DRAFT

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

MEMORANDUM **November 23, 2022**

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

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

THROUGH: Junru Wang, P.E., Existing Source Permits Section

FROM: Caleb Jobe, E.I., Existing Source Permits Section

SUBJECT: Evaluation of Operating Permit Application No. **2022-0124-O**
ScissorTail Energy, L.L.C.
Patsy Compressor Station (SIC 1311/NACIS 211130)
Facility ID: 8668
Latitude 35.42258º, Longitude -96.58014º
Section 16, Township 11N, Range 7E
Okfuskee County, Oklahoma
Driving Directions: From the intersection of Hwy 62 and Hwy 377 in Prague, OK, go 5 miles south on Hwy 377, then 4 miles east on Moccasin Trail Rd., then 1 mile south on Garden Grove Rd., then 1.13 miles east on 1100 Rd., the facility is to the north.

SECTION I. INTRODUCTION

ScissorTail Energy, L.L.C. (ScissorTail) has applied for an individual minor source operating permit for their Patsy Compressor Station. The facility is currently operating under the General Permit for Oil and Gas Facilities (GP-OGF) NOI to Construct Authorization No. 2022-0124-NOI, received and issued on March 15, 2022. The facility was previously operating as a permit exempt facility since 2010. The NOI authorized the replacement of Engine C-1/270 (Caterpillar G3412TALE, 637-hp) with Engine C-2/125 (Caterpillar G3306TA, 203-hp). The facility currently consists of one (1) 203-hp Caterpillar G3306TA compressor engine, one (1) 300-bbl produced water/slop oil tanks, and various support operations.

This facility remains a "true minor" source after modification. On issuance, this permit will be a FESOP.

SECTION II. FACILITY DESCRIPTION

Low pressure natural gas enters the facility via pipeline from field wells. The natural gas passes through an inlet separator. Liquids that drop out of the gas in the inlet separator are sent to the produced water tank along with slop oil from the compressor skid. The produced water/slop oil is hauled off-site for disposal via truck. The gas is compressed via the natural-gas driven compressor

engine. The high-pressure gas exits the facility via pipeline and proceeds off-site to a gas processing facility.

SECTION III. EQUIPMENT

The following is a list of current equipment.

ID#	Equipment Type	Size/Rating	Serial No.	Manufacture Date
C-2/125	Caterpillar G3306TA	203-hp	07Y02420	1981
T-1	Produced Water/Slop Oil	300-bbl	-	2010
FUG-1	Fugitive VOC Emissions	-	-	-
LOAD-1	Produced Water/Slop Oil Truck Loading	-	-	-

SECTION IV. FACILITY-SPECIFIC OR REPRESENTATIVE SAMPLE

TANK

The flash emissions for the storage tank were calculated using the Vasquez-Beggs Equation; therefore, no facility-specific or representative sample is needed for this unit.

FUGITIVES

Natural Gas Compressor Station (Gathering) 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 within 10 miles.		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. AIR EMISSIONS

ENGINE

Emissions of NO_X, CO, and VOC from the engine are calculated based on manufacturer data. H_2CO emissions are based on AP-42 Table 3.2-3 for uncontrolled emission factors for 4-stroke rich-burn engines. Since the VOC emission factor does not include H_2CO, H_2CO is added to VOC total in the facility-wide emissions summary table.

Engine Emission Factors

ID#	NO_X	CO	VOC[(1)]	H_2CO
	g/hp-hr	g/hp-hr	g/hp-hr	lb/MMBUTH
C-2/125 [(2)]	22.8	1.50	1.00	0.021

(1) Does not include H_2CO.
(2) Fuel consumption is 7,877-BTU/hp-hr.

Engine Emissions

ID#	NO_X		CO		VOC[(1)]		H_2CO	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
C-2/125	10.20	44.63	0.67	2.94	0.45	1.96	0.03	0.14

(1) Does not include H_2CO. H_2CO is added to VOC only in the facility-wide emissions summary table.

TANKS

Working and breathing emissions from the produced water/slop oil tanks were calculated using AP-42 (06/20), Section 7.1, the listed throughput, and material properties based on crude oil. Flash emissions at the produced water/slop oil tanks were calculated using the Vasquez-Beggs Equation, listed throughput, and material properties assuming the liquids are made up of 10% crude oil. Flashing emissions result as liquids under pressure enter the tanks at atmospheric pressure.

Tank Emissions (per tank)

Parameter	T-1 Data
Throughput, gal/yr	500,000
Liquid in Tank(s)	Produced Water/Slop Oil
Working/Breathing Method/Tool	AP-42 (06/20), Section 7.1
Flash Calculation Method/Tool	VBE
Working/Breathing Emissions, TPY	3.14
Flashing Emissions, TPY	2.80
Control Type	None
Total VOC Emissions, TPY	5.94

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. The vapor pressure, molecular weight, and temperature listed are from AP-42 (11/19), Section 7.1 defaults for Tulsa, Oklahoma and Motor Gasoline (RVP 10), and the emission rate is based on 10% crude oil present in the produced water/slop oil.

Loading Parameters and Emissions

Parameter	LOAD-1
Liquids Loaded	Produced Water/Slop Oil
Throughput, gal/yr	500,000
Saturation Factor	0.6
Temp., °F	85
TVP, psia	8.3
MW, lb/lbmol	60
VOC, wt.%	10
Emission Factor, lb/10^3 gal (1)	6.8
Control Method	None
VOC Emitted at Truck, TPY	0.17

(1) Final factor considering any VOC reduction stated for methane/ethane.

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 (C_{3+}) and HAP content of the materials handled.

Fugitive Emissions

ID#	VOC, TPY	Total HAP, TPY
FUG-1	12.07	6.03

FACILITY-WIDE EMISSIONS

The following table lists the facility-wide emissions of criteria pollutants.

ID#	Source	NOx		CO		VOC	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
C-2/125	203-hp Caterpillar G3306TA 4-stroke rich-burn	10.20	44.63	0.67	2.94	0.48(1)	2.10(1)
T-1	300-bbl Produced Water/Slop Oil Tank(2)	-	-	-	-	1.36	5.94
FUG-1	Fugitive VOC Emissions	-	-	-	-	-	12.07
LOAD-1	Produced Water/Slop Oil Truck Loading	-	-	-	-	-	0.17
Total Emissions		**10.20**	**44.63**	**0.67**	**2.94**	**1.84**	**20.28**

(1) Includes H_2CO

(2) Combined emissions from working and breathing losses and flash emissions

The total HAP emissions at the facility are 6.17 TPY. Therefore, the individual and the total emissions of HAPs do not exceed the major source thresholds of 10/25 TPY.

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, 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 252:100-7 (Permits for Minor Facilities) [Applicable]
Subchapter 7 sets forth the permit application fees and the basic substantive requirements of permits for minor facilities. Since uncontrolled 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 "true minor" source.

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) [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 engine is 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. For 4-

cycle rich-burn engines, AP-42 (7/00), Table 3.2-3 lists the total PM emissions for natural gas to be 0.02 lbs/MMBTU. The permit requires the use of natural gas for all fuel-burning units to ensure compliance with Subchapter 19.

ID#	Equipment	Maximum Heat Input (MMBTUH)	Emissions (lb/MMBTU)	
			Appendix C	Potential
C-2/125	203-hp Caterpillar G3306TA	1.6	0.60	0.02

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

OAC 252:100-25 (Visible Emissions and Particulates) [Applicable]
No discharge of greater than 20% opacity is allowed except for short-term occurrences 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. When burning natural gas there is little possibility of exceeding the opacity standards.

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 H_2S emissions from any facility to 0.2 ppmv (24-hour average) at standard conditions which is equivalent to 283 $\mu g/m^3$. Based on modeling conducted for the general permit for oil and gas facilities, the ambient impacts of H_2S from oil and gas facilities combusting natural gas with a maximum H_2S content of 162 ppmv and storing condensate or sweet crude oil will be in compliance with the H_2S 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. Thus, a limitation of 162 ppmv sulfur in a field gas supply will be in compliance. 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 NOx emissions from new fuel-burning equipment with rated heat input greater than or equal to 50 MMBTUH to emissions of 0.2 lb of NOx per MMBTU. There are no equipment items that exceed the 50 MMBTUH threshold.

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

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

OAC 252:100-37 (Volatile Organic Compounds) [Applicable]
Part 3 requires storage tanks constructed after December 28, 1974, with a capacity of 400 gallons or more and storing a VOC with a vapor pressure greater than 1.5 psia at maximum storage temperature to be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. This applies to tank T-1.
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. There are no effluent water separators 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 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 [Not Applicable]

Subpart Kb, VOL Storage Vessels. Subpart Kb regulates hydrocarbon storage tanks larger than 19,813 gallons capacity and built after July 23, 1984. The tank, T-1, has a capacity less than the threshold, 19,813 gallons. This subpart is not applicable.

Subpart GG, Stationary Gas Turbines. There are no turbines at this facility. The compressors are powered by reciprocating engines.

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: SO_2 Emissions. This subpart affects sweetening units and sweetening units followed by sulfur recovery units. This facility does not have a sweetening unit.

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. Engine C-2/125 was manufactured prior to June 12, 2006, and is not subject to this subpart.

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 wells, centrifugal compressors, or sweetening units located at this facility. The reciprocating compressor and the storage vessel T-1 commenced construction prior to August 23, 2011, and have not been modified or reconstructed. Therefore, they are not subject to this subpart.

Subpart OOOOa, Crude Oil and Natural Gas Facilities for which construction, modification, or reconstruction commenced after September 18, 2015. Since the reciprocating compressor and the storage vessel T-1 was originally manufactured prior to September 18, 2015, they are not subject to this subpart. The like-kind engine swap did not trigger a modification because the engine replacement did not increase the number of compressors at the station or result in an increase of the total horsepower.

NESHAP, 40 CFR Part 61 [Not Applicable]
There are no emissions of any of the regulated pollutants: arsenic, asbestos, beryllium, benzene, coke oven emissions, mercury, radionuclides or vinyl chloride except for trace amounts of benzene. Subpart J, Equipment Leaks of Benzene, only applies to process streams which contain more than 10% benzene by weight. Analysis of Oklahoma natural gas indicates a maximum benzene content of less than 1%.

NESHAP, 40 CFR Part 63 [Subpart ZZZZ Applicable]
Subpart ZZZZ, Reciprocating Internal Combustion Engines (RICE). This subpart affects any existing, new, or reconstructed stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

C-2/125 is an existing unit, manufactured in 1981. Since the engine is less than 500 hp, this engine is subject to maintenance practices as listed in the following table located at an area HAP source shall comply with applicable emission limitations and operating limitations no later than October 19, 2013. Initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart shall be conducted within 180 days after the compliance date. Specific requirements in §63.6603 are listed in the following table.

Engine Category	**Requirements From Table 2d to Subpart ZZZZ of Part 63**
Non-emergency, non-black start 4SLB & 4SRB remote stationary RICE <500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.

[1] Sources have the option to utilize an oil analysis program as described in § 63.6625(i) or (j) of the subpart in order to extend the specified oil change requirement in Table 2d of this subpart.

SECTION VIII. COMPLIANCE

TIER CLASSIFICATION AND PUBLIC REVIEW

This application has been determined to be Tier I based on the request for an initial FESOP for a new minor facility. Information on all permit actions is available for review by the public in the Air Quality Section of the DEQ web page: *www.deq.ok.gov*.

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 will 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/.

ENVIRONMENTAL JUSTICE REVIEW

All people should be protected from the impacts of environmental pollution regardless of race, national origin, or income. DEQ is committed to ensuring such protection through the development, implementation, and consistent enforcement of environmental laws and regulations.

Pending any public review indicated in this Section, AQD has determined that no communities with environmental justice concerns are impacted by the issuance of this permit. This determination is based on this permit qualifying as a minor source under OAC 252:100-7.

FEE PAID

Minor facility operating permit fee of $2,250 has been paid. The total fee the applicant owes is the individual minor source construction permit ($2,000) and the individual minor source operating permit ($750) is $2,750. The applicant paid $500 for a GP-OGF NOI to Construct (Authorization No. 2022-0124-NOI) on March 17, 2022, and the balance of $2,250 on June 10, 2022.

COMPLIANCE AND ENFORCEMENT CASE

There are no active Air Quality compliance or enforcement issues concerning this facility.

INSPECTION

A partial compliance evaluation was conducted by AQD on September 12, 2017. Ronnie Brison, Environmental Programs Specialist, conducted the evaluation for the Air Quality Division of the Oklahoma Department of Environmental Quality. Larry Bicknell, Operation Supervisor, represented Scissortail. No compliance issues were found during this evaluation. This modification did not increase the emissions of NOx and CO by more than 50 TPY, therefore a new inspection is not required.

TEST RESULTS

The results of the quarterly PEA tests for engine C-2/125 are presented in the following table. The engine test results show compliance with the applicable permit limits.

PEA Test Results

Point	Serial No.	Test Date	Permitted Limits		Test Results	
			NO_X (lb/hr)	CO (lb/hr)	NO_X (lb/hr)	CO (lb/hr)
C-2/125	07Y02420	04/05/2022	10.20	0.67	2.34	0.34

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. Issuance of the operating permit is recommended, contingent on public review.

PERMIT TO OPERATE
AIR POLLUTION CONTROL FACILITY
SPECIFIC CONDITIONS

ScissorTail Energy, L.L.C. **FESOP No. 2022-0124-O**
Patsy Compressor Station

The permittee is authorized to operate in conformity with the specifications submitted to Air Quality on June 10, 2022. The Evaluation Memorandum dated November 23, 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:

ID #	Source	NOx		CO		VOC	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
C-2/125	203-hp Caterpillar G3306TA 4-stroke rich-burn	10.20	44.63	0.67	2.94	0.48[(1)]	2.10[(1)]
T-1	210-bbl Produced Water/Slop Oil Tank [(2)]	-	-	-	-	-	5.94
LOAD-1	Produced Water/Slop Oil Truck Loading	-	-	-	-	-	0.17

[(1)] Includes H_2CO.
[(2)] Combined emissions from working, breathing, and flashing.

2. The fuel-burning equipment shall be fired with pipeline grade natural gas or other gaseous fuel with a 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, or other approved methods. 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).

4. Each engine at the facility shall have a legible and accessible permanent identification plate attached, which shows the make, model number, and serial number.

5. At least once per 180 calendar days, the permittee shall conduct tests of NOx and CO emissions in exhaust gases from the engines in Specific Condition No.1 when operating under representative conditions for that period. Testing is required for any engine, which runs for more than 440 hours during those 180 calendar days. A semi-annual test may be conducted no sooner than 60 calendar days nor later than 180 calendar days after the most recent test. Testing shall be conducted using a portable engine 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 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 indicate that emissions are within 10% of the emission limitation, the testing frequency shall revert to semi-annual. Reduced engine testing does not apply to engines with oxidation catalysts.

6. The total facility-wide produced water/slop oil throughput, 12-month rolling total, shall not exceed 500,000 gallons.

7. The produced water/slop oil tank, T-1, shall be equipped with submerged fill pipe.

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

9. The permittee shall comply with all applicable requirements of the NESHAP (40 CFR Part 63) 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?

10. The permittee shall maintain records of operations as listed below. These records shall be retained on-site or at a local field office for a period of at least five years following dates of recording, and shall be made available to regulatory personnel upon request.

a. Periodic testing for NOx and CO exhaust from each engine.
b. Operating hours for each engine if less than 440 hours per 180 day period and not tested.
c. Facility produced water/slop oil throughput (monthly and 12-month rolling total).
d. For the fuel(s) burned, the appropriate document(s) as described in Specific Condition No. 2.
e. Records as required by 40 CFR Part 63, NESHAP, Subparts ZZZZ.

11. This permit supersedes all previous Air Quality authorizations and/or operating permits for this facility, which are now cancelled.

DRAFT

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. 2022-0124-O

ScissorTail Energy, LLC,

having complied with the requirements of the law, is hereby granted permission to operate the Patsy Compressor Station located in Section 16, T11N, R7E, Okfuskee County, OK, subject to the Standard Conditions dated February 13, 2020, and the Specific Conditions both of which are attached.

DRAFT

Lee Warden, P.E. **Issuance Date**

Permits and Engineering Group Manager

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]

Scott A. Thompson
Executive Director

OKLAHOMA Environmental Quality

Kevin Stitt
Governor

Muscogee Creek Nation
Attn: David Hill, Principal Chief
P.O. Box 580
Okmulgee, OK 74447

Re: Permit Application No. 2022-0124-O
ScissorTail Energy, LLC, Patsy Compressor Station (FAC ID 8668)
Okfuskee County
Date Received: June 10, 2022

Dear Mr. Hill:

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

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

ScissorTail Energy, L.L.C.
Attn.: Janel Nelson
8811 S. Yale Ave., Ste. 200
Tulsa, Oklahoma 74137

SUBJECT: Operating Permit Application **No. 2022-0124-O**
Patsy Compressor Station
Facility ID: 8668
Section 16, Township 11N, Range 7E, Okfuskee 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 in this matter. If we may be of further service, or you have any questions about this permit, please contact the permit writer, Caleb Jobe, at (405) 702-4187, or caleb.jobe@deq.ok.gov.

Sincerely,

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

Enclosures

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

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

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