

DRAFT/PROPOSED

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

MEMORANDUM

July 15, 2016

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

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

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

THROUGH: Peer Review

FROM: Ryan Buntyn, E.I., Existing Source Permits Section

SUBJECT: Evaluation of Construction Permit Application **No. 2015-1765-C (M-1)**
TOM-STACK, LLC
Chisholm Plant (Facility ID: 14885)
Latitude: 35.77491°N, Longitude: 97.74118°W
Section 16, Township 15N, Range 5W, Kingfisher County, Oklahoma
Directions: From the intersection of Hwy 74F and E0840 Road in Cashion, go four (4.0) miles west on E0840 Road. Go south on N2950 Road for one-half (0.5) of a mile and the facility will be to the east.

I. INTRODUCTION

The Chisholm Plant was constructed under Permit No. 2015-1765-C, issued February 16, 2016. The applicant now proposed to expand the facility by further construction, rather than obtaining an operating permit. The applicant has requested that two (2) Caterpillar G3612 LE compressor engines (C-10 and C-11) be removed from the facility and be replaced with three (3) Waukesha L7044GSI compressor engines. The proposed construction will expand the facility to twelve engine/compressor sets, six 1,000-bbl condensate storage tanks, a 400-bbl condensate storage tank, a 400-bbl produced water storage tank, two 200-bbl slop oil storage tanks, a 22 MMBTUH process hot oil heater, an amine unit with a 13 MMBTUH amine hot oil heater, an amine unit with a 32 MMBTUH amine hot oil heater, a 15.1 MMBTUH mole sieve regen heater, a 45 MMBTUH stabilizer hot oil heater, a 17 MMBTUH regen gas heater, three flares, a combustor and an increased number of piping elements, etc.

The applicant expects all the engines to be constructed after June 12, 2006 and manufactured after July 1, 2008; therefore, the engines will be subject to 40 CFR Part 60, New Source Performance Standards (NSPS) Subpart JJJJ and 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart ZZZZ. The compressors associated with the compressor engines are also expected to be constructed after August 23, 2011, and therefore subject to NSPS Subpart OOOO. The condensate and produced water storage tanks will be constructed after August 23, 2011 and will be potentially subject to NSPS Subpart OOOO. The

condensate tanks will be controlled such that emissions are less than 6 TPY. TOM-STACK, LLC has requested a federally enforceable emission limitation of less than 6 TPY so that they will not be subject to this subpart. The produced water tank has potential emissions of less than 6 TPY and will not be subject to this subpart. TOM-STACK, LLC has also requested federally enforceable emission limits for the produced water tank.

The project (Permit No. 2015-1765-C) was considered a separate project from Permit No. 2015-0519-NOI, issued March 23, 2015, because the original minor source permit would cover the one processing plant needed for the natural gas throughput. Since the issuance of that permit, TOM-STACK has made an agreement that would increase the natural gas throughput at the facility from 100 MMSCFD to 300 MMSCFD. With this increase, a second processing plant was needed. The combined emissions are above 100 TPY but neither project increased emissions above 100 TPY for any pollutant and thus Oklahoma BACT was not needed. A press release detailing the expansion, dated August 10, 2015, was included in the permit application.

The applicant now requests to remove two engines (C-10 and C-11) authorized under Permit No. 2015-1765-C, issued February 16, 2016, and replace them with three new engines. This new project will be looked at as part of the previous permit action. The combined emissions from the first project (Permit No. 2015-1765-C) and this project (Permit No. 2015-1765-C (M-1)) are less than 100 TPY for all criteria pollutants and thus no Oklahoma BACT is required.

II. PROJECT DESCRIPTION AND EMISSIONS

This project (Permit No. 2015-1765-C (M-1)) will be looked at as part of the original major source construction project (Permit No. 2015-1765-C). In the combined project, the applicant proposes to remove one previously permitted engine and install six new engines. Emissions from the six new engines are shown in the following table.

Source	NOX	CO	VOC
	TPY	TPY	TPY
C-7	17.14	9.43	6.68
C-8	17.14	9.43	6.68
C-9	17.14	9.43	6.68
C-10	13.92	23.62	5.68
C-11	13.92	23.62	5.68
C-12	13.92	23.62	5.68
Total	93.18	99.15	37.08

The increase in emissions from the new engines is less than 100 TPY and no Oklahoma BACT or modeling is required. Emissions are also less than the PSD threshold of 250 TPY; therefore, the project was not subject to PSD review.

III. PROCESS DESCRIPTION AND EQUIPMENT

Inlet gas enters the plants and is routed through a slug catcher. Liquids are sent to a condensate surge vessel, with condensate then routed to the stabilization process (H-4) and produced water is routed to storage (TK-7) and then loaded out by truck (TL-2). Following the stabilization process, condensate is sent to storage (TK-1 to TK-6) prior to being loaded out by truck from the facility (TL-1). Condensate that is considered “off-spec” is loaded into a storage tank (TK-8) before entering the stabilization process. Gas from the slug catcher, condensate surge vessel and condensate stabilization is combined and sent to the amine treating units (AU-1 and AU-2), where carbon dioxide is removed. The amine unit flash tank off-gases are destroyed by the thermal oxidizer (COMBUST). From the amine treaters, the gas is dehydrated and then cooled by the cryogenic units to extract natural gas liquids (NGL). The methane is compressed by the residue units (C-1 to C-12) and then sent to the sales line. The NGL that is extracted leaves the facility by pipeline.

EUG A Natural Gas-Fired Reciprocating Internal Combustion Engines

EUG	EU ID	Source	Capacity	Date	
				Manufacture	Installation
ENGINES	C-1	Caterpillar G3516B w/OC	1,380 bhp	2014	2015
	C-2	Caterpillar G3516B w/OC	1,380 bhp	2014	2015
	C-3	Caterpillar G3516B w/OC	1,380 bhp	2015	2015
	C-4	Caterpillar G3516B w/OC	1,380 bhp	2015	2015
	C-5	Caterpillar G3516B w/OC	1,380 bhp	2014	2015
	C-6	Caterpillar G3516B w/OC	1,380 bhp	2014	2015
	C-7	Caterpillar G3612 LE w/OC	3,550 bhp	TBD	TBD
	C-8	Caterpillar G3612 LE w/OC	3,550 bhp	TBD	TBD
	C-9	Caterpillar G3612 LE w/OC	3,550 bhp	TBD	TBD
	C-10	Waukesha L7044GSI w/CC	1,680 bhp	TBD	TBD
	C-11	Waukesha L7044GSI w/CC	1,680 bhp	TBD	TBD
	C-12	Waukesha L7044GSI w/CC	1,680 bhp	TBD	TBD

w/OC - with Oxidation Catalyst; w/CC - with Catalytic Converter

EUG	EU ID	Source	Serial Number
ENGINES	C-1	Caterpillar 3516B w/OC	JEF03289
	C-2	Caterpillar 3516B w/OC	N6E00100
	C-3	Caterpillar 3516B w/OC	N6E00102
	C-4	Caterpillar 3516B w/OC	JEF03298
	C-5	Caterpillar 3516B w/OC	JEF03293
	C-6	Caterpillar 3516B w/OC	JEF03294
	C-7	Caterpillar G3612 LE w/OC	TBD
	C-8	Caterpillar G3612 LE w/OC	TBD
	C-9	Caterpillar G3612 LE w/OC	TBD
	C-10	Waukesha L7044GSI w/CC	TBD
	C-11	Waukesha L7044GSI w/CC	TBD
	C-12	Waukesha L7044GSI w/CC	TBD

EUG B Heaters

EUG	EU ID	Source	Capacity	Date	
				Manufacture	Installation
HEATERS	H-1	Process Hot Oil Heater	22.0 MMBTUH	2015	2015
	H-2	Amine Hot Oil Heater	13.0 MMBTUH	2015	2015
	H-3	Mole Sieve Regen Heater	15.1 MMBTUH	2015	2015
	H-4	Stabilizer Hot Oil Heater	45.0 MMBTUH	TBD	TBD
	H-5	Amine Hot Oil heater	32.0 MMBTUH	TBD	TBD
	H-6	Regen Gas Heater	17.0 MMBTUH	TBD	TBD

EUG C Storage Tanks

EUG	EU ID	Source	Capacity	Date	
				Manufacture	Installation
TANKS	TK-1 thru TK-6	Condensate Storage Tanks	1,000 BBL each	TBD	TBD
	TK-7	Produced Water Storage Tank	400 BBL	TBD	TBD
	TK-8	Condensate Storage Tank	400 BBL	TBD	TBD
	TK-9 thru TK-10	Slop Tanks	200 BBL each	TBD	TBD

EUG D Truck Loading

EUG	EU ID	Source	Capacity	Date	
				Manufacture	Installation
LOADING	TL-1	Condensate Truck Loading	N/A	N/A	N/A
	TL-2	Produced Water Truck Loading	N/A	N/A	N/A
	TL-3	Slop Truck Loading	N/A	N/A	N/A

EUG E Flare

EUG	EU ID	Source	Date	
			Manufacture	Installation
FLARE	FLARE-1	Tank and Loading Flare	2015	2015
	FLARE-2	Main Flare I	2015	2015
	FLARE-3	Main Flare II	TBD	TBD
COMBUST	COMBUST	Acid Gas Combustor	TBD	TBD

EUG F Amine Unit

EUG	EU ID	Source	Capacity	Date	
				Manufacture	Installation
AMINE	AU-1 and AU-2	Amine Units	100 MMSCFD each	TBD	TBD

EUG G Fugitive Emissions

EUG	EU ID	Source	Capacity	Date	
				Manufacture	Installation
FUG	FUG	Fugitives	N/A	N/A	N/A

EUG H Engine Blowdowns

EUG	EU ID	Source	Capacity	Date	
				Manufacture	Installation
BLOWDOWN	BD	Engine Blowdowns	N/A	N/A	N/A

IV. EMISSIONS

EUG A Natural Gas-Fired Reciprocating Internal Combustion Engines

Engine emissions are calculated using manufacturer’s data. There are six identical Caterpillar G3516B engines, all to be fitted with oxidation catalysts. Uncontrolled emission factors are 0.50 g/hp-hr for NO_x, 2.43 g/hp-hr for CO, 0.48 g/hp-hr for VOC, and 0.42 g/hp-hr for formaldehyde, per manufacturer’s specifications. The control equipment manufacturer’s specifications indicate 90% reduction for CO and formaldehyde, and 70% for non-methane non-ethane hydrocarbon (NMNEHC or VOC). Fuel consumption for each 1,380-hp Caterpillar G-3516B compressor engine was stated at 9,820 scfh. Air emissions from each engine will be discharged at a rate of 9,126 ACFM at 992°F. Note that if all engines were uncontrolled, formaldehyde emissions would exceed 10 TPY, making this facility potentially a major source under 40 CFR 63.2.

Pollutant	Factor g/hp-hr	Reduction Factor	Emissions (each engine)		6 Engine Totals
			lb/hr	TPY	
NO _x	0.50	-0-	1.52	6.66	39.96
CO	2.43	90%	0.74	3.24	19.44
VOC	0.48	70%	0.44	1.92	11.52
Formaldehyde	0.42	90%	0.13	0.56	3.36

Engine emissions are calculated using manufacturer’s data. There are three identical Caterpillar G3612LE engines, all to be fitted with oxidation catalysts. Uncontrolled emission factors are 0.50 g/hp-hr for NO_x, 2.75 g/hp-hr for CO, 0.65 g/hp-hr for VOC, and 0.26 g/hp-hr for formaldehyde, per manufacturer’s specifications. The control equipment manufacturer’s specifications indicate 90% reduction for CO and formaldehyde, and 70% for non-methane non-ethane hydrocarbon (NMNEHC or VOC). Fuel consumption for each 3,550-hp Caterpillar G3612LE compressor engine was stated at 22,937 scfh. Air emissions from each engine will be discharged at a rate of 24,090 ACFM at 838°F. Note that if all engines were uncontrolled, formaldehyde emissions would exceed 10 TPY, making this facility potentially a major source under 40 CFR 63.2.

Pollutant	Factor g/hp-hr	Reduction Factor	Emissions (each engine)		3 Engine Totals
			lb/hr	TPY	
NO _x	0.50	-0-	3.91	17.14	51.42
CO	2.75	90%	2.15	9.43	28.29
VOC	0.65	70%	1.53	6.68	20.04
Formaldehyde	0.26	90%	0.20	0.89	2.67

Engine emissions are calculated using manufacturer’s data. There are three identical Waukesha L7044GSI engines, all to be fitted with catalytic converters. Uncontrolled emission factors are

13.30 g/hp-hr for NO_x, 11.20 g/hp-hr for CO, 0.35 g/hp-hr for VOC, and 0.05 g/hp-hr for formaldehyde, per manufacturer’s specifications. The control equipment manufacturer’s specifications indicate 93.55% reduction for NO_x and 85.50% reduction for CO and formaldehyde. Fuel consumption for each 1,680-hp Waukesha L7044GSI compressor engine was stated at 12,905 scfh. Air emissions from each engine will be discharged at a rate of 8,212 ACFM at 1,179°F. Note that if all engines were uncontrolled, formaldehyde emissions would exceed 10 TPY, making this facility potentially a major source under 40 CFR 63.2.

Pollutant	Factor g/hp-hr	Reduction Factor	Emissions (each engine)		3 Engine Totals
			lb/hr	TPY	
NO _x	13.30	93.55%	3.18	13.92	41.76
CO	11.20	87.00%	5.39	23.62	70.86
VOC	0.35	-0-	1.30	5.68	17.04
Formaldehyde	0.05	85.50%	0.03	0.12	0.36

EUG B Heaters

Emissions from the heaters are based on AP-42 (7/98), Section 1.4 and continuous operation and the burner ratings shown in the following table.

EU ID	Source	Capacity
H-1	Process Hot Oil Heater	22.0 MMBTUH
H-2	Amine Hot Oil Heater	13.0 MMBTUH
H-3	Mole Sieve Regen Heater	15.1 MMBTUH
H-4	Stabilizer Hot Oil Heater	45.0 MMBTUH
H-5	Amine Hot Oil heater	32.0 MMBTUH
H-6	Regen Gas Heater	17.0 MMBTUH

EUG C Storage Tanks

Working and breathing emissions from the six (6) 1,000-bbl condensate storage tanks were calculated using EPA TANKS 4.0.9d software and a maximum condensate throughput of 12,775,000 gallons per year (gpy) per condensate storage tank. Working and breathing emissions from the one (1) 400-bbl produced water storage tank were calculated using EPA TANKS 4.0.9d software and a maximum produced water throughput of 766,500-gpy. Working and breathing emissions from the one (1) 400-bbl condensate storage tank were calculated using EPA TANKS 4.0.9d software and a maximum condensate throughput of 10,500,000-gpy. Working and breathing emissions from the two (2) 200-bbl slop oil storage tanks were calculated using EPA TANKS 4.0.9d software and a maximum slop oil throughput of 1,533,000-gpy per slop oil storage tank. Gasoline RVP15 was selected for the condensate tanks to model emissions. One percent (1%) of the produced water throughput was estimated to be condensate to calculate the emissions from the produced waters storage tank. Five percent (5%) of the slop oil throughput was estimated to be condensate to calculate the emissions from the slop oil storage tanks. The product is stabilized prior to storage at the tanks and no flash emissions would result. TK-8 stores condensate that is brought in by truck and no flashing is expected to occur. The tank vapors will be controlled by a flare.

EUG D Truck Loading

Emissions from liquids loading into tank trucks was estimated using AP-42 (1/95), Section 5.2, Equation 1, a condensate throughput of 87,150,000-gpy, a produced water throughput of 766,500-gpy and a slop oil throughput of 3,066,000-gpy. Gasoline RVP15 was selected to model condensate emissions. Condensate loading emissions are controlled by FLARE-1 with 70% control efficiency. Gasoline RVP15 was selected to model produced water emissions assuming one percent (1%) of the produced water throughput was condensate. Gasoline RVP10 was selected to model slop oil emissions assuming five percent (5%) of the slop oil throughput was condensate.

EUG E Flare

Emissions of NOx and CO from FLARE-1 are based on AP-42 (4/15) Table 13.5-1 and a heat value of gas streams to the flare of 0.41 MMBTUH. VOC emissions are based on total streams routed to the flare and 95% efficiency. Pilot NOx, CO and VOC emissions factors are based on AP-42 (7/98) Table 1.4-1 and a pilot heat rating of 0.07 MMBTUH. Emissions of NOx, CO and VOC from FLARE-2 and FLARE-3 are based on AP-42 (7/98) Table 1.4-1 and a heat value of gas streams to the flare of 0.44 MMBTUH each. Emissions of NOx and CO from COMBUST are based on AP-42 (4/15) Table 13.5-1 and a heat value of gas streams to the flare of 10.5 MMBTUH. VOC emissions are based on total streams routed to the flare and 98% efficiency. Pilot NOx, CO and VOC emissions factors are based on AP-42 (7/98) Table 1.4-1 and a pilot heat rating of 0.10 MMBTUH.

EUG F Amine Unit

Emissions from the amine units are calculated using process simulation and a natural gas feed rate of 100-MMSCFD per unit, a maximum amine circulation rate of 100 GPM for AU-1 and 400 GPM for AU-2, an extended gas analysis, and a 95% control efficiency from the combustion device for AU-2.

EUG G Fugitive Emissions

Fugitive VOC emissions are based on EPA's 1995 Protocol for Equipment Leak Emission Estimates (EPA-453/R-95-017, 1995), an estimated percent C3+, and an estimated number of components.

Component	Number of Items	Emission Factor, lb/hr/item	Percent VOC	VOC Leakage	
				lb/hr	TPY
Valves - Gas	671	0.009920	28.118%	1.87	8.19
Pump Seals - Gas	48	0.005290	28.118%	0.07	0.31
Other - Gas	48	0.019400	28.118%	0.26	1.15
Connectors - Gas	864	0.000441	28.118%	0.11	0.47
Flanges - Gas	357	0.000860	28.118%	0.09	0.38
Open-Ended Lines - Gas	79	0.004410	28.118%	0.10	0.43
Valves - Light Oil	147	0.005510	100.000%	0.81	3.54
Pump Seals - Light Oil	13	0.028700	100.000%	0.38	1.67
Other - Light Oil	67	0.016500	100.000%	1.10	4.83
Connectors - Light Oil	293	0.000463	100.000%	0.14	0.59

Component	Number of Items	Emission Factor, lb/hr/item	Percent VOC	VOC Leakage	
				lb/hr	TPY
Flanges - Light Oil	27	0.000243	100.000%	0.01	0.03
Open-Ended Lines - Light Oil	27	0.003090	100.000%	0.08	0.36
TOTALS	2,641			5.02	21.95

EUG H Engine Blowdowns

Blowdown emissions were calculated using a blowdown volume of 1,786 scf per event, VOC percentage from the gas composition multiplied by an estimated thirty-six (36) blowdowns per engine per year and a 50% safety factor.

FACILITY-WIDE CRITERIA POLLUTANT EMISSIONS (TPY)

Emission Unit ID #	Description	NO _x	CO	VOC
		TPY	TPY	TPY
C-1	1,380-Hp Caterpillar G3516B Engine w/ O.C.	6.66	3.24	1.92
C-2	1,380-Hp Caterpillar G3516B Engine w/ O.C.	6.66	3.24	1.92
C-3	1,380-Hp Caterpillar G3516B Engine w/ O.C.	6.66	3.24	1.92
C-4	1,380-Hp Caterpillar G3516B Engine w/ O.C.	6.66	3.24	1.92
C-5	1,380-Hp Caterpillar G3516B Engine w/ O.C.	6.66	3.24	1.92
C-6	1,380-Hp Caterpillar G3516B Engine w/ O.C.	6.66	3.24	1.92
C-7	3,550-Hp Caterpillar G3612LE Engine w/ O.C.	17.14	9.43	6.68
C-8	3,550-Hp Caterpillar G3612LE Engine w/ O.C.	17.14	9.43	6.68
C-9	3,550-Hp Caterpillar G3612LE Engine w/ O.C.	17.14	9.43	6.68
C-10	1,680-Hp Waukesha L7044GSI Engine w/ C.C.	13.92	23.62	5.68
C-11	1,680-Hp Waukesha L7044GSI Engine w/ C.C.	13.92	23.62	5.68
C-12	1,680-Hp Waukesha L7044GSI Engine w/ C.C.	13.92	23.62	5.68
H-1	22.0 MMBTUH Process Hot Oil Heater	9.39	7.89	0.52
H-2	13.0 MMBTUH Amine Hot Oil Heater	5.55	4.66	0.31
H-3	15.1 MMBTUH Mole Sieve Regen Heater	6.45	5.41	0.35
H-4	45.0 MMBTUH Stabilizer Hot Oil Heater	19.21	16.14	1.06
H-5	32.0 MMBTUH Amine Hot Oil Heater	13.66	11.48	0.75
H-6	17.0 MMBTUH Regen Gas Heater	7.26	6.10	0.40
TK-1 to TK-6	Six (6) 1,000-bbl Condensate Tanks	---	---	6.22
TK-7	One (1) 400-bbl Produced Water Tank	---	---	0.10
TK-8	One (1) 400-bbl Condensate Tank	---	---	0.73
TK-9, TK-10	Two (2) 200-bbl Slop Tanks	---	---	0.10
TL-1	Condensate Truck Loading	---	---	69.78
TL-2	Produced Water Truck Loading	---	---	0.10
TL-3	Slop Truck Loading	---	---	0.19
FLARE-1	Tank and Loading Flare	0.15	0.69	11.43
FLARE-2	Main Flare - Plant I	0.19	0.16	0.10
FLARE-3	Main Flare - Plant II	0.19	0.16	0.10
AU-1	Amine Unit - Plant I	---	---	13.74

Emission Unit ID #	Description	NO _x	CO	VOC
		TPY	TPY	TPY
AU-2	Amine Unit - Plant II	---	---	2.70
COMBUST	Combustor - Acid Gas Vents	3.17	17.05	2.49
FUG	Fugitive Emissions	---	---	21.96
BD	Engine Blowdowns	---	---	9.32
Total		198.36	188.33	191.05

Hazardous Air Pollutants (HAP)

The internal combustion engine has emissions of hazardous air pollutants, the most significant being formaldehyde. Uncontrolled emissions of formaldehyde were calculated using the supplied manufacturer’s emission factor of 0.04 g/hp-hr for compressor engines (C-1 thru C-6), 0.03 g/hp-hr for compressor engines (C-7 thru C-9), and 0.05 g/hp-hr for compressor engines (C-10 thru C-12) which includes a 90% reduction taken for the oxidation catalysts and an 85.5% reduction taken for the catalytic converters. The following table lists estimated formaldehyde emissions for the compressor engines. The total controlled formaldehyde emissions are below major source levels.

Estimated Formaldehyde Emissions

Sources		Formaldehyde	
		lbs/hr	TPY
C-1	1,380-Hp Caterpillar G3516B Engine ¹	0.13	0.56
C-2	1,380-Hp Caterpillar G3516B Engine ¹	0.13	0.56
C-3	1,380-Hp Caterpillar G3516B Engine ¹	0.13	0.56
C-4	1,380-Hp Caterpillar G3516B Engine ¹	0.13	0.56
C-5	1,380-Hp Caterpillar G3516B Engine ¹	0.13	0.56
C-6	1,380-Hp Caterpillar G3516B Engine ¹	0.13	0.56
C-7	3,550-Hp Caterpillar G3612LE Engine ¹	0.20	0.89
C-8	3,550-Hp Caterpillar G3612LE Engine ¹	0.20	0.89
C-9	3,550-Hp Caterpillar G3612LE Engine ¹	0.20	0.89
C-10	1,680-Hp Waukesha L7044GSI Engine ²	0.03	0.12
C-11	1,680-Hp Waukesha L7044GSI Engine ²	0.03	0.12
C-12	1,680-Hp Waukesha L7044GSI Engine ²	0.03	0.12
Total		1.47	6.39
Previously Permitted Totals		1.78	7.81
Difference		-0.31	-1.42

¹ - w/ Oxidation Catalyst; ² - w/ Catalytic Converter.

The formaldehyde emissions from the engines are 6.39 TPY; therefore, facility-wide HAP emissions are less than the 10/25 TPY major source thresholds of 40 CFR 63.2.

V. INSIGNIFICANT ACTIVITIES

The insignificant activities are identified below. Appropriate recordkeeping is required for those activities indicated below with an asterisk.

1. Space heaters, boilers, process heaters, and emergency flares less than or equal to 5 MMBTUH heat input (commercial natural gas).
2. * Storage tanks with less than or equal to 10,000 gallons capacity that store volatile organic liquids with a true vapor pressure less than or equal to 1.0 psia at maximum storage temperature. Lube oil storage tanks all have capacities less than 10,000 gallons and store liquids with a vapor pressure below 1.0 psia.
3. Emissions from condensate tanks with a design capacity of 400 gallons or less in ozone attainment areas.
4. Emissions from storage tanks constructed with a capacity less than 39,894 gallons which store VOC with a vapor pressure less than 1.5 psia at maximum storage temperature.
5. Activities having the potential to emit no more than 5 TPY (actual) of any criteria pollutant.

VI. FEDERAL REGULATIONS

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

NSPS, 40 CFR Part 60 [Subpart Dc, JJJJ and OOOO Applicable]
Subpart Dc, Small Steam Generating Units. This subpart affects boilers with a rated heat input between 10 and 100 MMBtu/hr (2.9 and 29 megawatts) that commenced construction, reconstruction, or modification after June 9, 1989. The facility operates equipment that is subject to this subpart, listed below. The requirements of this subpart are incorporated into the permit under individual EUGs.

EU ID	Point ID	Equipment	Fired Duty MMBtu/hr	Construction/Modification date
H-1	H-1	Process Hot Oil Heater	22.0	2015
H-2	H-2	Amine Hot Oil Heater	13.0	2015
H-3	H-3	Mole Sieve Regen Heater	15.1	2015
H-4	H-4	Stabilizer Hot Oil Heater	45.0	TBD
H-5	H-5	Amine Hot Oil Heater	32.0	TBD
H-6	H-6	Regen Gas Heater	17.0	TBD

In addition to initial notification, the only requirement included in Subpart Dc for steam generating units that combust only natural gas is recordkeeping of the amount of fuel combusted during each calendar day as per 40 CFR §60.48c(g)(1) or each calendar month as per 40 CFR §60.48c(g)(2).

Subpart Kb, VOL Storage Vessels. This subpart regulates hydrocarbon storage tanks larger than 19,813-gallons capacity and built after July 23, 1984. The six (6) 1,000-bbl condensate storage tanks (TK-1 thru TK-6) were manufactured after July 23, 1984 but store Volatile Organic Liquids (VOL) prior to custody transfer and are not subject to this subpart. The facility may receive condensate by truck from other locations. If this occurs, the tanks will store VOL after custody transfer and then would be considered subject to this subpart.

Subpart GG, Stationary Gas Turbines. This subpart sets standards for stationary gas turbines; however, the compressors here will be powered by reciprocating engines.

Subpart KKK, Equipment Leaks of VOC from Onshore Natural Gas Processing Plants. This subpart sets standards for natural gas processing plants which are defined as any site engaged in the extraction of natural gas liquids from field gas, fractionation of natural gas liquids, or both. All equipment at this facility was constructed after August 23, 2011; therefore, it is not subject to this Subpart but is subject to Subpart OOOO.

Subpart LLL, Onshore Natural Gas Processing: SO₂ Emissions. This subpart sets standards for natural gas sweetening units. The facility will have amine units. However, both amine units were constructed after August 23, 2011 and are not subject to this subpart.

Subpart JJJJ, Stationary Spark Ignition Internal Combustion Engines (SI-ICE), promulgates emission standards for all new SI engines ordered after June 12, 2006, and all SI engines modified or reconstructed after June 12, 2006, regardless of size. The specific emission standards (either in g/hp-hr or as a concentration limit) vary based on engine class, engine power rating, lean-burn or rich-burn, fuel type, duty (emergency or non-emergency), and numerous manufacture dates. Engine manufacturers are required to certify certain engines to meet the emission standards and may voluntarily certify other engines. An initial notification is required only for owners and operators of engines greater than 500 HP that are non-certified.

Owners and operators of certified engines may demonstrate compliance by operating and maintaining their stationary engine and after-treatment control device (if any) according to the manufacturer's emission-related written instructions and do not have to conduct any performance testing. Owners and operators of all SI engines (certified and non-certified) must keep records of maintenance conducted on the engine. If an owner or operator of a certified engine does not follow the manufacturer's emission-related operation and maintenance instructions, that engine is considered a non-certified engine and is subject to performance testing, unless the engine is less than 100 HP. Owners and operators of non-certified engines, which include certified engines operating in a non-certified manner, must keep a maintenance plan. An initial performance test must be conducted within the first year of operation for any certified engine operating in a non-certified manner that is equal to or greater than 100 HP. In addition, non-certified engines, including certified engines operating in a non-certified manner, that are greater than 500 HP must conduct the initial performance test and a performance test every 8,760 hours of operation or every 3 years thereafter, whichever comes first. The engines (C-1 thru C-6) were manufactured after June 12, 2006 and are subject to this subpart.

Information sufficient to determine applicability of this subpart shall be supplied to DEQ immediately following installation of each engine (C-7 and C-12).

Subpart OOOO, Crude Oil and Natural Gas Production, Transmission, and Distribution. This subpart was promulgated on August 16, 2012, and per §60.5365 affects the following onshore affected facilities that commence construction, reconstruction, or modification after August 23, 2011:

- 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. On April 12, 2013, EPA proposed revisions to NSPS, Subpart OOOO revising the affected facilities to only those storage vessels that emit more than 6 TPY and revising the definition to only include those storage vessels that contain crude oil, condensate, intermediate hydrocarbon liquids, or produced water.
- f. The group of all equipment, except compressors, within a process unit is an affected facility.
 1. Addition or replacement of equipment for the purpose of process improvement that is accomplished without a capital expenditure shall not by itself be considered a modification under this subpart.
 2. Equipment associated with a compressor station, dehydration unit, sweetening unit, underground storage vessel, field gas gathering system, or liquefied natural gas unit is covered by §§ 60.5400, 60.5401, 60.5402, 60.5421, and 60.5422 if it is located at an onshore natural gas processing plant.
- g. Sweetening units located at onshore natural gas processing plants that process natural gas produced from either onshore or offshore wells.
 1. Each sweetening unit that processes natural gas is an affected facility; and
 2. Each sweetening unit that processes natural gas followed by a sulfur recovery unit is an affected facility.

Facilities that have a design capacity less than 2 long tons per day (LT/D) of hydrogen sulfide (H₂S) in the acid gas (expressed as sulfur) are required to comply with recordkeeping and reporting requirements specified in §60.5423(c) but are not required to comply with §§60.5405 through 60.5407 and §§60.5410(g) and 60.5415(g) of this subpart.

For each reciprocating compressor the owner/operator must replace the rod packing before 26,000 hours of operation or prior to 36 months. If utilizing the number of hours, the hours of operation must be continuously monitored. Commenced construction is based on the date of installation of the compressor (excluding relocation) at the facility. The manufacture dates of the compressors are not currently known but if the construction dates are after August 23, 2011, the compressors will be subject to this subpart.

This is a gas plant and all pneumatic controllers must have a bleed rate of 0 SCFH.

Storage vessels constructed, modified or reconstructed after August 23, 2011, with VOC emissions equal to or greater than 6 TPY after enforceable limits must reduce VOC emissions by 95.0 % or greater. The storage tanks at this facility were constructed after August 23, 2011. The storage tanks at this facility have a potential to emit below 6 TPY per tank; therefore, the storage tanks 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.

A sweetening unit means a process device that removes hydrogen sulfide and/or carbon dioxide from the sour natural gas stream. The facility will have amine units. However, TOM-STACK does not anticipate processing natural gas which contains H₂S through the amine units at the facility. If it is determined that H₂S will be present in the natural gas, TOM-STACK will evaluate the facility for applicability.

NESHAP, 40 CFR Part 61

[Not Applicable]

There will be no emissions of any of the regulated pollutants: arsenic, asbestos, benzene, beryllium, coke oven emissions, mercury, radionuclides, or vinyl chloride except for trace amounts of benzene. Subpart J, Equipment Leaks of Benzene, concerns only process streams that contain more than 10% benzene by weight. No process streams will contain more than a trace of benzene.

NESHAP, 40 CFR Part 63

[Subpart ZZZZ Applicable]

Subpart HH, Oil and Natural Gas Production Facilities. This subpart applies to triethylene glycol dehydration units at area sources and affected emission points that are located at facilities that are major sources of HAP emissions and either process, upgrade, or store hydrocarbons prior to the point of custody transfer or prior to which the natural gas enters the natural gas transmission and storage source category. For the purposes of this subpart, natural gas enters the natural gas transmission and storage source category after the natural gas processing plant, when present. If no natural gas processing plant is present, natural gas enters the natural gas transmission and storage source category after the point of custody transfer. There are no units at this facility subject to this subpart.

Subpart HHH, Natural Gas Transmission and Storage. This subpart applies to affected emission points that are located at facilities that are major sources of HAP, as defined in this subpart, and that transport or store natural gas prior to entering the pipeline to a local distribution company or to a final end user. This facility will be a minor source of HAP.

Subpart ZZZZ, Reciprocating Internal Combustion Engines (RICE). This subpart previously affected only RICE with a site-rating greater than 500 brake horsepower that are located at a major source of HAP emissions. On January 18, 2008, the EPA published a final rule that promulgates standards for new and reconstructed engines (after June 12, 2006) with a site rating less than or equal to 500 HP located at major sources, and for new and reconstructed engines (after June 12, 2006) located at area sources. The engines (C-1 thru C-6) are new engines at area sources of HAPs and must meet the requirements of Subpart ZZZZ by complying with 40 CFR Part 60 Subpart JJJJ.

Information sufficient to determine applicability of this subpart shall be supplied to DEQ immediately following installation of each engine (C-7 and C-12).

Chemical Accident Prevention Provisions, 40 CFR Part 68 [Not Applicable]
NGL Plants and Refineries (1321/2911): Naturally occurring hydrocarbon mixtures, prior to entry into a natural gas processing plant or petroleum refining process unit, including: condensate, crude oil, field gas, and produced water, are exempt for the purpose of determining whether more than a threshold quantity of a regulated substance is present at the stationary source. To determine final applicability of this subpart, the gas plant facility will supply sufficient information regarding presence of any regulated substances above threshold quantity with the application for an operating permit. More information on this federal program is available on the web page: www.epa.gov/ceppo.

VII. OKLAHOMA AIR POLLUTION CONTROL RULES

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

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

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

OAC 252:100-5 (Registration, Emission 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. Required annual information (Turn-Around Document) shall be provided to Air Quality.

OAC 252:100-7 (Permits for Minor Facilities) [Not Applicable]
Subchapter 7 sets forth the permit application fees and the basic substantive requirements of permits for minor facilities. The existing permit for this facility was issued under this

subchapter. The proposed construction project will make the facility a major source and it will not be covered by Subchapter 7.

OAC 252:100-8 (Permits for Part 70 Sources)

[Applicable]

Part 5 includes the general administrative requirements for Part 70 permits. Any planned changes in the operation of the facility that result in emissions not authorized in the permit and that exceed the “Insignificant Activities” or “Trivial Activities” thresholds require prior notification to AQD and may require a permit modification. Insignificant activities refer to those individual emission units either listed in Appendix I or whose actual calendar year emissions do not exceed the following limits.

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

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

OAC 252:100-9 (Excess Emissions Reporting Requirements)

[Applicable]

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

OAC 252:100-13 (Open Burning)

[Applicable]

Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in this subchapter.

OAC 252:100-19 (Particulate Matter (PM))

[Applicable]

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 heaters will be subject to the requirements of this subchapter. Appendix C specifies a PM emission limitation of 0.60 lbs/MMBTU for all equipment at this facility with a heat input rating of 10 Million BTU per hour (MMBTUH) or less. Table 3.2-2 of AP-42 (7/00) lists total PM emissions from 4-stroke lean burn natural gas-fired engines to be 0.01 lbs/MMBTU, Table 3.2-3 of AP-42 (7/00) lists total PM emissions from 4-stroke rich burn natural gas-fired engines to be 0.01 lbs/MMBTU and Table 1.4-2 of AP-42 (7/98) lists natural gas total PM emissions to be 7.6 lbs/million scf or about 0.0076 lbs/MMBTU.

Equipment	Maximum Heat Input (MMBTUH)	Emissions (lbs/MMBTU)	
		Appendix C	Potential
Cat G3516B engines (6)	10.08 each	0.60	0.01
Cat G3612LE engine (3)	23.53 each	0.49	0.01
Wauk L7044 GSI engine (3)	13.24 each	0.56	0.01
H-1 Process Hot Oil Heater	22.00	0.50	< 0.01
H-2 Amine Hot Oil Heater	13.00	0.57	< 0.01
H-3 Mole Sieve Regen Heater	15.10	0.55	< 0.01
H-4 Stabilizer Hot Oil Heater	45.00	0.42	< 0.01
H-5 Amine Hot Oil Heater	32.00	0.46	< 0.01
H-6 Regen Gas Heater	17.00	0.53	< 0.01

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 very little possibility of exceeding these 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 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, so it is not necessary to require specific precautions to be taken.

OAC 252:100-31 (Sulfur Compounds) [Applicable]
Part 2 limits emissions of H₂S from any new or existing source to 0.2 ppm. Gas analysis at this facility shows no detectable sulfur.
Part 2 also limits emissions of sulfur dioxide (SO₂) from any one existing source or any one new petroleum and natural gas process source subject to OAC 252:100-31-26(a)(1). This facility contains no equipment subject to §31-26(a)(1).
Part 5 limits sulfur dioxide emissions from new fuel-burning equipment (constructed after July 1, 1972). For gaseous fuels the limit is 0.2 lbs/MMBTU heat input averaged over 3 hours. For fuel gas having a gross calorific value of approximately 950 Btu/scf, this limit corresponds to fuel sulfur content of approximately 1,143 ppmv. The permit requires the use of gaseous fuel with sulfur content less than 343 ppmv to ensure compliance with Subchapter 31. Analysis performed on a gas sample showed no detectable sulfur.

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 lbs of NO_x per MMBTU. There will be no equipment items that exceed the 50 MMBTUH threshold.

OAC 252:100-35 (Carbon Monoxide)

[Not Applicable]

This subchapter affects gray iron cupolas, blast furnaces, basic oxygen furnaces, petroleum catalytic cracking units, and petroleum catalytic reforming units. There will be no affected sources.

OAC 252:100-37 (Volatile Organic Compounds)

[Applicable]

Part 3 requires storage tanks constructed after December 28, 1974, with a capacity of 40,000 gallons or more and storing a VOC with a vapor pressure greater than 1.5 psia to be equipped with a permanent submerged fill pipe or with a vapor-loss control device. The six (6) 1,000-bbl storage tanks (TK-1 thru TK-6) at this facility are subject to this subpart and will meet the requirements by routing the vapors to a flare with a 95% overall control efficiency.

Part 3 requires storage tanks constructed after December 28, 1974, with a capacity of 400 gallons or more and storing a VOC with a vapor pressure greater than 1.5 psia to be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. The four (4) storage tanks (TK-7 thru TK-10) at this facility are subject to this requirement.

Part 3 requires 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 will not have the physical equipment (loading arm and pump) to conduct this type of loading. Therefore, this requirement is not applicable.

Part 5 limits the VOC content of coating of parts and products. This facility will not normally conduct coating or painting operations except for routine maintenance of the facility and equipment, which is not an affected operation.

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

Part 7 also requires effluent water separators which receive water containing more than 200 gallons per day of any VOC to be equipped with vapor control devices. There will be no effluent water separator at this location.

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

[Applicable]

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

OAC 252:100-43 (Testing, Monitoring, and Recordkeeping)

[Applicable]

This subchapter provides general requirements for testing, monitoring and recordkeeping and applies to any testing, monitoring or recordkeeping activity conducted at any stationary source. To determine compliance with emissions limitations or standards, the Air Quality Director may require the owner or operator of any source in the state of Oklahoma to install, maintain and operate monitoring equipment or to conduct tests, including stack tests, of the air contaminant source. All required testing must be conducted by methods approved by the Air Quality Director and under the direction of qualified personnel. A notice-of-intent to test and a testing protocol shall be submitted to Air Quality at least 30 days prior to any EPA Reference Method stack tests. Emissions and other data required to demonstrate compliance with any federal or state emission limit or standard, or any requirement set forth in a valid permit shall be recorded, maintained,

and submitted as required by this subchapter, an applicable rule, or permit requirement. Data from any required testing or monitoring not conducted in accordance with the provisions of this subchapter shall be considered invalid. Nothing shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

The following Oklahoma Air Pollution Control Rules remain not applicable to this facility.

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

VIII. COMPLIANCE

Tier Classification and Public Review

This application has been determined to be a **Tier II** based on the request for a construction modification to a major source. A 30-day public review is required. The EPA will conduct a 45-day review. This site is not within 50 miles of the Oklahoma border.

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

Information on all permit actions is available for review by the public in the Air Quality section of the DEQ Web Page: <http://www.deq.state.ok.us>.

Fee Paid

Major source construction modification fee of \$5,000 was paid on May 11, 2016.

IX. SUMMARY

Ambient air quality standards are not threatened at the site. There are no active Air Quality compliance or enforcement issues concerning this facility. Issuance of the construction permit is recommended, contingent on public and EPA review.

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

**TOM-STACK, LLC
Chisholm Plant**

Permit No. 2015-1765-C (M-1)

The permittee is authorized to construct in conformity with the specifications submitted to the Air Quality Division on May 11, 2016. The Evaluation Memorandum dated July 15, 2016, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain operating limitations or permit requirements. Commencing construction or operations under this permit constitutes acceptance of, and consent to, the conditions contained herein.

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

EUG A Natural Gas-Fired Reciprocating Internal Combustion Engines

EU ID	Source	NO _x		CO		VOC	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
C-1	1,380-Hp Caterpillar G3516B Engine ¹	1.52	6.66	0.74	3.24	0.44	1.92
C-2	1,380-Hp Caterpillar G3516B Engine ¹	1.52	6.66	0.74	3.24	0.44	1.92
C-3	1,380-Hp Caterpillar G3516B Engine ¹	1.52	6.66	0.74	3.24	0.44	1.92
C-4	1,380-Hp Caterpillar G3516B Engine ¹	1.52	6.66	0.74	3.24	0.44	1.92
C-5	1,380-Hp Caterpillar G3516B Engine ¹	1.52	6.66	0.74	3.24	0.44	1.92
C-6	1,380-Hp Caterpillar G3516B Engine ¹	1.52	6.66	0.74	3.24	0.44	1.92
C-7	3,550-Hp Caterpillar G3612LE Engine ¹	3.91	17.14	2.15	9.43	1.53	6.68
C-8	3,550-Hp Caterpillar G3612LE Engine ¹	3.91	17.14	2.15	9.43	1.53	6.68
C-9	3,550-Hp Caterpillar G3612LE Engine ¹	3.91	17.14	2.15	9.43	1.53	6.68
C-10	1,680-Hp Waukesha L7044GSI Engine ²	3.18	13.92	6.01	26.34	1.30	5.68
C-11	1,680-Hp Waukesha L7044GSI Engine ²	3.18	13.92	6.01	26.34	1.30	5.68
C-12	1,680-Hp Waukesha L7044GSI Engine ²	3.18	13.92	6.01	26.34	1.30	5.68

¹ - Equipped with Oxidation Catalyst; ² - Equipped with Catalytic Converter.

- a. Each engine at the facility shall have a permanent identification plate attached that is accessible and legible, which shows the make, model number, and serial number. The operating permit application shall supply the serial numbers for each engine. [OAC 252:100-43]
- b. Each engine (C-1 thru C-9) shall be operated with the exhaust gas passing through a properly functioning oxidation catalyst to control emissions of CO, VOCs and HAPs and each engine (C-10 thru C-12) shall be operated with the exhaust gas passing through a properly functioning catalytic converter to control emissions of NO_x, CO and HAPs. [OAC 252:100-8-6(a)(1)]
- c. At least once per calendar quarter, the permittee shall conduct tests of NO_x and CO emissions in exhaust gases from each engine and from each replacement engine/turbine when operating under representative conditions for that period. Testing is required for each engine or any replacement engine/turbine that runs for more than 220 hours during that calendar quarter. A quarterly test may be conducted no sooner than 20 calendar days after the most recent test. Testing shall be conducted using a portable analyzer in accordance with a protocol meeting the requirements of the latest "AQD Portable

Analyzer Guidance” document, or an equivalent method approved by Air Quality. When four consecutive quarterly tests show the engine/turbine to be in compliance with the emissions limitations shown in the permit, then the testing frequency may be reduced to semi-annual testing. A semi-annual test may be conducted no sooner than 60 calendar days nor later than 180 calendar days after the most recent test. Likewise, when the following two consecutive semi-annual tests show compliance, the testing frequency may be reduced to annual testing. An annual test may be conducted no sooner than 120 calendar days nor later than 365 calendar days after the most recent test. Upon any showing of non-compliance with emissions limitations or testing that indicates that emissions are within 10% of the emission limitations, the testing frequency shall revert to quarterly. Reduced testing frequency does not apply to engines with catalytic converters.

[OAC 252:100-43]

- d. When periodic compliance testing shows exhaust emissions from the engines 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. [OAC 252:100-9]
- e. Replacement, including temporary periods (6 months or less for maintenance purposes) of any internal combustion engine shown in this permit with an engine of lesser or equal emissions of each pollutant, is authorized under the following conditions.

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

 - i. The permittee shall notify AQD in writing at least seven days in advance of start-up of the replacement engine(s)/turbine(s). Said notice shall identify the old engine/turbine and shall include the new engine/turbine make and model, horsepower rating, fuel usage, stack flow (ACFM), stack temperature (°F), stack height (feet), stack diameter (inches), and pollutant emission rates (g/hp-hr, lb/hr, and TPY) at maximum horsepower for the altitude/location.
 - ii. Quarterly emission tests for the replacement engine(s)/turbine(s) shall be conducted to confirm continued compliance with NO_x and CO emission limitations. A copy of the first quarter testing shall be provided to AQD within 60 days of start-up of each replacement engine/turbine. The test report shall include the engine/turbine fuel usage, stack flow (ACFM), stack temperature (°F), stack height (feet), stack diameter (inches), and pollutant emission rates (g/hp-hr, lbs/hr, and TPY) at maximum rated horsepower for the altitude/location.
 - iii. Replacement equipment and emissions are limited to equipment and emissions that are not a modification under NSPS or NESHAP, or a significant modification under PSD. For existing PSD facilities, the permittee shall calculate the PTE or the net emissions increase resulting from the replacement to document that it does not exceed significance levels, and submit the results with the notice required by (a.) of this Specific Condition.
 - iv. Engines installed as allowed under the replacement allowances in this Specific Condition that are subject to 40 CFR Part 63, Subpart ZZZZ and/or 40 CFR Part 60, Subpart JJJJ shall comply with all applicable requirements.
- f. The engines are subject to 40 CFR Part 63, Subpart ZZZZ. The permittee will meet the requirements of Subpart ZZZZ by meeting the requirements of 40 CFR Part 60, Subpart JJJJ, and no further requirements apply to the engines under Subpart ZZZZ.
- g. The permittee shall comply with all applicable requirements in 40 CFR Part 60, Subpart JJJJ for all stationary spark ignition (SI) internal combustion engines (ICE) including, but not limited to, the following. [40 CFR Subpart JJJJ]

TK-4	One (1) 1,000-bbl Condensate Storage Tank	---	---	---	---	---	1.04
TK-5	One (1) 1,000-bbl Condensate Storage Tank	---	---	---	---	---	1.04
TK-6	One (1) 1,000-bbl Condensate Storage Tank	---	---	---	---	---	1.04
TK-7	One (1) 400-bbl Produced Water Storage Tank	---	---	---	---	---	0.10
TK-8	One (1) 400-bbl Condensate Storage Tank	---	---	---	---	---	0.73
TK-9	One (1) 200-bbl Slop Oil Storage Tank	---	---	---	---	---	0.10
TK-10	One (1) 200-bbl Slop Oil Storage Tank	---	---	---	---	---	0.10

- i. The condensate throughput of the facility shall not exceed 87,150,000 gallons in any one rolling 12-month period.
- j. The produced water throughput of the facility shall not exceed 766,500 gallons in any one rolling 12-month period.
- k. The slop oil throughput of the facility shall not exceed 3,066,000 gallons in any one rolling 12-month period.
- l. The storage tanks shall be routed to a properly operating combustion device with a control efficiency of at least 95%.

EUG D Truck Loading

Emissions from the equipment listed following are estimates and do not have a specific limitation.

EU ID	Source	NO _x		CO		VOC	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
TL-1	Condensate Truck Loading	---	---	---	---	---	69.78
TL-2	Produced Water Truck Loading	---	---	---	---	---	0.10
TL-3	Slop Oil Truck Loading	---	---	---	---	---	0.19

EUG E Flare

EU ID	Source	NO _x		CO		VOC	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
FLARE-1	Tank and Loading Flare	0.03	0.15	0.16	0.69	3.45	15.09
FLARE-2	Main Flare - Plant I	0.04	0.18	0.03	0.15	0.02	0.10
FLARE-3	Main Flare - Plant II	0.04	0.18	0.03	0.15	0.02	0.10
COMBUST	Combustor - Acid Gas Vents	0.72	3.17	3.89	17.05	0.57	2.49

- m. The combustors will be properly maintained to promote efficient combustion so that emissions of VOCs are minimized.

EUG F Amine Unit

EU ID	Source	NO _x		CO		VOC	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
AU-1	Amine Unit - Plant I	---	---	---	---	3.14	13.74
AU-2	Amine Unit - Plant II	---	---	---	---	0.62	2.70

- n. The natural gas throughput of each amine unit shall not exceed 100 MMSCFD based on a monthly average.
- o. The flash tank emissions shall be recycled back into the process resulting in 100% control of emissions.

- p. Emissions from AU-2 shall be vented to a flare or other combustion device resulting in at least 95% control efficiency.

EUG G Fugitive Emissions

Fugitive equipment items are not limited in number or VOC emissions.

Component	Number of Items
Valves - Gas	671
Pump Seals - Gas	48
Other - Gas	48
Connectors - Gas	864
Flanges - Gas	357
Open-Ended Lines - Gas	79
Valves - Light Oil	147
Pump Seals - Light Oil	13
Other - Light Oil	67
Connectors - Light Oil	293
Flanges - Light Oil	27
Open-Ended Lines - Light Oil	27
TOTALS	2,641

EUG H Engine Blowdowns

The total volume of engine blowdowns is limited to no more than 1,157,328 scf/yr. The emission listed following are estimates of 1,157,328 scf/yr multiplied by the VOC percentage from the gas content.

EU ID	Source	NO _x		CO		VOC	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
BD	Blowdowns	---	---	---	---	---	9.32

2. The fuel-burning equipment shall be fueled only with gaseous fuel having 343 ppmv or less total sulfur. Compliance shall be shown at least once a calendar year by a current gas company bill, lab analysis, stain-tube analysis, gas contract, tariff sheet, or other approved method.

[OAC 252:100-31]

3. Upon issuance of an operating permit, the permittee shall be authorized to operate the facility continuously (24 hours per day, every day of the year).

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

4. The permittee shall comply with NSPS, Subpart OOOO, Standards of Performance for Crude Oil and Natural Gas Production, Transportation, and Distribution, for all affected facilities located at this site.

- 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?

5. Engines to be installed at this facility may be subject to NSPS Subpart JJJJ and to NESHAP Subpart ZZZZ. Sufficient information, including test data, shall be provided with the operating permit application to determine applicability of these federal requirements.

[40 CFR 60 Subpart JJJJ, 40 CFR 63 Subpart ZZZZ]

6. The following records shall be maintained on-site to verify Insignificant Activities. No recordkeeping is required for those operations that qualify as Trivial Activities.

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

- a. For stationary reciprocating engines burning natural gas, gasoline, aircraft fuels, or diesel fuel which are either used exclusively for emergency power generation or for peaking power service not exceeding 500 hours/year: records of engine service and annual operating hours.
 - i. For space heaters, boilers, process heaters, and emergency flares less than or equal to 5 MMBTUH heat input fired by commercial natural gas: records of design heat input and type of gas fired.
 - ii. For storage tanks with less than or equal to 10,000 gallons capacity that store volatile organic liquids with a true vapor pressure less than or equal to 1.0 psia at maximum storage temperature: records of tank capacity and true vapor pressure at maximum storage temperature.
 - iii. For emissions from storage tanks constructed with a capacity less than 39,894 gallons which store VOC with a vapor pressure less than 1.5 psia at maximum storage temperature: records of tank capacity and true vapor pressure at maximum storage temperature.
 - iv. For activities having the potential to emit no more than 5 TPY (actual) of any criteria pollutant: records of the type of activity and the amount of emissions from that activity (annual).

7. The permittee shall keep records as follow. 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.

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

- a. Periodic testing of NO_x and CO exhaust from the engines.
- b. Hours of operation for any quarter in which testing is not conducted.
- c. O&M records for any engine/turbine not tested in each quarter.
- d. Condensate throughput, 12-month rolling total.
- e. Produced water throughput, 12-month rolling total.
- f. Slop oil throughput, 12-month rolling total.
- g. For the fuel(s) burned, the appropriate document(s) as described in Specific Condition (SC) No. 2.
- h. Engine records required for NSPS JJJJ and NESHAP ZZZZ, as appropriate.
- i. Records required by NSPS Dc and OOOO.
- j. The natural gas throughput of each amine unit based on a monthly average.

8. Within 60 days of achieving maximum achievable load, not to exceed 180 days from startup of each new engine, the permittee shall submit initial compliance testing for the engine to the DEQ. Within 180 days of first operation under this permit, the permittee shall submit an application for an operating permit, noting any differences from the construction permit application.

**MAJOR SOURCE AIR QUALITY PERMIT
STANDARD CONDITIONS
(July 21, 2009)**

SECTION I. DUTY TO COMPLY

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

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

C. The permittee shall comply with all conditions of this permit. Any permit noncompliance shall constitute a violation of the Oklahoma Clean Air Act and shall be grounds for enforcement action, permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application. All terms and conditions are enforceable by the DEQ, by the Environmental Protection Agency (EPA), and by citizens under section 304 of the Federal Clean Air Act (excluding state-only requirements). This permit is valid for operations only at the specific location listed.

[40 C.F.R. §70.6(b), OAC 252:100-8-1.3 and OAC 252:100-8-6(a)(7)(A) and (b)(1)]

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

SECTION II. REPORTING OF DEVIATIONS FROM PERMIT TERMS

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

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

C. Every written report submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F.

[OAC 252:100-8-6(a)(3)(C)(iv)]

SECTION III. MONITORING, TESTING, RECORDKEEPING & REPORTING

A. The permittee shall keep records as specified in this permit. These records, including monitoring data and necessary support information, shall be retained on-site or at a nearby field office for a period of at least five years from the date of the monitoring sample, measurement, report, or application, and shall be made available for inspection by regulatory personnel upon

request. Support information includes all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Where appropriate, the permit may specify that records may be maintained in computerized form.

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

B. Records of required monitoring shall include:

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

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

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

[OAC 252:100-8-6(a)(3)(C)(i) and (ii)]

D. If any testing shows emissions in excess of limitations specified in this permit, the owner or operator shall comply with the provisions of Section II (Reporting Of Deviations From Permit Terms) of these standard conditions.

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

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

[OAC 252:100-43]

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

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

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

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

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

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

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

J. The reporting of total particulate matter emissions as required in Part 7 of OAC 252:100-8 (Permits for Part 70 Sources), OAC 252:100-19 (Control of Emission of Particulate Matter), and OAC 252:100-5 (Emission Inventory), shall be conducted in accordance with applicable testing or calculation procedures, modified to include back-half condensables, for the concentration of particulate matter less than 10 microns in diameter (PM₁₀). NSPS may allow reporting of only particulate matter emissions caught in the filter (obtained using Reference Method 5).

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

SECTION IV. COMPLIANCE CERTIFICATIONS

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

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

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

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

C. The compliance certification shall contain a certification by a responsible official as to the results of the required monitoring. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."

[OAC 252:100-8-5(f) and OAC 252:100-8-6(c)(1)]

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

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

SECTION V. REQUIREMENTS THAT BECOME APPLICABLE DURING THE PERMIT TERM

The permittee shall comply with any additional requirements that become effective during the permit term and that are applicable to the facility. Compliance with all new requirements shall be certified in the next annual certification.

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

SECTION VI. PERMIT SHIELD

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

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

B. Those requirements that are applicable are listed in the Standard Conditions and the Specific Conditions of this permit. Those requirements that the applicant requested be determined as not applicable are summarized in the Specific Conditions of this permit.

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

SECTION VII. ANNUAL EMISSIONS INVENTORY & FEE PAYMENT

The permittee shall file with the AQD an annual emission inventory and shall pay annual fees based on emissions inventories. The methods used to calculate emissions for inventory purposes shall be based on the best available information accepted by AQD.

[OAC 252:100-5-2.1, OAC 252:100-5-2.2, and OAC 252:100-8-6(a)(8)]

SECTION VIII. TERM OF PERMIT

A. Unless specified otherwise, the term of an operating permit shall be five years from the date of issuance.

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

B. A source's right to operate shall terminate upon the expiration of its permit unless a timely and complete renewal application has been submitted at least 180 days before the date of expiration.

[OAC 252:100-8-7.1(d)(1)]

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

[OAC 252:100-8-1.4(a)]

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

SECTION IX. SEVERABILITY

The provisions of this permit are severable and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

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

SECTION X. PROPERTY RIGHTS

A. This permit does not convey any property rights of any sort, or any exclusive privilege.

[OAC 252:100-8-6(a)(7)(D)]

B. This permit shall not be considered in any manner affecting the title of the premises upon which the equipment is located and does not release the permittee from any liability for damage to persons or property caused by or resulting from the maintenance or operation of the equipment for which the permit is issued.

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

SECTION XI. DUTY TO PROVIDE INFORMATION

A. The permittee shall furnish to the DEQ, upon receipt of a written request and within sixty (60) days of the request unless the DEQ specifies another time period, any information that the DEQ may request to determine whether cause exists for modifying, reopening, revoking, reissuing, terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the DEQ copies of records required to be kept by the permit.

[OAC 252:100-8-6(a)(7)(E)]

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

[OAC 252:100-8-6(a)(7)(E)]

C. Notification to the AQD of the sale or transfer of ownership of this facility is required and shall be made in writing within thirty (30) days after such sale or transfer.

[Oklahoma Clean Air Act, 27A O.S. § 2-5-112(G)]

SECTION XII. REOPENING, MODIFICATION & REVOCATION

A. The permit may be modified, revoked, reopened and reissued, or terminated for cause. Except as provided for minor permit modifications, the filing of a request by the permittee for a permit modification, revocation and reissuance, termination, notification of planned changes, or anticipated noncompliance does not stay any permit condition.

[OAC 252:100-8-6(a)(7)(C) and OAC 252:100-8-7.2(b)]

B. The DEQ will reopen and revise or revoke this permit prior to the expiration date in the following circumstances:

[OAC 252:100-8-7.3 and OAC 252:100-8-7.4(a)(2)]

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

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

D. The permittee shall notify AQD before making changes other than those described in Section XVIII (Operational Flexibility), those qualifying for administrative permit amendments, or those defined as an Insignificant Activity (Section XVI) or Trivial Activity (Section XVII). The notification should include any changes which may alter the status of a "grandfathered source," as defined under AQD rules. Such changes may require a permit modification.

[OAC 252:100-8-7.2(b) and OAC 252:100-5-1.1]

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

SECTION XIII. INSPECTION & ENTRY

A. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized regulatory officials to perform the following (subject to the permittee's right to seek confidential treatment pursuant to 27A O.S. Supp. 1998, § 2-5-105(18) for confidential information submitted to or obtained by the DEQ under this section):

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

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

SECTION XIV. EMERGENCIES

A. Any exceedance resulting from an emergency shall be reported to AQD promptly but no later than 4:30 p.m. on the next working day after the permittee first becomes aware of the

exceedance. This notice shall contain a description of the emergency, the probable cause of the exceedance, any steps taken to mitigate emissions, and corrective actions taken.

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

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

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

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

- (1) an emergency occurred and the permittee can identify the cause or causes of the emergency;
- (2) the permitted facility was at the time being properly operated;
- (3) during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit.

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

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

SECTION XV. RISK MANAGEMENT PLAN

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

SECTION XVI. INSIGNIFICANT ACTIVITIES

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

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

[OAC 252:100-8-2 and OAC 252:100, Appendix I]

SECTION XVII. TRIVIAL ACTIVITIES

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

[OAC 252:100-8-2 and OAC 252:100, Appendix J]

SECTION XVIII. OPERATIONAL FLEXIBILITY

A. A facility may implement any operating scenario allowed for in its Part 70 permit without the need for any permit revision or any notification to the DEQ (unless specified otherwise in the permit). When an operating scenario is changed, the permittee shall record in a log at the facility the scenario under which it is operating.

[OAC 252:100-8-6(a)(10) and (f)(1)]

B. The permittee may make changes within the facility that:

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

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

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

SECTION XIX. OTHER APPLICABLE & STATE-ONLY REQUIREMENTS

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

- (1) Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in the Open Burning Subchapter.
[OAC 252:100-13]
- (2) No particulate emissions from any fuel-burning equipment with a rated heat input of 10 MMBTUH or less shall exceed 0.6 lb/MMBTU.
[OAC 252:100-19]
- (3) For all emissions units not subject to an opacity limit promulgated under 40 C.F.R., Part 60, NSPS, no discharge of greater than 20% opacity is allowed except for:
[OAC 252:100-25]

- (a) Short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity;
 - (b) Smoke resulting from fires covered by the exceptions outlined in OAC 252:100-13-7;
 - (c) An emission, where the presence of uncombined water is the only reason for failure to meet the requirements of OAC 252:100-25-3(a); or
 - (d) Smoke generated due to a malfunction in a facility, when the source of the fuel producing the smoke is not under the direct and immediate control of the facility and the immediate constriction of the fuel flow at the facility would produce a hazard to life and/or property.
- (4) No visible fugitive dust emissions shall be discharged beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards. [OAC 252:100-29]
- (5) No sulfur oxide emissions from new gas-fired fuel-burning equipment shall exceed 0.2 lb/MMBTU. No existing source shall exceed the listed ambient air standards for sulfur dioxide. [OAC 252:100-31]
- (6) Volatile Organic Compound (VOC) storage tanks built after December 28, 1974, and with a capacity of 400 gallons or more storing a liquid with a vapor pressure of 1.5 psia or greater under actual conditions shall be equipped with a permanent submerged fill pipe or with a vapor-recovery system. [OAC 252:100-37-15(b)]
- (7) All fuel-burning equipment shall at all times be properly operated and maintained in a manner that will minimize emissions of VOCs. [OAC 252:100-37-36]

SECTION XX. STRATOSPHERIC OZONE PROTECTION

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

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

B. If the permittee performs a service on motor (fleet) vehicles when this service involves an ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all applicable requirements. Note: The term “motor vehicle” as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term “MVAC” as used in Subpart B does not include the

air-tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant. [40 CFR 82, Subpart B]

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

- (1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156;
- (2) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to § 82.158;
- (3) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161;
- (4) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record-keeping requirements pursuant to § 82.166;
- (5) Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to § 82.158; and
- (6) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.

SECTION XXI. TITLE V APPROVAL LANGUAGE

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

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

- (9) Any requirements of the construction permit may be reopened for cause after incorporation into the Title V permit by the administrative amendment process, by DEQ as provided in OAC 252:100-8-7.3(a), (b), and (c), and by EPA as provided in 40 C.F.R. § 70.7(f) and (g).
- (10) The DEQ shall not issue the administrative permit amendment if performance tests fail to demonstrate that the source is operating in substantial compliance with all permit requirements.

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

SECTION XXII. CREDIBLE EVIDENCE

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

[OAC 252:100-43-6]



PART 70 PERMIT

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

Permit No. 2015-1765-C (M-1)

TOM-STACK, LLC,

having complied with the requirements of the law, is hereby granted permission to construct within the boundaries of the Chisholm Plant located in Section 16, Township 15N, Range 5W, Kingfisher County, Oklahoma, subject to standard conditions dated July 21, 2009, and specific conditions, both attached.

In the absence of commencement of construction, this permit shall expire 18 months from the issuance date, except as authorized under Section VIII of the Standard Conditions.

Division Director
Air Quality Division

Date

June 21, 2016

Mark Milliman, Environmental Field Specialist
TOM-STACK, LLC
2501 Cedar Springs Road, Suite 100
Dallas, TX 75201

Re: Permit No. **2015-1765-C (M-1)**
Chisholm Plant (Facility ID: 14885)
Section 16, Range 15N, Township 5W
Kingfisher County, Oklahoma

Dear Mr. Milliman:

Enclosed is the Title V permit authorizing construction of the referenced facility. Please note that this permit is issued subject to certain standard and specific conditions that are attached.

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

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

Sincerely,

Ryan Buntyn
Existing Source Permits Section
Air Quality Division

Enclosures