downtime defined for SO<sub>2</sub>?
- t. § 60.4390 What are my reporting requirements if I operate an emergency combustion turbine or a research and development turbine?
- u. § 60.4395 When must I submit my reports?  
Performance Tests
- v. § 60.4400 How do I conduct the initial and subsequent performance tests, regarding NO<sub>x</sub>?
- w. § 60.4410 How do I establish a valid parameter range if I have chosen to continuously monitor parameters?
- x. § 60.4415 How do I conduct the initial and subsequent performance tests for sulfur?  
Definitions
- y. § 60.4420 What definitions apply to this subpart?

10. The gas turbine is subject to the Transport Rule (TR) Ozone Season NO<sub>x</sub> Trading Program. The permittee shall comply with all applicable requirements including but not limited to:

[40 CFR §97.501 to §97.535]

- a. §97.501 Purpose.
- b. §97.502 Definitions.
- c. §97.503 Measurements, abbreviations, and acronyms.
- d. §97.504 Applicability.
- e. §97.505 Retired unit exemption.
- f. §97.506 Standard requirements.
- g. §97.507 Computation of time.
- h. §97.508 Administrative appeal procedures.
- i. §97.510 State NO<sub>x</sub> Ozone Season trading budgets, new unit set-asides, Indian country new unit set-aside, and variability limits.
- j. §97.511 Timing requirements for TR NO<sub>x</sub> Ozone Season allowance allocations.
- k. §97.512 TR NO<sub>x</sub> Ozone Season allowance allocations to new units.
- l. §97.513 Authorization of designated representative and alternate designated representative.
- m. §97.514 Responsibilities of designated representative and alternate designated representative.
- n. §97.515 Changing designated representative and alternate designated representative; changes in owners and operators; changes in units at the source.
- o. §97.516 Certificate of representation.



- p. §97.517 Objections concerning designated representative and alternate designated representative.
- q. §97.518 Delegation by designated representative and alternate designated representative.
- r. §97.520 Establishment of compliance accounts, assurance accounts, and general accounts.
- s. §97.521 Recordation of TR NO<sub>x</sub> Ozone Season allowance allocations and auction results.
- t. §97.522 Submission of TR NO<sub>x</sub> Ozone Season allowance transfers.
- u. §97.523 Recordation of TR NO<sub>x</sub> Ozone Season allowance transfers.
- v. §97.524 Compliance with TR NO<sub>x</sub> Ozone Season emissions limitation.
- w. §97.525 Compliance with TR NO<sub>x</sub> Ozone Season assurance provisions.
- x. §97.526 Banking.
- y. §97.527 Account error.
- z. §97.528 Administrator's action on submissions.
- aa. §97.530 General monitoring, recordkeeping, and reporting requirements.
- bb. §97.531 Initial monitoring system certification and recertification procedures.
- cc. §97.532 Monitoring system out-of-control periods.
- dd. §97.533 Notifications concerning monitoring.
- ee. §97.534 Recordkeeping and reporting.
- ff. §97.535 Petitions for alternatives to monitoring, recordkeeping, or reporting requirements.

11. At least once during the term of the Title V operating permit, the permittee shall conduct performance testing and submit a written report of results on the turbine.

A. Performance testing by the permittee shall use the following test methods specified in 40 CFR 60.

Method 1: Sample and Velocity Traverses for Stationary Sources.

Method 2: Determination of Stack Gas Velocity and Volumetric Flow Rate.

Method 3: Gas Analysis for Carbon Dioxide, Excess Air, and Dry Molecular Weight.

Method 4: Determination of Moisture in Stack Gases.

Method 10: Determination of CO Emissions from Stationary Sources.

B. A copy of the test plan shall be provided to AQD at least 30 days prior to each test date.

C. Performance testing shall be conducted while the turbine is operating within 10% of the rated capacity.

12. This permit supersedes all previous Air Quality operating permits for this facility, except Acid Rain Permit No. 2020-0433-ARR, which are now cancelled.



SCOTT A. THOMPSON  
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

KEVIN STITT  
Governor

Michael Watt, P.E., Environmental Engineer  
Oklahoma Municipal Power Authority  
P.O. Box 1960  
Edmond, OK 73083

Re: Title V Operating Permit Renewal No. **2020-0434-TVR**  
Charles D. Lamb Energy Center  
Facility ID: 10350  
Section 18, Township 27N, Range 2E, Kay County, Oklahoma  
Physical Address: 4250 W. Doolin Avenue, Ponca City, OK 74601

Dear Mr. Watt:

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.

Thank you for your cooperation. If you have any questions, please refer to the permit number above and contact me at (405) 702-4100 or the permit writer, Jian Yue, at (405) 702-4205.

Sincerely,

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

Enclosures





SCOTT A. THOMPSON  
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

KEVIN STITT  
Governor

Kansas Department of Health & Environmental Bureau of Air  
1000 SW Jackson, Ste 310  
Topeka, Kansas 66612-1366

**SUBJECT:** Title V Operating Permit Renewal No. **2020-0434-TVR**  
Oklahoma Municipal Power Authority  
Charles D. Lamb Energy Center (SIC 4911)  
Facility ID: 10350  
Section 18, Township 27N, Range 2E, Kay County, Oklahoma  
Physical Address: 4250 W. Doolin Avenue, Ponca City, OK 74601

Dear Sir / Madame:

The subject facility has requested a Title V Operating Permit Renewal. Air Quality Division has completed the initial review of the application and prepared a draft permit for public review. Since this facility is within 50 miles of the Oklahoma - Kansas border, a copy of the draft permit will be provided to you upon request. Information on all permit and a copy of this draft permit are available for review by the public in the Air Quality Section of DEQ Web Page: <https://www.deq.ok.gov>.

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

Sincerely,

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





SCOTT A. THOMPSON  
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

KEVIN STITT  
Governor

Michael Watt, P.E., Environmental Engineer  
Oklahoma Municipal Power Authority  
P.O. Box 1960  
Edmond, OK 73083

Re: Title V Operating Permit Renewal No. **2020-0434-TVR**  
Charles D. Lamb Energy Center  
Facility ID: 10350  
Section 18, Township 27N, Range 2E, Kay County, Oklahoma  
Physical Address: 4250 W. Doolin Avenue, Ponca City, OK 74601

Dear Mr. Watt:

Enclosed is the Title V permit authorizing operation of the referenced facility. Please note that this permit is issued subject to certain standard and specific conditions that 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 emission inventory for this facility. An emission inventory must be completed through DEQ's electronic reporting system by April 1<sup>st</sup> of every year. Any questions concerning the form or submittal process should be referred to the Emission Inventory Staff at (405) 702-4100.

Thank you for your cooperation in this matter. If we may be of further service, please contact our office at (405) 702-4100.

Sincerely,

**DRAFT/PROPOSED**

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

Enclosures





# PART 70 PERMIT

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

Permit No. 2020-0434-TVR

Oklahoma Municipal Power Authority,

having complied with the requirements of the law, is hereby granted permission to operate within the boundaries of the Charles D. Lamb Energy Center located on 4250 W. Doolin Avenue, Ponca City, OK 74601, subject to standard conditions dated June 21, 2016, and specific conditions, both attached.

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

DRAFT/PROPOSED

\_\_\_\_\_  
Division Director

Air Quality Division

\_\_\_\_\_  
Date

# **NOTICE OF DRAFT PERMIT TIER II or TIER III AIR QUALITY PERMIT APPLICATION**

## **APPLICANT RESPONSIBILITIES**

Permit applicants are required to give public notice that a Tier II or Tier III draft permit has been prepared by DEQ. The notice must be published in one newspaper local to the site or facility. Upon publication, a signed affidavit of publication must be obtained from the newspaper and sent to AQD. Note that if either the applicant or the public requests a public meeting, this must be arranged through the Customer Services Division of the DEQ.

## **REQUIRED CONTENT** (27A O.S. § 2-14-302 and OAC 252:4-7-13(c))

1. A statement that a Tier II or Tier III draft permit has been prepared by DEQ;
2. Name and address of the applicant;
3. Name, address, driving directions, legal description and county of the site or facility;
4. The type of permit or permit action being sought;
5. A description of activities to be regulated, including an estimate of emissions from the facility;
6. Location(s) where the application and draft permit may be reviewed (a location in the county where the site/facility is located must be included);
7. Name, address, and telephone number of the applicant and DEQ contacts;
8. Any additional information required by DEQ rules or deemed relevant by applicant;
9. A 30-day opportunity to request a formal public meeting on the draft permit.

**SAMPLE NOTICE on page 2.**

**SAMPLE NOTICE** (*Italicized print is to be filled in by the applicant.*):

**DEQ NOTICE OF TIER ...II or III... DRAFT PERMIT**

**A Tier ...II or III... application for an air quality ...type of permit or permit action being sought (e.g., Construction Permit for a Major Facility)... has been filed with the Oklahoma Department of Environmental Quality (DEQ) by applicant, ...name and address.**

**The applicant requests approval to ...brief description of purpose of application... at the ...site/facility name ... [proposed to be] located at ...physical address (if any), driving directions, and legal description including county....**

**In response to the application, DEQ has prepared a draft permit [modification] (Permit Number: ...xxxx-xxxx-x...), which may be reviewed at ...locations (one must be in the county where the site/facility is located)... or at the Air Quality Division's main office (see address below). The draft permit is also available for review in the Air Quality Section of DEQ's Web Page: <http://www.deq.ok.gov/>**

**This draft permit would authorize the facility to emit the following regulated pollutants: (list each pollutant and amounts in tons per year (TPY))**

**The public comment period ends 30 days after the date of publication of this notice. Any person may submit written comments concerning the draft permit to the Air Quality Division contact listed below. [Modifications only, add: Only those issues relevant to the proposed modification(s) are open for comment.] A public meeting on the draft permit [modification] may also be requested in writing at the same address. Note that all public meetings are to be arranged and conducted by DEQ staff.**

**In addition to the public comment opportunity offered under this notice, this draft permit is subject to U.S. Environmental Protection Agency (EPA) review, EPA objection, and petition to EPA, as provided by 40 CFR § 70.8. [For Construction Permits, add: The requirements of the construction permit will be incorporated into the Title V permit through the administrative amendment process. Therefore, no additional opportunity to provide comments or EPA review, EPA objection, and petitions to EPA will be available to the public when requirements from the construction permit are incorporated into the Title V permit.]**

**If the Administrator (EPA) does not object to the proposed permit, the public has 60 days following the Administrator's 45 day review period to petition the Administrator to make such an objection as provided in 40 CFR 70.8(d) and in OAC 252:100-8-8(j). Information on all permit actions and applicable review time lines is available in the Air Quality section of the DEQ Web page: <http://www.deq.ok.gov/>.**

**For additional information, contact ...names, addresses and telephone numbers of contact persons for the applicant, or contact DEQ at: Chief Engineer, Permits & Engineering Group, Air Quality Division, 707 N. Robinson, Suite 4100, P.O. Box 1677, Oklahoma City, OK, 73101-1677. Phone No. (405) 702-4100.**

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

<b>ACFM</b>	Actual Cubic Feet per Minute	<b>H<sub>2</sub>CO</b>	Formaldehyde
<b>AD</b>	Applicability Determination	<b>H<sub>2</sub>S</b>	Hydrogen Sulfide
<b>AFRC</b>	Air-to-Fuel Ratio Controller	<b>HAP</b>	Hazardous Air Pollutants
<b>API</b>	American Petroleum Institute	<b>HC</b>	Hydrocarbon
<b>ASTM</b>	American Society for Testing and Materials	<b>HCFC</b>	Hydrochlorofluorocarbon
		<b>HFR</b>	Horizontal Fixed Roof
<b>BACT</b>	Best Available Control Technology	<b>HON</b>	Hazardous Organic NESHAP
<b>BAE</b>	Baseline Actual Emissions	<b>HP</b>	Horsepower (hp)
<b>BHP</b>	Brake Horsepower (bhp)	<b>HR</b>	Hour (hr)
<b>BTU</b>	British thermal unit (Btu)	<b>I&amp;M</b>	Inspection and Maintenance
		<b>IBR</b>	Incorporation by Reference
<b>C&amp;E</b>	Compliance and Enforcement	<b>ICE</b>	Internal Combustion Engine
<b>CAA</b>	Clean Air Act		
<b>CAM</b>	Compliance Assurance Monitoring	<b>LAER</b>	Lowest Achievable Emission Rate
<b>CAS</b>	Chemical Abstract Service	<b>LB</b>	Pound(s) [Mass] (lb, lbs, lbm)
<b>CAAA</b>	Clean Air Act Amendments	<b>LB/HR</b>	Pound(s) per Hour (lb/hr)
<b>CC</b>	Catalytic Converter	<b>LDAR</b>	Leak Detection and Repair
<b>CCR</b>	Continuous Catalyst Regeneration	<b>LNG</b>	Liquefied Natural Gas
<b>CD</b>	Consent Decree	<b>LT</b>	Long Ton(s) (metric)
<b>CEM</b>	Continuous Emission Monitor		
<b>CFC</b>	Chlorofluorocarbon	<b>M</b>	Thousand (Roman Numeral)
<b>CFR</b>	Code of Federal Regulations	<b>MAAC</b>	Maximum Acceptable Ambient Concentration
<b>CI</b>	Compression Ignition	<b>MACT</b>	Maximum Achievable Control Technology
<b>CNG</b>	Compressed Natural Gas	<b>MM</b>	Prefix used for Million (Thousand-Thousand)
<b>CO</b>	Carbon Monoxide or Consent Order	<b>MMBTU</b>	Million British Thermal Units (MMBtu)
<b>COA</b>	Capable of Accommodating	<b>MMBTUH</b>	Million British Thermal Units per Hour (MMBtu/hr)
<b>COM</b>	Continuous Opacity Monitor	<b>MMSCF</b>	Million Standard Cubic Feet (MMscf)
<b>D</b>	Day	<b>MMSCFD</b>	Million Standard Cubic Feet per Day
<b>DEF</b>	Diesel Exhaust Fluid	<b>MSDS</b>	Material Safety Data Sheet
<b>DG</b>	Demand Growth	<b>MWC</b>	Municipal Waste Combustor
<b>DSCF</b>	Dry Standard (At Standard Conditions) Cubic Foot (Feet)	<b>MWe</b>	Megawatt Electrical
<b>EGU</b>	Electric Generating Unit	<b>NA</b>	Nonattainment
<b>EI</b>	Emissions Inventory	<b>NAAQS</b>	National Ambient Air Quality Standards
<b>EPA</b>	Environmental Protection Agency	<b>NAICS</b>	North American Industry Classification System
<b>ESP</b>	Electrostatic Precipitator	<b>NESHAP</b>	National Emission Standards for Hazardous Air Pollutants
<b>EUG</b>	Emissions Unit Group	<b>NH<sub>3</sub></b>	Ammonia
<b>EUSGU</b>	Electric Utility Steam Generating Unit	<b>NMHC</b>	Non-methane Hydrocarbon
<b>FCE</b>	Full Compliance Evaluation	<b>NGL</b>	Natural Gas Liquids
<b>FCCU</b>	Fluid Catalytic Cracking Unit	<b>NO<sub>2</sub></b>	Nitrogen Dioxide
<b>FIP</b>	Federal Implementation Plan	<b>NO<sub>x</sub></b>	Nitrogen Oxides
<b>FR</b>	Federal Register	<b>NOI</b>	Notice of Intent
<b>GACT</b>	Generally Achievable Control Technology	<b>NSCR</b>	Non-Selective Catalytic Reduction
<b>GAL</b>	Gallon (gal)	<b>NSPS</b>	New Source Performance Standards
<b>GDF</b>	Gasoline Dispensing Facility	<b>NSR</b>	New Source Review
<b>GEP</b>	Good Engineering Practice		
<b>GHG</b>	Greenhouse Gases		
<b>GR</b>	Grain(s) (gr)		



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