

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

MEMORANDUM

June 10, 2022

TO: Lee Warden, P.E., Permits and Engineering Group Manager

THROUGH: Richard Kienlen, P.E., Engineering Manager, New Source Permits Section

THROUGH: Ryan Buntyn, P.E., New Source Permits Section

FROM: Junru Wang, E.I., Existing Source Permits Section

SUBJECT: Evaluation of Permit Application No. **2020-0318-O (M-1)**
ScissorTail Energy, LLC
Cable Compressor Station (SIC 1311/NAICS 211130)
Facility ID: 9734
Latitude: 35.07395°N, Longitude: 95.47442°W
Section 14, Township 7N, Range 17E, Pittsburg County, Oklahoma
Directions: From the intersection of Hwy. 31 and E1350 Rd. (Blocker Rd.)
near Blocker, OK, go 4.5 miles east on E1350 Rd., go north 1 mile on N423
Rd., go east 0.9 miles on E134 Rd., and north into the facility.

SECTION I. INTRODUCTION

ScissorTail Energy, LLC (ScissorTail or the applicant) has requested a modified individual minor source operating permit for their Cable Compressor Station in Pittsburg County, Oklahoma. The facility is currently operating under individual minor source Operating Permit No. 2018-0110-O (M-1), issued on January 10, 2020, General Permit for Oil and Gas Facilities (GP-OGF) NOI to Construct Authorization No. 2020-0318-NOI, received and issued on July 17, 2020, and GP-OGF NOI to Construct Authorization No. 2020-0318-NOI (M-1), received and issued on March 21, 2022. This permit will incorporate the new units whose construction was authorized by Authorization Nos. 2020-0318-NOI and 2020-0318-NOI (M-1). In addition, the following modifications were incorporated into the permit:

- Tank calculations are updated based on the latest AP-42 (6/20), Section 7.1 equations. In addition, the condensate tanks (T-1 and T-2) have been changed to produced water tanks since condensate was never produced at the facility.
- Condensate Loadout (L-1) was removed from the permit.
- Dehy (D-1) emission calculations are updated. The dehy operates with a fugitive gas recovery unit with a 100% control efficiency for the recovery of flash tank emissions.
- Fugitive emission calculations are updated.

Based on data provided by the applicant, the facility has controlled emissions of 93.87 TPY NO_x, 64.28 TPY CO, 79.15TPY VOC, and 7.63 TPY HAPs, the most significant being 7.52 TPY H₂CO.

This facility, therefore, qualifies for a “synthetic minor” permit because the controlled emissions of each of the criteria pollutants are below the major source threshold of 100 TPY and the HAP emissions are below the 10 TPY threshold for a single HAP and below the 25 TPY threshold for any combination of HAPs. On issuance, this permit will be a FESOP.

SECTION II. FACILITY DESCRIPTION

Natural gas enters the facility via a pipeline gathering system through an inlet separator. The gas stream is then compressed by engine driven compressors. After the inlet gas passes through the compressors, it is then routed to the amine unit for removal of CO₂. The gas then leaves the amine system and goes through the dehydration unit. Liquids from the inlet separator are stored in the produced water/slop oil tanks. The produced water/slop oil is then loaded into tank trucks and removed from the site.

SECTION III. EQUIPMENT

The following is a list of current equipment.

Point	Equipment Type	Size/Rating	Serial #	Manufacture Date
C-13/335	Waukesha 7044GSI Engine ⁽¹⁾	1,680-HP	5283703634	2014
C-12/299	Caterpillar G3516TALE Engine ⁽²⁾	1,340-HP	WPW00987	6/07/2007
C-9/369	Waukesha 7044GSI Engine ⁽¹⁾	1,680-HP	5283704392	12/22/2014
C-10/374	Waukesha 7044GSI Engine ⁽¹⁾	1,680-HP	3283701334	2/2011
C-11/354	Caterpillar G3516 TALE Engine ⁽²⁾	1,340-HP	WPW00979	6/05/2007
C-8/060	Caterpillar G3516B Engine ⁽²⁾	1,380-HP	JEF03156	2014
A-1	Amine Unit	60-MMSCFD	-	2015
D-1	Dehydrator	60-MMSCFD	-	-
H-1	Glycol Reboiler	1.5-MMBTUH	-	-
H-2	Amine Reboiler	21-MMBTUH	-	-
T-1	Produced Water Tank	300-bbl	-	2015
T-2	Produced Water Tank	300-bbl	-	2015
T-3	Produced Water/Slop Oil Tank	154-bbl	-	2015
LOAD-2	Produced Water/Slop Oil Loadout	-	-	-
FUG-1	Fugitive Emissions	-	-	-

⁽¹⁾ Equipped with NSCR.

⁽²⁾ Equipped with OC.

SECTION IV. FACILITY-SPECIFIC OR REPRESENTATIVE SAMPLE

The applicant did not request any emission changes for the amine unit; therefore, no facility-specific or representative sample is needed for this unit.

TANKS

The flash emissions for the storage tanks were not calculated using a process simulation; therefore, no facility-specific or representative sample is needed for these units. The applicant used Vasquez-Beggs method to calculate the produced water/slop oil (T-1 through T-3) flash emissions.

DEHYDRATION UNIT

Glycol Dehydrator Considerations	Yes	No
The facility submitted a facility-specific extended gas analysis of the inlet gas.	X	
The sample was no older than three (3) calendar years at the time of submittal.	X	

FUGITIVES

Natural Gas Compressor Station (Transmission) Fugitive Considerations	Yes	No
The facility submitted a facility-specific sample of the inlet gas or sales gas.	X	
The facility submitted a representative facility sample of the inlet gas or sales gas from a representative facility that is upstream on the same pipeline from the actual facility.		X
The facility did not submit a liquid sample and assumed 100% VOC content for the liquid service components.	X	
The facility submitted a facility-specific sample of the VOC containing liquid.		X
The sample was no older than three (3) calendar years at the time of submittal.	X	

SECTION V. EMISSIONS

Unless otherwise stated, emissions are based on 8,760 hours per year of operation with combustion sources firing field-grade natural gas.

ENGINES

Emissions from C-13/335, C-9/369, and C-10/374 are based on the post-control manufacturer data with safety factor for NO_x, CO, and VOC. H₂CO emissions for C-13/335, C-9/369, and C-10/374 and NO_x emissions for C-12/299 and C-11/354 are based on the manufacturer data. Emissions from C-12/299, C-11/354, and C-8/060 are based on the manufacturer data plus the reductions from the OC for CO, VOC, and H₂CO. NO_x emissions for C-8/060 are based on the NSPS Subpart JJJJ testing results with safety factor.

Engine Emission Reduction Factors

Point	NO_x (Reduction %)	CO (Reduction %)	VOC (Reduction %)	H₂CO (Reduction %)
C-13/335, C-9/369, and C-10/374	95.04 ⁽¹⁾	94.11	88.57 Safety Factor ⁽²⁾	-

Point	NO _x (Reduction %)	CO (Reduction %)	VOC (Reduction %)	H ₂ CO (Reduction %)
C-12/299 and C-11/354	-	75	65	75
C-8/060	JJJJ Testing w/Safety Factor	70	35	35

(1) Based on 96.24% reduction from the NSCR with a 32% safety factor (1+32%).

(2) Based on 48.57% reduction from the NSCR with a 233% safety factor (1+233%).

Engine Emission Factors

Point	NO _x (g/hp-hr)	CO (g/hp-hr)	VOC (g/hp-hr)	H ₂ CO (g/hp-hr)
C-13/335	0.66	0.66	0.60	0.05
C-12/299	1.50	0.475	0.35	0.0625
C-9/369	0.66	0.66	0.60	0.05
C-10/374	0.66	0.66	0.60	0.05
C-11/354	1.50	0.475	0.35	0.0625
C-8/060	0.95	0.843	0.65	0.26

Engine Emissions

Point	NO _x		CO		VOC ⁽¹⁾		H ₂ CO	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
C-13/335	2.44	10.71	2.44	10.71	2.41	10.55	0.19	0.81
C-12/299	4.43	19.41	1.40	6.15	1.22	5.34	0.19	0.81
C-9/369	2.44	10.71	2.44	10.71	2.41	10.55	0.19	0.81
C-10/374	2.44	10.71	2.44	10.71	2.41	10.55	0.19	0.81
C-11/354	4.43	19.41	1.40	6.15	1.22	5.34	0.19	0.81
C-8/060	2.89	12.66	2.57	11.23	2.77	12.13	0.79	3.47

(1) Includes H₂CO.

AMINE UNIT

The amine still vent emissions are based on ProMax using a natural gas throughput of 60-MMSCFD, an inlet gas analysis, and continuous operation. The applicant has assumed a concentration of H₂S of 4 ppmv and 100% of the H₂S is emitted from the amine still vent. The amine unit pump rate is 300-gpm with a safety factor. The unit's flash tank off-gases are vented to the atmosphere.

Amine Unit Emissions

Parameter	Data
Type of Amine	MDEA
Dry Gas Flow Rate, MMSCFD	60
Inlet Gas H ₂ S Concentration, ppmv	4
Outlet Gas H ₂ S Concentration, ppmv	0

Parameter	Data
Lean Amine Recirculation Rate Input, gpm	300
Flash Tank Temperature, °F	108
Flash Tank Pressure, psig	64
Regenerator Vent	
Control	None
H ₂ S Emissions, lb/hr	<0.01
SO ₂ Emissions, lb/hr	<0.01
Flash Tank	
Control Type or Recycle	None
H ₂ S Emissions, lb/hr	<0.01
SO ₂ Emissions, lb/hr	<0.01
VOC, lb/hr	0.46
VOC, TPY	2.01
Total HAPs, TPY	<0.01
H ₂ S Emissions, lb/hr	<0.01
SO ₂ Emissions, lb/hr	<0.01

GLYCOL DEHYDRATION UNIT

Emissions from the glycol dehydration unit (D-1) were estimated using GRI-GLYCalc 4.0, an extended gas analysis, a maximum gas throughput of 60.0-MMSCFD, a maximum glycol circulation rate of 10.0-gpm, a flash tank temperature of 100°F, and continuous operation. Emissions from the TEG dehydration unit's still vent are uncontrolled. The unit's flash tank off-gas is recycled using the fugitive gas recovery unit with a 100% control efficiency.

Glycol Dehydrator Emissions

Parameter	Data
Type of Glycol	Triethylene
Gas Flow Rate, MMSCFD	60.0
Lean Glycol Circulation Rate Input, gpm	10.0
Regenerator Vent	
Control Type or Recycle	None
VOC Emissions, TPY	0.05
Flash Tank	
Flash Tank Temperature, °F	100
Flash Tank Pressure, psig	50
Control Type or Recycle	Recycle/Recompression
Overall Control Efficiency, %	100
VOC Emissions, TPY	0.18
Total Emissions, TPY	
VOC	0.10 ⁽¹⁾
Benzene	-
Toluene	-
Ethylbenzene	-
Xylene	-

Parameter	Data
n-Hexane	-
Total HAPs	-

⁽¹⁾ Includes 100% safety factor (1+100%).

REBOILERS

Emissions for the dehydration and amine reboilers are based on AP-42 (7/98), Section 1.4 and the ratings shown in the following table.

Reboiler Emission Factors

Point	NO _x (lb/MMSCF)	CO (lb/MMSCF)	VOC (lb/MMSCF)
H-1 – 1.5-MMBTUH ⁽¹⁾	100	84	5.5
H-2 – 21.0-MMBTUH ⁽¹⁾	100	84	5.5

⁽¹⁾ Higher heater value is 960-BTU/SCF.

Reboiler Emissions

Point	NO _x		CO		VOC	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
H-1	0.16	0.68	0.13	0.57	0.01	0.04
H-2	2.19	9.58	1.84	8.05	0.12	0.53

TANKS

Estimated emissions of working and breathing losses for the storage tanks (T-1 through T-3) are based on AP-42 (6/20), Section 7.1. Flash emissions for T-1 through T-3 were calculated using the Vasquez-Beggs Solution Gas/Oil Ratio Correlation Method and the listed throughput. Flash emissions at the storage tank result as liquids under pressure enter the tank at atmospheric pressure. To be conservative, flash emissions from the produced water and produced water/slop oil tanks were calculated based on 1% of the liquids as condensate. Emissions from the storage tanks are uncontrolled.

Vasquez-Beggs Inputs

Parameter	T-1 through T-3, total
API Gravity	70
Separator Pressure, psig	35
Separator Temperature, °F	60
Stock Tank Barrels of Oil Per Day, BOPD	47.29
Gas Molecular Weight, lb/lb-mol	60
Separator Gas Specific Gravity	0.9
Fraction VOC in Tank Gas	0.8
Atmospheric Pressure, psia	14.7

Storage Tank Emissions

Parameter	T-1 and T-2, per tank	T-3
Throughput, gal/yr	290,000	145,000
Content	Produced Water	Produced Water/Slop Oil
Flash Calculation Method/Tool	Vasquez-Beggs	Vasquez-Beggs
Working/Breathing Method/Tool	AP-42 (6/20), Section 7.1	AP-42 (6/20), Section 7.1
Control Type	None	None
VOC Emissions, TPY	2.34	1.24

LOADING

Emissions from loading produced water/slop oil into tank trucks were estimated using AP-42 (6/08), Section 5.2, Equation 1, and the parameters listed in the table below. To be conservative, emissions from the produced water/slop oil loadout were calculated using 100% of the condensate properties.

Loading Parameters and Emissions

Parameter	LOAD-2
Liquids Loaded	Produced Water/Slop Oil
Throughput, gal/yr	725,000
Saturation Factor	0.6
Temp., °F	85.0
TVP, psia	8.30
MW, lb/lbmol	60
VOC, wt. %	100
Emission Factor, lb/10 ³ gal	6.83
VOC Emissions, TPY	2.48

FUGITIVES

Emissions from fugitive equipment leaks (FUG-1) are based on EPA's "Protocol for Equipment Leak Emission Estimates" (11/95, EPA-453/R-95-017), an estimated number of components, and the VOC (C₃₊) content of the materials handled.

Fugitive Emissions

Point	VOC, lb/hr	VOC, TPY
FUG-1	3.11	13.61

FACILITY-WIDE EMISSIONS

Point	Source	NO _x		CO		VOC	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
C-13/335	1,680-HP Waukesha 7044GSI Engine ⁽¹⁾	2.44	10.71	2.44	10.71	2.41 ⁽²⁾	10.55 ⁽²⁾
C-12/299	1,340-HP Caterpillar G3516TALE Engine ⁽³⁾	4.43	19.41	1.40	6.15	1.22 ⁽²⁾	5.34 ⁽²⁾
C-9/369	1,680-HP Waukesha 7044GSI Engine ⁽¹⁾	2.44	10.71	2.44	10.71	2.41 ⁽²⁾	10.55 ⁽²⁾

Point	Source	NO _x		CO		VOC	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
C-10/374	1,680-HP Waukesha 7044GSI Engine ⁽¹⁾	2.44	10.71	2.44	10.71	2.41 ⁽²⁾	10.55 ⁽²⁾
C-11/354	1,340-HP Caterpillar G3516 TALE Engine ⁽³⁾	4.43	19.41	1.40	6.15	1.22 ⁽²⁾	5.34 ⁽²⁾
C-8/060	1,380-HP Caterpillar G3516B Engine ⁽³⁾	2.89	12.66	2.57	11.23	2.77 ⁽²⁾	12.13 ⁽²⁾
A-1	60.0-MMSCFD Amine Unit	-	-	-	-	0.46	2.01
D-1	60.0-MMSCFD Dehydrator	-	-	-	-	-	0.10
H-1	1.5-MMBTUH Glycol Reboiler	0.16	0.68	0.13	0.57	0.01	0.04
H-2	21.0-MMBTUH Amine Reboiler	2.19	9.58	1.84	8.05	0.12	0.53
T-1	300-bbl Produced Water Tank	-	-	-	-	-	5.92
T-2	300-bbl Produced Water Tank	-	-	-	-	-	
T-3	154-bbl Produced Water/Slop Oil Tank	-	-	-	-	-	
L-2	Produced Water/Slop Oil Loadout	-	-	-	-	-	2.48
FUG-1	Fugitive Emissions	-	-	-	-	3.11	13.61
Total Emissions		21.42	93.87	14.66	64.28	16.14	79.15
Previous Emissions (Permit No. 2020-0318-O)		15.81	69.25	13.33	58.43	10.76	60.96
Change in Emissions		5.61	24.62	1.33	5.85	5.38	18.19

⁽¹⁾ Equipped with NSCR.

⁽²⁾ Includes H₂CO.

⁽³⁾ Equipped with OC.

HAP EMISSIONS

The internal combustion engines have emissions of HAP, the most significant being H₂CO. H₂CO emissions for the six (6) compressor engines were calculated based on the manufacturer data. The following table lists estimated H₂CO emissions for the compressor engines.

Estimated H₂CO Emissions

Sources		Formaldehyde	
		lb/hr	TPY
C-13/335	1,680-HP Waukesha 7044GSI Engine ⁽¹⁾	0.19	0.81
C-12/299	1,340-HP Caterpillar G3516 TALE Engine ⁽²⁾	0.19	0.81
C-9/369	1,680-HP Waukesha 7044GSI Engine ⁽¹⁾	0.19	0.81
C-10/374	1,680-HP Waukesha 7044GSI Engine ⁽¹⁾	0.19	0.81
C-11/354	1,340-HP Caterpillar G3516 TALE Engine ⁽²⁾	0.19	0.81
C-8/060	1,380-HP Caterpillar G3516B Engine ⁽²⁾	0.79	3.47
Total Emissions		1.74	7.52

⁽¹⁾ Equipped with NSCR.

⁽²⁾ Equipped with OC.

The total HAP emissions at the facility are 7.52 TPY. Emissions of each HAP are less than 10 TPY, and total HAP emissions are less than 25 TPY. Therefore, the facility is an area source of HAP emissions.

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, Emission Inventory, and Annual Fees) [Applicable]
The owner or operator of any facility that is a source of air emissions shall submit a complete emission inventory annually on forms obtained from the Air Quality Division. Required annual information (Turn-Around Document) shall be provided to Air Quality.

OAC 252:100-7 (Permits for Minor Facilities) [Applicable]
Subchapter 7 sets forth the permit application fees and the basic substantive requirements of permits for minor facilities. Since controlled criteria pollutant emissions are less than 100 TPY for each pollutant, and emissions of HAP will not exceed 10 TPY for any one HAP or 25 TPY for any aggregate of HAP, the facility is defined as a “synthetic minor” source.

OAC 252:100-9 (Excess Emission Reporting Requirement) [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, and 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 engines and boilers are subject to the requirements of this subchapter. OAC 252:100, Appendix C specifies a PM emission limitation

of 0.60 lb/MMBTU for all equipment at this facility with a heat input rating of 10 MMBTUH or less. Table 3.2-3 of AP-42 (7/00) lists the total PM emissions from 4-stroke, rich-burn, natural gas-fired engines to be 0.02 lb/MMBTU. Table 3.2-2 of AP-42 (7/00) lists the total PM emissions from 4-stroke, lean-burn, natural gas-fired engines to be 0.01 lb/MMBTU. Table 1.4-2 of AP-42 (7/98) lists the total PM emissions for natural gas-fired heaters to be 7.6 lb/MMft³ or about 0.0075 lb/MMBTU. This permit requires the use of natural gas for all fuel-burning equipment to ensure compliance with Subchapter 19.

Point	Equipment	Maximum Heat Input (MMBTUH)	Emissions (lb/MMBTU)	
			Appendix C	Potential
C-13/335	1,680-HP Waukesha 7044GSI Engine	13.79	0.56	0.02
C-12/299	1,340-HP Caterpillar G3516TALE Engine	10.53	0.57	0.01
C-9/369	1,680-HP Waukesha 7044GSI Engine	13.79	0.56	0.02
C-10/374	1,680-HP Waukesha 7044GSI Engine	13.79	0.56	0.02
C-11/354	1,340-HP Caterpillar G3516 TALE Engine	10.53	0.57	0.01
C-8/060	1,380-HP Caterpillar G3516B Engine	10.50	0.57	0.01
H-1	Glycol Reboiler	1.50	0.60	<0.01
H-2	Amine Reboiler	21.00	0.48	<0.01

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 Particulate Matter) [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 permit will require that any on-site equipment be fueled only with natural gas to ensure compliance with this requirement.

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 will not cause a problem in this area; therefore it is not necessary to require specific precautions to be taken.

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

Part 2 limits the ambient air concentration of H₂S emissions from any facility to 0.2 ppmv (24-hour average) at standard conditions which is equivalent to 283 µg/m³. Based on modeling conducted for the general permit for oil and gas facilities, a single uncontrolled amine unit (still vent routed to the atmosphere) treating “sweet” (<4 ppmv H₂S) natural gas at a minor facility will be in compliance with the H₂S ambient air concentration limit. Also, since the ambient impacts of

H₂S from the engines, heaters, and boilers is so low, and there are no significant emissions of H₂S from the condensate or “sweet” crude oil storage, the facility as a whole would be in compliance with the H₂S ambient air concentration limit.

Part 5 limits sulfur dioxide emissions from new petroleum or natural gas process equipment (constructed after July 1, 1972). For gaseous fuels, the limit is 0.2 lb/MMBTU heat input averaged over 3 hours. For fuel gas having a gross calorific value of 1,000 BTU/SCF, this limit corresponds to fuel sulfur content of 1,203 ppmv. Gas produced from oil and gas wells having 162 ppmv or less total sulfur will ensure compliance with Subchapter 31. The permit requires the use of pipeline-grade natural gas or field gas with a maximum sulfur content of 162 ppmv for all fuel-burning equipment to ensure compliance with Subchapter 31.

OAC 252:100-33 (Nitrogen Oxides)

[Not Applicable]

This subchapter limits new gas-fired fuel-burning equipment with rated heat input greater than or equal to 50 MMBTUH to emissions of 0.2 lb of NO_x per MMBTU. There are no equipment items that exceed the 50 MMBTUH threshold.

OAC 252:100-35 (Carbon Monoxide)

[Not Applicable]

This facility has none of the affected sources: 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 at maximum storage temperature to be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. The produced water/slop oil tanks at this facility are subject to this requirement.

Part 3 requires VOC loading facilities with a throughput equal to or less than 40,000 gallons per day to be equipped with a system for submerged filling of tank trucks or trailers if the capacity of the vehicle is greater than 200 gallons. This facility does not have the physical equipment (loading arm and pump) to conduct this type of loading and is not subject to this requirement.

Part 5 limits the VOC content of coatings from any coating line or other coating operation. This facility does not normally conduct coating or painting operations except for routine maintenance of the facility and equipment. The VOC emission is less than 100 pound per day and so is exempt.

Part 7 requires fuel-burning and refuse-burning equipment to be operated to minimize emissions of VOC. The equipment at this location is subject to this requirement.

Part 7 requires all effluent water separator openings which receive water containing more than 200 gallons per day of any VOC, to be sealed or the separator to be equipped with an external floating roof or a fixed roof with an internal floating roof or a vapor recovery system. No effluent water separators are located at this facility.

OAC 252:100-42 (Toxic Air Contaminants (TAC))

[Applicable]

This subchapter regulates 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.

SECTION VII. FEDERAL REGULATIONS

NSPS, 40 CFR Part 60

[Subparts JJJJ, OOOO, and OOOOa Applicable]

Subpart Kb, Volatile Organic Liquid (VOL) Storage Vessels. This subpart regulates hydrocarbon storage tanks larger than 19,813-gallons capacity and built after July 23, 1984. The storage tanks at the site have capacities less than the threshold, 19,813 gallons. Therefore, this subpart is not applicable.

Subpart GG, Stationary Gas Turbines. There are none at this facility.

Subpart VV, Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry (SOCMI). The equipment is not in a SOCMI plant.

Subpart KKK, Equipment Leaks of VOC from Onshore Natural Gas Processing Plants. The facility does not engage in natural gas processing.

Subpart LLL, Onshore Natural Gas Processing: SO₂ Emissions. This subpart affects sweetening units and sweetening units followed by sulfur recovery units which commenced construction, reconstruction, or modification after January 20, 1984. The amine unit was constructed in 2015, after the applicability dates of Subpart LLL. Furthermore, the facility will process “sweet” natural gas as defined by Subpart LLL (4-ppm H₂S or less), and therefore is not subject to this subpart.

Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. There are no compression ignition engines located at this facility.

Subpart JJJJ, Stationary Spark Ignition Internal Combustion Engines (SI-ICE). This subpart 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. C-13/335, C-9/369, C-

10/374, and C-8/060 commenced construction and were manufactured after July 1, 2007. Therefore, they are subject to this subpart. C-12/299 and C-11/354 commenced construction after June 12, 2006, but were manufactured prior to January 1, 2008. Therefore, they are considered as “gap engines” and there are no applicable requirements under NSPS Subpart JJJJ.

Subpart OOOO, Crude Oil and Natural Gas Facilities. This subpart affects the following sources that commence construction, reconstruction, or modification after August 23, 2011, and on or before September 18, 2015:

- (a) Each gas well affected facility, which is a single natural gas well.
- (b) Each centrifugal compressor affected facility, which is a single centrifugal compressor using wet seals that is located between the wellhead and the point of custody transfer to the natural gas transmission and storage segment.
- (c) Each reciprocating compressor affected facility, which is a single reciprocating compressor located between the wellhead and the point of custody transfer to the natural gas transmission and storage segment.
- (d) Each pneumatic controller affected facility, which is:
 - (1) For the oil production segment (between the wellhead and the point of custody transfer to an oil pipeline): a single continuous bleed natural gas-driven pneumatic controller operating at a natural gas bleed rate greater than 6 SCFH.
 - (2) For the natural gas production segment (between the wellhead and the point of custody transfer to the natural gas transmission and storage segment and not including natural gas processing plants): a single continuous bleed natural gas-driven pneumatic controller operating at a natural gas bleed rate greater than 6 SCFH.
 - (3) For natural gas processing plants: a single continuous bleed natural gas-driven pneumatic controller.
- (e) Each storage vessel affected facility, which is a single storage vessel located in the oil and natural gas production segment, natural gas processing segment or natural gas transmission and storage segment, that contains an accumulation of crude oil, condensate, intermediate hydrocarbon liquids, or produced water and has the potential for VOC emissions equal to or greater than 6 TPY.
- (f) The group of all equipment, except compressors, within a process unit located at an onshore natural gas processing plant is an affected facility.
- (g) Sweetening units located at onshore natural gas processing plants that process natural gas produced from either onshore or offshore wells.

There are no pneumatic controllers with a bleed rate of 6 SCFH and this facility is not a gas plant. The reciprocating compressors associated with C-13/335 and C-8/060 are subject to this subpart. Storage vessels constructed, modified or reconstructed after August 23, 2011, and on or before September 18, 2015, with VOC emissions equal to or greater than 6 TPY must reduce VOC emissions by 95.0 % or greater. The uncontrolled emissions from each of the storage tanks are less than 6 TPY. Therefore, T-1 through T-3 are not subject to this subpart.

The group of all equipment, except compressors, within a process unit at a natural gas processing plant must comply with the requirements of NSPS, Subpart VVa, except as provided in §60.5401.

The amine unit that removes CO₂ and trace amounts of H₂S is not located at a gas plant. The amine unit is therefore not subject to this subpart.

Subpart OOOOa, Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced After September 18, 2015. This subpart affects the following onshore affected facilities:

- (a) Each well affected facility, which is a single well that conducts a well completion operation following hydraulic fracturing or refracturing.
- (b) Each centrifugal compressor affected facility, which is a single centrifugal compressor using wet seals. A centrifugal compressor located at a well site, or an adjacent well site and servicing more than one well site, is not an affected facility under this subpart.
- (c) Each reciprocating compressor affected facility, which is a single reciprocating compressor. A reciprocating compressor located at a well site, or an adjacent well site and servicing more than one well site, is not an affected facility under this subpart.
- (d) Each pneumatic controller affected facility:
 - (1) Each pneumatic controller affected facility not located at a natural gas processing plant, which is a single continuous bleed natural gas-driven pneumatic controller operating at a natural gas bleed rate greater than 6 SCFH.
 - (2) Each pneumatic controller affected facility located at a natural gas processing plant, which is a single continuous bleed natural gas-driven pneumatic controller.
- (e) Each storage vessel affected facility, which is a single storage vessel with the potential for VOC emissions equal to or greater than 6 TPY as determined according to §60.5365a(e).
- (f) The group of all equipment within a process unit located at an onshore natural gas processing plant is an affected facility. Equipment within a process unit of an affected facility located at onshore natural gas processing plants are exempt from this subpart if they are subject to and controlled according to Subparts VVa, GGG, or GGGa.
- (g) Sweetening units located at onshore natural gas processing plants that process natural gas produced from either onshore or offshore wells.
- (h) Each pneumatic pump affected facility:
 - (1) For natural gas processing plants, each pneumatic pump affected facility, which is a single natural gas-driven diaphragm pump.
 - (2) For well sites, each pneumatic pump affected facility, which is a single natural gas-driven diaphragm pump.
- (i) The collection of fugitive emissions components at a well site, as defined in §60.5430a, is an affected facility, except as provided in § 60.5365a(i)(2).
- (j) The collection of fugitive emissions components at a compressor station, as defined in § 60.5430a, is an affected facility.

There are no gas wells at this facility, there are no natural gas-driven pneumatic controllers operating at a natural gas bleed rate greater than 6 SCFH at this facility, and this facility is not a gas plant. The facility has been modified after September 18, 2015; therefore, it is subject to the fugitive emissions leak monitoring requirements of this rule. The reciprocating compressors associated with C-9/369 and C-10/374 were manufactured after September 18, 2015, and are therefore subject to NSPS Subpart OOOOa. Storage vessels constructed, modified or reconstructed after September 18, 2015, with VOC emissions equal to or greater than 6 TPY after enforceable

limits must reduce VOC emissions by 95.0% or greater. The uncontrolled emissions from each of the storage tanks are less than 6 TPY. Therefore, T-1 through T-3 are not subject to this subpart.

NESHAP, 40 CFR Part 61

[Not Applicable]

There are no emissions of any of the pollutants subject to 40 CFR 61 (arsenic, asbestos, radionuclides, coke oven emissions, mercury, beryllium, vinyl chloride, and benzene) except for benzene. Subpart J affects process streams, which contain more than 10% benzene by weight. Benzene is present only in trace amounts in any product stream in this facility.

NESHAP, 40 CFR Part 63

[Subparts HH and ZZZZ Applicable]

Subpart HH, Oil and Natural Gas Production Facilities. This subpart applies to affected sources that are located at facilities which are major and area sources of HAP. This facility is an area source of HAP emissions. The only affected unit at an area source is the TEG dehydration unit. Even though the TEG dehydration unit at this facility is considered an affected area source it is exempt from the requirements of § 63.764(d)(2) since the actual average emissions of benzene from the glycol dehydration unit process vents to the atmosphere are less than 1 TPY, as determined by the procedures specified in § 63.772(b)(2). However, the facility must maintain records of the de minimis determination as required in § 63.774(d)(1). All applicable requirements have been incorporated into the permit.

Subpart HHH, affects Natural Gas Transmission and Storage Facilities that are major sources of HAP. Because this facility is an area source of HAPs, this subpart does not apply.

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 IIII (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. A stationary RICE located at an area source of HAP emissions is existing if construction commenced before June 12, 2006. Based on emission calculations, this facility is an area source of HAP. C-13/335, C-12/299, C-9/369, C-10/374, C-11/354, and C-8/060 commenced construction after June 12, 2006, and are considered new units at an area source of HAP. They will comply with the requirements of Subpart ZZZZ by complying with NSPS Subpart JJJJ. However, since C-12/299 and C-11/354 are “gap engines”, they have no requirements under Subpart JJJJ.

Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers and Process Heaters at major sources of HAPs. Because this facility is an area source of HAP, this subpart does not apply.

Subpart JJJJJ, Industrial, Commercial, and Institutional Boilers. This subpart affects new and existing boilers located at area sources of HAP, except for gas-fired boilers. Boiler means an enclosed device using controlled flame combustion in which water is heated to recover thermal energy in the form of steam or hot water. There are no boilers located at this facility.

SECTION VIII. COMPLIANCE

TIER CLASSIFICATION AND PUBLIC REVIEW

This application has been determined to be **Tier I** based on the request for Modification of a minor operating permit that did not undergo the FESOP Enhanced NSR Process [Traditional NSR]. The draft permit will undergo public notice on the DEQ's web site as required in OAC 252:4-7-13(g). The public, tribal governments, and the EPA have 30 days to comment on the draft permit. Permits available for public review and comment are found at this location: <https://www.deq.ok.gov/permits-for-public-review/>.

The applicant has submitted an affidavit stating that they are not seeking a permit for land used or for any operation upon land owned by others without their knowledge. The affidavit certifies that the applicant has the current lease given to accomplish the permitted purpose.

FEE PAID

The applicant submitted a total of \$2,250 in fees to cover the difference between the individual minor facility construction permit application fee (\$2,000) and the minor facility general permit authorization to construct application fee (\$500) and to cover the individual minor facility operating permit application fee (\$750).

COMPLIANCE AND ENFORCEMENT CASE

There are no active Air Quality compliance or enforcement issues that would prevent issuance of the permit.

INSPECTION

An on-site Full Compliance Evaluation (FCE) was conducted on March 29, 2022. The inspection was conducted by Drake Hanna of the Department of Environmental Quality (DEQ), Air Quality Division (AQD), who was accompanied by Janel Nelson, representing Kinder Morgan and ScissorTail Energy, LLC. One potential violation was found during the inspection. DEQ alleges that Scissortail is operating in noncompliance of OAC 252:100-7-18(a)(2) by failing to submit an Authorization to Operate under the General Permit for Oil and Gas Facilities within 180 days of commencement of operation. Since this permit action will satisfy the requirement of obtaining an operating permit, this compliance issue would not prevent issuance of the permit. There were no other compliance issues discovered during the inspection.

TEST RESULTS

The applicant submitted the most recent engine emission testing for the compressor engines. The results in the following table show compliance with the applicable permit conditions.

Engine Emission Testing

Point	Test Date	NOx		CO	
		Test ⁽¹⁾	Limit ⁽¹⁾	Test ⁽¹⁾	Limit ⁽¹⁾
C-13/335	4/12/2022	0.01	2.44	0.60	2.44
C-12/299	3/15/2022	3.89	4.43	0.71	1.40
C-9/369	10/28/2021	1.85	2.44	2.17	2.44
C-10/374 ⁽²⁾	-	-	2.44	-	2.44
C-11/354	11/18/2021	3.91	4.43	0.78	1.40
C-8/060	4/12/2022	1.73	2.89	1.65	2.57

⁽¹⁾ – Units = lb/hr.

⁽²⁾ – Has not started operation and will be tested within 10 days of startup.

SECTION IX. SUMMARY

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

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

**ScissorTail Energy, LLC
Cable Compressor Station**

Permit No. 2020-0318-O (M-1)

The permittee is authorized to operate in conformity with the specifications submitted to Air Quality on March 21, 2022, and supplemental information. The Evaluation Memorandum dated June 10, 2022, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain operating limitations or permit requirements. Continuing operations under this permit constitutes acceptance of, and consent to, the conditions contained herein:

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

Point	Source	NO _x		CO		VOC	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
C-13/335	1,680-HP Waukesha 7044GSI Engine ⁽¹⁾	2.44	10.71	2.44	10.71	2.41 ⁽²⁾	10.55 ⁽²⁾
C-12/299	1,340-HP Caterpillar G3516 TALE Engine ⁽³⁾	4.43	19.41	1.40	6.15	1.22 ⁽²⁾	5.34 ⁽²⁾
C-9/369	1,680-HP Waukesha 7044GSI Engine ⁽¹⁾	2.44	10.71	2.44	10.71	2.41 ⁽²⁾	10.55 ⁽²⁾
C-10/374	1,680-HP Waukesha 7044GSI Engine ⁽¹⁾	2.44	10.71	2.44	10.71	2.41 ⁽²⁾	10.55 ⁽²⁾
C-11/354	1,340-HP Caterpillar G3516 TALE Engine ⁽³⁾	4.43	19.41	1.40	6.15	1.22 ⁽²⁾	5.34 ⁽²⁾
C-8/060	1,380-HP Caterpillar G3516B Engine ⁽³⁾	2.89	12.66	2.57	11.23	2.77 ⁽²⁾	12.13 ⁽²⁾
A-1	60.0-MMSCFD Amine Unit	-	-	-	-	0.46	2.01
D-1	60.0-MMSCFD Dehydrator	-	-	-	-	-	0.10
H-1	1.5-MMBTUH Glycol Reboiler	0.16	0.68	0.13	0.57	0.01	0.04
H-2	21.0-MMBTUH Amine Reboiler	2.19	9.58	1.84	8.05	0.12	0.53
T-1	300-bbl Produced Water Tank	-	-	-	-	-	5.92
T-2	300-bbl Produced Water Tank	-	-	-	-	-	
T-3	154-bbl Produced Water/Slop Oil Tank	-	-	-	-	-	
L-2	Produced Water/Slop Oil Loadout	-	-	-	-	-	2.48

⁽¹⁾ Equipped with NSCR.

⁽²⁾ Includes formaldehyde.

⁽³⁾ Equipped with OC.

2. The fuel-burning equipment shall be fired with pipeline grade natural gas or other gaseous fuel with sulfur content less than 162 ppmv. Compliance can be shown by the following methods: for pipeline grade natural gas, a current gas company bill; for other gaseous fuel, a current lab analysis, stain-tube analysis, gas contract, tariff sheet, etc. Compliance shall be demonstrated at least once every calendar year.
3. The permittee shall be authorized to operate this facility continuously (24 hours per day, every day of the year, 8,760 hours).

4. The engines shall have permanent identification plates attached, which show the make, model number, and serial number.
5. C-13/335, C-9/369, and C-10/374 shall be operated with exhaust gas passing through a properly functioning NSCR.
6. C-12/299, C-11/354, and C-8/060 shall be operated with exhaust gas passing through a properly functioning OC.
7. At least once per calendar quarter, the permittee shall conduct tests of NO_x and CO emissions in exhaust gases from the engine/turbine when operating under representative conditions for that period. Testing is required for any engine/turbine that runs for more than 220 hours during that calendar quarter. The engine/turbine shall be tested no sooner than 20 calendar days after the last test. Testing shall be conducted using a portable analyzer in accordance with a protocol meeting the requirements of the "AQD Portable Analyzer Guidance" document or an equivalent method approved by Air Quality. When four consecutive quarterly tests show the engine/turbine to be in compliance with the emissions limitations shown in the permit, then the testing frequency may be reduced to semi-annual testing. A semi-annual test may be conducted no sooner than 60 calendar days nor later than 180 calendar days after the most recent test. Likewise, when the following two consecutive semi-annual tests show compliance, the testing frequency may be reduced to annual testing. An annual test may be conducted no sooner than 120 calendar days nor later than 365 calendar days after the most recent test. Upon any showing of non-compliance with emissions limitations or testing that indicates that emissions are within 10% of the emission limitations, the testing frequency shall revert to quarterly. Reduced testing frequency does not apply to engines with NSCR/OC.
8. When periodic compliance testing shows engine exhaust emissions in excess of the lb/hr limits in Specific Condition No. 1, the permittee shall comply with the provisions of OAC 252:100-9 for excess emissions.
9. At least once per calendar quarter, the permittee shall conduct tests for H₂S concentrations in the inlet process gas to demonstrate that the H₂S concentration is less than or equal to 4 ppmv to comply with OAC 252:100-31. A quarterly test may be conducted no sooner than 20 calendar days after the most recent test. Testing shall be conducted using a stain-tube (accurate to 0.1 ppmv), lab analysis, or an equivalent method approved by Air Quality. When four consecutive quarterly tests show the inlet concentration to be in compliance with the emissions limitations shown in the permit, then the testing frequency may be reduced to semi-annual testing. A semi-annual test may be conducted no sooner than 60 calendar days nor later than 180 calendar days after the most recent test. Likewise, when the following two consecutive semi-annual tests show compliance, the testing frequency may be reduced to annual testing. An annual test may be conducted no sooner than 120 calendar days nor later than 365 calendar days after the most recent test. Any showing of non-compliance with the limit reverts the frequency back to quarterly. Throughput of natural gas shall not exceed 60 MMSCFD, monthly average.

10. The permittee shall comply with all applicable requirements of the NSPS for Stationary Spark Ignition Internal Combustion Engines, Subpart JJJJ, for each affected engine including but not limited to the following:
 - a. § 60.4230 Am I subject to this subpart?
 - b. § 60.4233 What emission standards must I meet if I am an owner or operator of a stationary SI internal combustion engine?
 - c. § 60.4234 How long must I meet the emission standards if I am an owner or operator of a stationary SI internal combustion engine?
 - d. § 60.4236 What is the deadline for importing or installing stationary SI ICE produced in the previous model year?
 - e. § 60.4243 What are my compliance requirements if I am an owner or operator of a stationary SI internal combustion engine?
 - f. § 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?
 - g. § 60.4245 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary SI internal combustion engine?
 - h. § 60.4246 What parts of the General Provisions apply to me?
11. The permittee shall comply with NSPS, Subpart OOOO, Standards of Performance for Crude Oil and Natural Gas Facilities, for all affected facilities located at this site that commence construction, reconstruction, or modification after August 23, 2011, and on or before September 18, 2015, including, but not limited to, the following.
 - a. § 60.5360 What is the purpose of this subpart?
 - b. § 60.5365 Am I subject to this subpart?
 - c. § 60.5370 When must I comply with this subpart?
 - d. § 60.5375 What standards apply to gas well affected facilities?
 - e. § 60.5380 What standards apply to centrifugal compressor affected facilities?
 - f. § 60.5385 What standards apply to reciprocating compressor affected facilities?
 - g. § 60.5390 What standards apply to pneumatic controller affected facilities?
 - h. § 60.5395 What standards apply to storage vessel affected facilities?
 - i. § 60.5400 What equipment leak standards apply to affected facilities at an onshore natural gas processing plant?
 - j. § 60.5401 What are the exceptions to the equipment leak standards for affected facilities at onshore natural gas processing plants?
 - k. § 60.5402 What are the alternative emission limitations for equipment leaks from onshore natural gas processing plants?
 - l. § 60.5405 What standards apply to sweetening units at onshore natural gas processing plants?
 - m. § 60.5406 What test methods and procedures must I use for my sweetening units affected facilities at onshore natural gas processing plants?
 - n. § 60.5407 What are the requirements for monitoring of emissions and operations from my sweetening unit affected facilities at onshore natural gas processing plants?
 - o. § 60.5408 What is an optional procedure for measuring hydrogen sulfide in acid gas-Tutwiler Procedure?

- p. § 60.5410 How do I demonstrate initial compliance with the standards for my gas well affected facility, my centrifugal compressor affected facility, my reciprocating compressor affected facility, my pneumatic controller affected facility, my storage vessel affected facility, and my equipment leaks and sweetening unit affected facilities at onshore natural gas processing plants?
 - q. § 60.5411 What additional requirements must I meet to determine initial compliance for my closed vent systems routing emissions from storage vessels or centrifugal compressor wet seal fluid degassing systems?
 - r. § 60.5412 What additional requirements must I meet for determining initial compliance with control devices used to comply with the emission standards for my storage vessel or centrifugal compressor affected facility?
 - s. § 60.5413 What are the performance testing procedures for control devices used to demonstrate compliance at my storage vessel or centrifugal compressor affected facility?
 - t. § 60.5415 How do I demonstrate continuous compliance with the standards for my gas well affected facility, my centrifugal compressor affected facility, my stationary reciprocating compressor affected facility, my pneumatic controller affected facility, my storage vessel affected facility, and my affected facilities at onshore natural gas processing plants?
 - u. § 60.5416 What are the initial and continuous cover and closed vent system inspection and monitoring requirements for my storage vessel or centrifugal compressor affected facility?
 - v. § 60.5417 What are the continuous control device monitoring requirements for my storage vessel or centrifugal compressor affected facility?
 - w. § 60.5420 What are my notification, reporting, and recordkeeping requirements?
 - x. § 60.5421 What are my additional recordkeeping requirements for my affected facility subject to VOC requirements for onshore natural gas processing plants?
 - y. § 60.5422 What are my additional reporting requirements for my affected facility subject to VOC requirements for onshore natural gas processing plants?
 - z. § 60.5423 What additional recordkeeping and reporting requirements apply to my sweetening unit affected facilities at onshore natural gas processing plants?
 - aa. § 60.5425 What parts of the General Provisions apply to me?
 - bb. § 60.5430 What definitions apply to this subpart?
12. The permittee shall comply with all applicable requirements in 40 CFR Part 60, Subpart OOOOa, Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced After September 18, 2015, including, but not limited to, the following.
- a. § 60.5360a What is the purpose of this subpart?
 - b. § 60.5365a Am I subject to this subpart?
 - c. § 60.5370a When must I comply with this subpart?
 - d. § 60.5375a What GHG and VOC standards apply to well affected facilities?
 - e. § 60.5380a What GHG and VOC standards apply to centrifugal compressor affected facilities?
 - f. § 60.5385a What GHG and VOC standards apply to reciprocating compressor affected

facilities?

- g. § 60.5390a What GHG and VOC standards apply to pneumatic controller affected facilities?
- h. § 60.5393a What GHG and VOC standards apply to pneumatic pump affected facilities?
- i. § 60.5395a What VOC standards apply to storage vessel affected facilities?
- j. § 60.5397a What fugitive emissions GHG and VOC standards apply to the affected facility which is the collection of fugitive emissions components at a well site and the affected facility which is the collection of fugitive emissions components at a compressor station?
- k. § 60.5398a What are the alternative means of emission limitations for GHG and VOC from well completions, reciprocating compressors, the collection of fugitive emissions components at a well site and the collection of fugitive emissions components at a compressor station?
- l. § 60.5400a What equipment leak GHG and VOC standards apply to affected facilities at an onshore natural gas processing plant?
- m. § 60.5401a What are the exceptions to the equipment leak GHG and VOC standards for affected facilities at onshore natural gas processing plants?
- n. § 60.5402a What are the alternative means of emission limitations for GHG and VOC equipment leaks from onshore natural gas processing plants?
- o. § 60.5405a What standards apply to sweetening unit affected facilities at onshore natural gas processing plants?
- p. § 60.5406a What test methods and procedures must I use for my sweetening unit affected facilities at onshore natural gas processing plants?
- q. § 60.5407a What are the requirements for monitoring of emissions and operations from my sweetening unit affected facilities at onshore natural gas processing plants?
- r. § 60.5408a What is an optional procedure for measuring hydrogen sulfide in acid gas—Tutwiler Procedure?
- s. § 60.5410a How do I demonstrate initial compliance with the standards for my well, centrifugal compressor, reciprocating compressor, pneumatic controller, pneumatic pump, storage vessel, collection of fugitive emissions components at a well site, and collection of fugitive emissions components at a compressor station, and equipment leaks and sweetening unit affected facilities at onshore natural gas processing plants?
- t. § 60.5411a What additional requirements must I meet to determine initial compliance for my covers and closed vent systems routing emissions from centrifugal compressor wet seal fluid degassing systems, reciprocating compressors, pneumatic pump and storage vessels?
- u. § 60.5412a What additional requirements must I meet for determining initial compliance with control devices used to comply with the emission standards for my centrifugal compressor, and storage vessel affected facilities?
- v. § 60.5413a What are the performance testing procedures for control devices used to demonstrate compliance at my centrifugal compressor, pneumatic pump and storage vessel affected facilities?
- w. § 60.5415a How do I demonstrate continuous compliance with the standards for my well, centrifugal compressor, reciprocating compressor, pneumatic controller, pneumatic pump, storage vessel, collection of fugitive emissions components at a well

- site, and collection of fugitive emissions components at a compressor station affected facilities, and affected facilities at onshore natural gas processing plants?
- x. § 60.5416a What are the initial and continuous cover and closed vent system inspection and monitoring requirements for my centrifugal compressor, reciprocating compressor, pneumatic pump, and storage vessel affected facilities?
 - y. § 60.5417a What are the continuous control device monitoring requirements for my centrifugal compressor, pneumatic pump, and storage vessel affected facilities?
 - z. § 60.5420a What are my notification, reporting, and recordkeeping requirements?
 - aa. § 60.5421a What are my additional recordkeeping requirements for my affected facility subject to GHG and VOC requirements for onshore natural gas processing plants?
 - bb. § 60.5422a What are my additional reporting requirements for my affected facility subject to GHG and VOC requirements for onshore natural gas processing plants?
 - cc. § 60.5423a What additional recordkeeping and reporting requirements apply to my sweetening unit affected facilities at onshore natural gas processing plants?
 - dd. § 60.5425a What parts of the General Provisions apply to me?
 - ee. § 60.5430a What definitions apply to this subpart?
 - ff. § 60.5432a How do I determine whether a well is a low pressure well using the low pressure well equation?
13. The permittee shall comply with all applicable requirements of the NESHAP for Oil and Natural Gas Production, Subpart HH, for each affected dehydration unit including but not limited to the following:
- a. An owner or operator of a glycol dehydration unit that meets the exemption criteria of §63.764(e)(1) shall maintain the records specified in §§63.774(d)(1) for that glycol dehydration unit.
14. The permittee 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:
- 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. § 63.6600 What emission limitations and operating limitations must I meet?
 - f. § 63.6605 What are my general requirements for complying with this subpart?
 - g. § 63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations?
 - 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 and operating limitations?
 - 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 and operating limitations?
- 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?

15. The glycol dehydration unit shall be operated and maintained as follows:

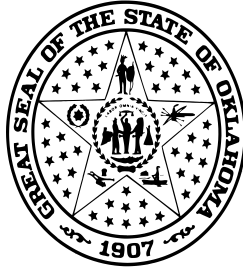
- a. The natural gas throughput of D-1 shall not exceed 60-MMSCFD, based on a monthly average.
- b. The glycol dehydration unit shall be equipped with a flash tank on the rich glycol stream. Emissions from the flash tank shall be recycled using the fugitive gas recovery unit with a 100% control efficiency.
- c. The rated capacity of the glycol recirculation pump shall not exceed 10 gallons per minute (GPM) for D-1.
- d. The rated capacity of the pump shall be shown on the pump, or performance data for the model of pump that verifies the rated capacity of the pump, shall be maintained and available for inspection.
- e. The permittee shall monitor and record the lean glycol circulation rate at least once a month. When three consecutive months show no exceedance of the limit, the frequency may be reduced to quarterly. Upon any showing of non-compliance, the monitoring and recordkeeping frequency shall revert to monthly. With each inspection the lean glycol circulation rate shall be recorded as follows:

Circulation rate, as found (gal/min, strokes/min)	_____
Circulation rate, as left (gal/min, strokes/min)	_____
Date of inspection	_____
Inspected by	_____

The requirement to monitor and record glycol circulation rate shall not apply if the pump capacity does not exceed 10.0 GPM. If so, the manufacturer's rating or the performance data for the model of pump that verifies the maximum pump rate at any operational conditions shall be maintained and available for inspection.

16. 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.
- a. Periodic testing for NO_x and CO emissions for each engine.
 - b. For the fuel(s) burned, maintain the appropriate document(s) as specified in Specific Condition No. 2.
 - c. Operating hours for each engine if less than 220 hours per quarter and not tested.

- d. The facility's natural gas throughput (MMSCFD, monthly average).
 - e. The lean glycol recirculation rate (monthly), as required by Specific Condition No. 15 (e).
 - f. Records showing concentration of H₂S in the process gas to verify exemption from OAC 252:100-31, as required by Specific Condition No. 9.
 - g. Records required by 40 CFR 60, NSPS Subparts JJJJ, OOOO, and OOOOa.
 - h. Records required by 40 CFR 63, NESHAP Subparts HH and ZZZZ.
 - i. Throughput of the produced water tanks and produced water/slop oil tank in gallons (monthly and 12-month rolling total).
17. Produced water/slop oil throughput at the facility shall not exceed 725,000 gallons (12-month rolling total). The storage tanks shall be bottom filled or operated with submerged fill pipes.
18. Upon issuance, Permit No. 2020-0318-O (M-1) replaces and supersedes all previous Air Quality permits issued to this facility, which are now cancelled.



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

FESOP No. 2020-0318-O (M-1)

ScissorTail Energy, LLC,

having complied with the requirements of the law, is hereby granted permission to operate the Cable Compressor Station located in Section 14, Township 7N, Range 17E, Pittsburg County, Oklahoma, and subject to the standard conditions dated February 13, 2020, and specific conditions, both attached.

DRAFT

Lee Warden, P.E.
Permits and Engineering Group Manager

Issuance Date

ScissorTail Energy, LLC
Attn.: Ms. Janel Nelson
8811 S. Yale Ave., Ste. 200
Tulsa, OK 74137

Subject: FESOP No. **2020-0318-O (M-1)**
Cable Compressor Station
Facility ID No. 9734
Section 14, Township 7N, Range 17E, Pittsburg County, Oklahoma

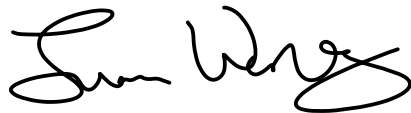
Dear Ms. Nelson:

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

Also note that you are required to annually submit an emissions inventory for this facility. An emissions inventory must be completed through DEQ's electronic reporting system by April 1st of every year. Any questions concerning the submittal process should be referred to the Emissions Inventory Staff at (405) 702-4100.

Thank you for your cooperation. If you have any questions, please refer to the permit number above and contact me at Junru.Wang@deq.ok.gov, or (405) 702-4197.

Sincerely,



Junru Wang, E.I.
Existing Source Permits Section
AIR QUALITY DIVISION

Enclosures

Choctaw Nation of Oklahoma
Attn.: Gary Batton, Chief
P.O. Box 1210
Durant, OK 74702-1210

Re: Permit Application No. **2020-0318-O (M-1)**
ScissorTail Energy, LLC, Cable Compressor Station (Facility ID 9734)
Pittsburg County
Date Received: March 21, 2022

Dear Mr. Batton:

The Oklahoma Department of Environmental Quality (ODEQ), Air Quality Division (AQD), has received the Tier I application referenced above. A Tier I application requires AQD to provide a 30-day public comment period on the draft Tier I permit on the ODEQ website. Since the proposed project falls within your Tribal jurisdiction, AQD is providing this direct notice. This letter notification is in addition to email notifications provided to tribal contacts on record.

Copies of draft permits and comment opportunities are provided to the public on the ODEQ website at the following location:

<https://www.deq.ok.gov/permits-for-public-review/>

If you prefer a copy of the draft permit, or direct notification by letter for any remaining public comment opportunities, if applicable, on the referenced permit action, please notify our Chief Engineer, Phillip Fielder, by e-mail at phillip.fielder@deq.ok.gov, or by letter at:

Department of Environmental Quality, Air Quality Division
Attn.: Phillip Fielder, Chief Engineer
P.O. Box 1677
Oklahoma City, OK, 73101-1677

Thank you for your cooperation. If you have any questions, I can be contacted at (405) 702-4237, and Mr. Fielder may be reached at (405) 702-4185.

Sincerely,



Lee Warden, P.E.
Permits and Engineering Group Manager
AIR QUALITY DIVISION

**MINOR SOURCE PERMIT TO OPERATE / CONSTRUCT
AIR POLLUTION CONTROL FACILITY
STANDARD CONDITIONS
(February 13, 2020)**

- A. The issuing Authority for the permit is the Air Quality Division (AQD) of the Oklahoma Department of Environmental Quality (DEQ) in accordance with and under the authority of the Oklahoma Clean Air Act. The permit does not relieve the holder of the obligation to comply with other applicable federal, state, or local statutes, regulations, rules, or ordinances. This specifically includes compliance with the rules of the other Divisions of DEQ: Land Protection Division and Water Quality Division.
- B. A duly issued construction permit or authorization to construct or modify will terminate and become null and void (unless extended as provided in OAC 252:100-7-15(g)) 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 252:100-7-15(f)]
- C. 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 252:100-7-18(a)]
- D. Unless specified otherwise, the term of an operating permit shall be unlimited.
- E. Notification to the Air Quality Division of DEQ of the sale or transfer of ownership of this facility is required and shall be made in writing by the transferor within 30 days after such date. A new permit is not required. [OAC 252:100-7-2(f)]
- F. The following limitations apply to the facility unless covered in the Specific Conditions:
1. No person shall cause or permit the discharge of emissions such that National Ambient Air Quality Standards (NAAQS) are exceeded on land outside the permitted facility. [OAC 252:100-3]
 2. All facilities that emit air contaminants are required to file an emission inventory and pay annual operating fees based on the inventory. Instructions are available on the Air Quality section of the DEQ web page. www.deq.ok.gov [OAC 252:100-5]
 3. 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 252:100-9]
 4. 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]
 5. No particulate emissions from new fuel-burning equipment with a rated heat input of 10 MMBTUH or less shall exceed 0.6 lbs/MMBTU. [OAC 252:100-19]
 6. 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. [OAC 252:100-25]
 7. 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]

8. No sulfur oxide emissions from new gas-fired fuel-burning equipment shall exceed 0.2 lbs/MMBTU. No existing source shall exceed the listed ambient air standards for sulfur dioxide. [OAC 252:100-31]
9. 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 an organic material vapor-recovery system. [OAC 252:100-37-15(b)]
10. 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]

G. Any owner or operator subject to provisions of NSPS shall provide written notification as follows: [40 CFR 60.7 (a)]

1. A notification of the date construction (or reconstruction as defined under §60.15) of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.
2. A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in §60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice.
3. A notification of the actual date of initial start-up of an affected facility postmarked within 15 days after such date.
4. If a continuous emission monitoring system is included in the construction, a notification of the date upon which the test demonstrating the system performance will commence, along with a pretest plan, postmarked no less than 30 days prior to such a date.

H. Any owner or operator subject to provisions of NSPS shall maintain records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of an affected facility or any malfunction of the air pollution control equipment. [40 CFR 60.7 (b)]

I. Any owner or operator subject to the provisions of NSPS shall maintain a file of all measurements and other information required by this subpart recorded in a permanent file suitable for inspection. This file shall be retained for at least five years following the date of such measurements, maintenance, and records. [40 CFR 60.7 (f)]

J. Any owner or operator subject to the provisions of NSPS shall conduct performance test(s) and furnish to AQD a written report of the results of such test(s). Test(s) shall be conducted within 60 days after achieving the maximum production rate at which the facility will be operated, but not later than 180 days after initial start-up. [40 CFR 60.8]

Department of Environmental Quality (DEQ)
Air Quality Division (AQD)
Acronym List
9-10-21

ACFM	Actual Cubic Feet per Minute	GHG	Greenhouse Gases
AD	Applicability Determination	GR	Grain(s) (gr)
AFRC	Air-to-Fuel Ratio Controller		
API	American Petroleum Institute	H₂CO	Formaldehyde
ASTM	American Society for Testing and Materials	H₂S	Hydrogen Sulfide
		HAP	Hazardous Air Pollutants
		HC	Hydrocarbon
BACT	Best Available Control Technology	HCFC	Hydrochlorofluorocarbon
BAE	Baseline Actual Emissions	HFR	Horizontal Fixed Roof
BBL	Barrel(s)	HON	Hazardous Organic NESHAP
BHP	Brake Horsepower (bhp)	HP	Horsepower (hp)
BTU	British thermal unit (Btu)	HR	Hour (hr)
C&E	Compliance and Enforcement	I&M	Inspection and Maintenance
CAA	Clean Air Act	IBR	Incorporation by Reference
CAM	Compliance Assurance Monitoring	ICE	Internal Combustion Engine
CAS	Chemical Abstract Service		
CAAA	Clean Air Act Amendments	LAER	Lowest Achievable Emission Rate
CC	Catalytic Converter	LB	Pound(s) [Mass] (lb, lbs, lbm)
CCR	Continuous Catalyst Regeneration	LB/HR	Pound(s) per Hour (lb/hr)
CD	Consent Decree	LDAR	Leak Detection and Repair
CEM	Continuous Emission Monitor	LNG	Liquefied Natural Gas
CFC	Chlorofluorocarbon	LT	Long Ton(s) (metric)
CFR	Code of Federal Regulations		
CI	Compression Ignition	M	Thousand (Roman Numeral)
CNG	Compressed Natural Gas	MAAC	Maximum Acceptable Ambient Concentration
CO	Carbon Monoxide or Consent Order	MACT	Maximum Achievable Control Technology
COA	Capable of Accommodating	MM	Prefix used for Million (Thousand-Thousand)
COM	Continuous Opacity Monitor		
		MMBTU	Million British Thermal Units (MMBtu)
D	Day	MMBTUH	Million British Thermal Units per Hour (MMBtu/hr)
DEF	Diesel Exhaust Fluid		
DG	Demand Growth	MMSCF	Million Standard Cubic Feet (MMscf)
DSCF	Dry Standard (At Standard Conditions) Cubic Foot (Feet)	MMSCFD	Million Standard Cubic Feet per Day
		MSDS	Material Safety Data Sheet
EGU	Electric Generating Unit	MWC	Municipal Waste Combustor
EI	Emissions Inventory	MWe	Megawatt Electrical
EPA	Environmental Protection Agency		
ESP	Electrostatic Precipitator	NA	Nonattainment
EUG	Emissions Unit Group	NAAQS	National Ambient Air Quality Standards
EUSGU	Electric Utility Steam Generating Unit	NAICS	North American Industry Classification System
		NESHAP	National Emission Standards for Hazardous Air Pollutants
FCE	Full Compliance Evaluation		
FCCU	Fluid Catalytic Cracking Unit	NH₃	Ammonia
FESOP	Federally Enforceable State Operating Permit	NMHC	Non-methane Hydrocarbon
FIP	Federal Implementation Plan	NGL	Natural Gas Liquids
FR	Federal Register	NO₂	Nitrogen Dioxide
		NO_x	Nitrogen Oxides
GACT	Generally Achievable Control Technology	NOI	Notice of Intent
GAL	Gallon (gal)	NSCR	Non-Selective Catalytic Reduction
GDF	Gasoline Dispensing Facility	NSPS	New Source Performance Standards
GEP	Good Engineering Practice	NSR	New Source Review

O₃	Ozone	T	Tons
O&G	Oil and Gas	TAC	Toxic Air Contaminant
O&M	Operation and Maintenance	TEG	Triethylene Glycol
O&NG	Oil and Natural Gas	THC	Total Hydrocarbons
OAC	Oklahoma Administrative Code	TPY	Tons per Year
OC	Oxidation Catalyst	TRS	Total Reduced Sulfur
		TSP	Total Suspended Particulates
PAH	Polycyclic Aromatic Hydrocarbons	TV	Title V of the Federal Clean Air Act
PAE	Projected Actual Emissions		
PAL	Plant-wide Applicability Limit	µg/m³	Micrograms per Cubic Meter
Pb	Lead	US EPA	U. S. Environmental Protection Agency
PBR	Permit by Rule		
PCB	Polychlorinated Biphenyls	VFR	Vertical Fixed Roof
PCE	Partial Compliance Evaluation	VMT	Vehicle Miles Traveled
PEA	Portable Emissions Analyzer	VOC	Volatile Organic Compound
PFAS	Per- and Polyfluoroalkyl Substance	VOL	Volatile Organic Liquid
PM	Particulate Matter	VRT	Vapor Recovery Tower
PM_{2.5}	Particulate Matter with an Aerodynamic Diameter <= 2.5 Micrometers	VRU	Vapor Recovery Unit
PM₁₀	Particulate Matter with an Aerodynamic Diameter <= 10 Micrometers	YR	Year
POM	Particulate Organic Matter or Polycyclic Organic Matter	2SLB	2-Stroke Lean Burn
ppb	Parts per Billion	4SLB	4-Stroke Lean Burn
ppm	Parts per Million	4SRB	4-Stroke Rich Burn
ppmv	Parts per Million Volume		
ppmvd	Parts per Million Dry Volume		
PSD	Prevention of Significant Deterioration		
psi	Pounds per Square Inch		
psia	Pounds per Square Inch Absolute		
psig	Pounds per Square Inch Gage		
RACT	Reasonably Available Control Technology		
RATA	Relative Accuracy Test Audit		
RAP	Regulated Air Pollutant or Reclaimed Asphalt Pavement		
RFG	Refinery Fuel Gas		
RICE	Reciprocating Internal Combustion Engine		
RO	Responsible Official		
ROAT	Regional Office at Tulsa		
RVP	Reid Vapor Pressure		
SCC	Source Classification Code		
SCF	Standard Cubic Foot		
SCFD	Standard Cubic Feet per Day		
SCFM	Standard Cubic Feet per Minute		
SCR	Selective Catalytic Reduction		
SER	Significant Emission Rate		
SI	Spark Ignition		
SIC	Standard Industrial Classification		
SIP	State Implementation Plan		
SNCR	Selective Non-Catalytic Reduction		
SO₂	Sulfur Dioxide		
SO_x	Sulfur Oxides		
SOP	Standard Operating Procedure		
SRU	Sulfur Recovery Unit		