DRAFT/PROPOSED

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

MEMORANDUM **September 14, 2020**

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

THROUGH: Richard Groshong, Env. Programs Manager, Compliance & Enforcement

THROUGH: Eric L. Milligan, P.E., Manager, Engineering Section

THROUGH: David Schutz, P.E., New Source Permits Section

FROM: Iftekhar Hossain, P.E., New Source Permits Section

SUBJECT: Evaluation of Permit Application **No. 2015-1034-C (M-2)**
ONEOK Field Services Company, L.L.C. (OFS)
Woodward Gas Plant (Facility ID: 1533)
Latitude: 36.44193° N, Longitude: 99.47952° W
Section 29, T23N, R21W, Woodward County, Oklahoma
Directions: from the intersection of U.S. Highway 412 and State Highway 15 in Woodward, go west on Highway 15 for three miles, turn north on county road, go ½ mile to plant which is on the east side of the road.

SECTION I. INTRODUCTION

ONEOK Field Services Company, LLC (OFS) operates the Woodward Gas Plant (SIC 1321) in Woodward County, Oklahoma. The facility is currently operating under Permit No. 2015-1034-C (M-1) issued on April 4, 2019. The facility is a minor source for Prevention of Significant Deterioration (PSD) and an "area" source of Hazardous Air Pollutants (HAPs). OFS has submitted a construction permit application for a significant modification to this existing major source facility.

Woodward Gas Plant utilizes two (2) pumps to move natural gas liquids (NGLs) into the pipeline. These are not considered emissions sources; however, the pumps are included as fugitive emissions and currently regulated under 40 CFR Part 60, New Source Performance Standards (NSPS) Subpart KKK. It may be noted that OFS has rolled the grandfathered process unit voluntarily into the affected facilities of NSPS Subpart KKK in 2019. The pumps were included as part of that project.

In this permit action, OFS intends to accomplish the following:

(i) Replace the two (2) product pumps. The new pumps replacement project will potentially be a modification at the existing process unit that will potentially trigger modification under NSPS Subpart OOOOa for fugitive equipment if added components in the pump replacement exceed the thresholds for that process unit in Subpart OOOOa.

(ii) Woodward Plant is no longer a major source for HAPs. It was discovered in 2002 that, due to the use of an updated flash simulation tool and analysis, there was a potential for n-hexane emissions to be exceeded 10 TPY limits after June 17, 2002. This resulted in the facility entering into Consent Order 05-451 which stipulated that the facility would add vapor recovery units [permitted under 2003-388-TV (M-3)] to reduce the HAP emissions below major source levels. Because of EPA's revoking of "once-in, always-in" policy in January 25, 2018, the facility can request to be re-classified as an "area" source of HAP. Therefore, the facility has requested to change the applicability to an area source of HAP.

(iii) Voluntary transition of the fugitive equipment, in EUG-15, to be subject to NSPS OOOOa.

(iv) Removing the portable flare (FL-3) from the permit as there are no plans to use it in the future.

The changes made through this application to the existing facility are considered a "physical change", i.e., it involves replacement of existing two pumps. In addition, by becoming an "area" source, there is a reduction in monitoring, reporting, and recordkeeping requirements. Based on the criteria specified under OAC 252:100-8-7.2(b)(2), the changes qualify as a "*significant modification"* of the existing major source permit, and requires a construction permit. The permit is therefore subject to **Tier II** application processing. Public review of the application and draft permit (when available) are required. A 45-day EPA review is also required.

Since the facility emits more than 100 TPY of a regulated pollutant, it is subject to Title V permitting requirements. Emission units (EUs) have been arranged into Emission Unit Groups (EUGs) as outlined in Section III. Pipeline-grade natural gas is the primary fuel with the facility being operated continuously.

SECTION II. FACILITY DESCRIPTION

A description of the facility process is as follows. A pipeline gathering system transports field natural gas from wells through an inlet slug catcher and two inlet separators (one for the 10" inlet and one for the Fort Supply inlet), where free liquids are removed and stored in 400-bbl condensate tanks. The 10" inlet gas passes through a suction header that feeds the turbine driven compressor (Unit #2247/T-2.4), which boosts gas pressure. High pressure discharge gas together with the Fort Supply inlet gas enters the molecular sieve unit to be dehydrated. The molecular sieve is regenerated using heat provided by a residue gas-fired heater.

From the molecular sieve unit, dry gas either passes through a cryogenic plant or bypasses the cryogenic plant and is sent into natural gas pipeline. In the cryogenic expander units, most of the components heavier than ethane are condensed.

Extracted liquids from the cryogenic plant are treated with an amine solution for the removal of acid gases (primarily CO_2 and H_2S). The amine solution is regenerated with a natural gas-fired

heater (H-1). The resulting acid gas is vented through or burned in the acid gas flare (FL-1). Residue gas leaves the cryogenic plant and enters the residue compressors (Unit 2006/T-1.4 or Unit 2007/C-1), where it is compressed and sent into a gas pipeline.

Liquids from the 10" inlet line at approximately 500 psig are collected in the 800-bbl inlet slug catcher. Liquids removed from the 10" inlet separator and the Fort Supply inlet separator is also routed to the inlet slug catcher. Liquids from the inlet slug catcher are routed to the high pressure flash separator (HP-SEP). Liquids from the HP-SEP are sent to the condensate tanks. Flash gas from the HP-SEP is routed to the high pressure vapor recovery unit (HP-VRU). The HP-VRU uses an electric driven compressor to raise the pressure of the recovered vapors before they are injected into the 10" inlet compressor suction header. The condensed liquids from the high pressure vapor recovery unit are sent to the condensate storage tanks.

Working, breathing, and flashing emissions from the condensate tanks are routed to the low pressure vapor recovery unit (LP-VRU). The LP-VRU uses an electric driven compressor to raise the pressure of the recovered vapors before they are injected into the HP-VRU suction header. The condensed liquids from the LP-VRU are sent to the condensate storage tanks. Should the vapor recovery units be out of service, the HP-SEP flash gas is sent to the process flare (FL-2) and the condensate tanks' working, breathing, and flashing vapors are sent directly to the atmosphere.

Water is separated from the condensate in the 400-bbl condensate storage tanks and drained into a 210-bbl water tank. Condensate is loaded (LOAD-1) into tank trucks and transported off-site for sales. Separated water is transported off-site by tank trucks to a disposal well.

Various gas streams throughout the facility are sent to the process flare (FL-2) for combustion. Should FL-2 be out of service, these processes are vented directly to the atmosphere.

SECTION III. EQUIPMENT

Emission units (EU) are arranged into Emission Unit Groups (EUG) in this section.

EUG 2. Large Natural Gas-Fired Combustion Turbine

EU ID #	Point #	Make/Model	HP	Serial No.	Mfg. Date	Installed Date
2006	T-1.4	Solar Centaur T4500	4,219	OHJ15-C7797	1976	11/12/2015

EUG 3. Small Natural Gas-Fired Combustion Turbine

EU ID #	Point #	Make/Model	HP	Serial No.	Mfg. Date	Installed Date
2247	T-2.4	Solar Saturn T1302	1,315	OHH15-S8119	1985	9/30/2015

EUG 4. Natural Gas-Fired Internal Combustion Engine

EU ID #	Point #	Make/Model	HP	Serial No.	Mfg./Mod. Date	Installed Date
2007	C-1	Waukesha 8L-AT27GL 4-stroke, lean-burn with oxidative catalyst (w/OC)	2,090	402070	1990/2003	2003

Stack Parameters for Engines

EU ID #	Height (ft)	Diameter (ft)	Flow (ACFM)	Temp. (°F)
2006	40	2.5	73,584	745
2247	20.5	1.67	29,127	896
2007	35	1.5	12,648	677

EUG 5. Heater Units

EU ID #	Point #	Make/Model	MMBTUH	Date Installed
H-1	H-1	Amine Heater	1.50*	1980
H-2	H-2	Demethanizer Reboiler Heater	2.30	1976
H-3	H-3	Regeneration Heater	4.15	1976

**equipped with dual burners (0.75 MMBTUH each)*

EUG 6. Acid Gas Flare

EU ID #	Point #	Emission Units	Date Installed
AU-1	FL-1	Amine Unit-Acid Gas Flare with Pilot	1984

EUG 7. Condensate Storage Tanks

EU ID #	Point #	Capacity	Throughput	Material Stored	Date Const/Modified*
TK-1	TK-1	400-bbls	1,050,000 gal/yr	Condensate	1976
TK-2	TK-2	400-bbls	1,050,000 gal/yr	Condensate	1976
TK-3	TK-3	400-bbls	1,050,000 gal/yr	Condensate	1976
TK-4	TK-4	400-bbls	1,050,000 gal/yr	Condensate	1976
HP-SEP	HP-SEP	--	4,200,000 gal/yr	--	April 12, 2006

**A high pressure vapor recovery unit is operated off the LP flash separator and a low-pressure vapor recovery unit is operated off the atmospheric storage tanks.*

EUG 8. Condensate Truck Loading

EU ID #	Point #	Material Stored	Date Constructed
LOAD-1	LOAD-1	Condensate Truck Loading	1976

EUG 9. Methanol Storage Tanks

EU ID #	Point #	Capacity	Throughput	Material Stored	Date Constructed
TK-5	TK-5	500-gal	26,000 gal/yr	Methanol	1976
TK-6	TK-6	560-gal	29,120 gal/yr	Methanol	1976
TK-7	TK-7	560-gal	29,120 gal/yr	Methanol	1976
PLT M	PLT M	1,000-gal	52,000 gal/yr	Methanol	1976

EUG 10. Miscellaneous Process Vents

EU ID #	Point #	Emission Units	Date Constructed
VENT-1	VENT-1	Compressor Blowdowns	1976

EUG 11. Fugitive Emissions: Previously not subject to either MACT Subpart HH or NSPS Subpart KKK but rolled under applicability of Subpart KKK in 2019 and in compliance with all applicable monitoring requirements.

EU ID #	Point #	Emission Units	Date Constructed
FUG	FUG	Fugitive Emissions Subject to KKK Monitoring	1976

EUG 12. Fugitive Emissions: Subject to NSPS Subpart KKK Monitoring.

EU ID #	Point #	Emission Units	Date Constructed
FUG-KKK	FUG-KKK	Fugitive Emissions Subject to KKK Monitoring	Post 1984

EUG 14. Flares

EU ID #	Point #	Emission Units	Date Installed
FL-2	FL-2	Process Flare	1976

EUG 15. Fugitive Emissions: Subject to LDAR Monitoring Under NSPS Subpart OOOOa.

EU ID #	Point #	Emission Units	Date Constructed *
FUG-OOOOa	FUG-OOOOa	Fugitive Emissions subject to LDAR monitoring under OOOOa	1991 to April 2003

** The applicant is voluntarily opting to be subject to OOOOa.*

SECTION IV. EMISSIONS

TURBINES AND ENGINES (EUG 2, EUG 3, AND EUG 4)

Manufacturer's data and continuous operation (8,760 hours per year) plus a margin of safety for operational flexibility have been used to estimate emissions for the Solar Centaur turbine (0.015 g/hp-hr SO_2), for the Solar Saturn turbine: (0.016 g/hp-hr SO_2), and for the Waukesha 8L-AT27GL I C engine with oxidation catalyst (0.002 g/hp-hr SO_2). VOC includes formaldehyde (HCHO).

Controlled Engine Emission Factors

Points	Make/Model	NO_X	CO	VOC (1)	H_2CO
		g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr
2006	Solar Centaur T4500	2.16	1.34	0.02	0.0007
2247	Solar Saturn T1302	3.01	4.89	0.07	0.0007
2007	Waukesha 8L-AT27GL w/OC	2.0	0.11	0.25	0.0007

EU	Make/Model	NO_X		CO		VOC		SO_2	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
2006	Solar Centaur T4500	20.05	87.80	12.51	54.78	0.22	0.98	0.14	0.59

EU	Make/Model	NO_X		CO		VOC		SO_2	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
2247	Solar Saturn T1302	8.73	38.23	14.17	62.06	0.20	0.89	0.05	0.20

EU	Make/Model	NO_X[1]		CO[2]		VOC[3]		SO_2	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
2007	Waukesha 8L-AT27GL w/OC	9.22	40.36	0.51	2.22	1.15	5.05	<0.01	0.04

[1] Manufacture's Data;

[2] Engine CO factor based on the September 26, 2007 Performance Test conducted by NORDON Corporation. It is calculated as follows: gram_CO/hp-hr = 0.048 lb_CO/hr measured out of the catalyst / (100% - 99.3% measured catalyst control efficiency) * 453.6 gram/lb / 1,975 hp produced during the test * (100% - 93% MACT ZZZZ required control efficiency);

[3] reflects mfg data with 50% catalyst control.

HEATERS (EUG 5)

Estimated emissions from the heaters are based on AP-42 (7/98), Section 1.4 for commercial boilers.

Heater and Reboiler Emission Factors

NOx (lb/MMBTU)	CO (lb/MMBTU)	VOC (lb/MMBTU)
0.098	0.082	0.005

EU	Make/Model	NO_X		CO		VOC	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
H-1	Amine Heater	0.15	0.64	0.12	0.54	<0.01	0.04
H-2	Demethanizer Heater	0.23	0.99	0.19	0.83	0.01	0.05
H-3	Regeneration Heater	0.41	1.78	0.34	1.50	0.02	0.10

FLARES

Acid Gas Flare (EUG 6)

The emissions of sulfur dioxide and hydrogen sulfide from the acid gas flare (FL-1) are based on 85 MMscf/day of inlet gas flow rate, 30 ppm of H_2S content, 100% H_2S recovery for the liquid amine system and a conversion efficiency of 98% H_2S to SO_2, while NO_X and CO emissions are based on AP-42 (1/95), Section 13.5. H_2S has also been calculated per compliance requirements

of OAC:252-100-31-26 (A)(1) to comply with 95% reduction exemption limit. The larger of the two H_2S concentrations has been chosen as permit limit.

Amine Unit Emissions

Parameter	Data (If Venting)	Data (If Flaring)
Type of Amine	D1- Ethanol Amine	D1- Ethanol Amine
Liquid Treater Flow Rate, gpm	120	120
Inlet Gas H_2S Concentration, ppmv	30	30
Outlet Gas H_2S Concentration, ppmv	<0.01	<0.01
Gas Throughput to Amine Unit, MMSCFD	85	85
Lean Amine Recirculation Rate Input, gpm	25.0	25.0
Flash Tank Temperature, °F	100	100
Flash Tank Pressure, psig	84	84
Regenerator Vent		
Control	Vent	Flare
VOC Control Efficiency, %	0	0/98
H_2S Control Efficiency, %	0	0/98
H_2S to SO_2 Conversion Efficiency, %	0	0/98
VOC Emissions, TPY	1.46	0.03
H_2S Emissions, lb/hr	0.30	0.19
SO_2 Emissions, lb/hr	NA	17.58
Flash Tank		
Control Type or Recycle	Flare	Flare
VOC Control Efficiency, %	98	98
H_2S Control Efficiency, %	98	98
H_2S to SO_2 Conversion Efficiency, %	98	98
VOC Emissions, TPY	0.30	0.30
H_2S Emissions, lb/hr	<0.01	<0.01
SO_2 Emissions, lb/hr	<0.01	<0.01
Total Emissions		
VOC, TPY *	3.80	3.80
Total Hazardous Air Pollutants (HAPs), TPY	<0.01	<0.01
H_2S Emissions, lb/hr	0.30	0.30/0.19
SO_2 Emissions, lb/hr	17.58	17.58

*includes pilot gas combustion (2.04 TPY)

Flare Combustion Emissions

Point	Source	Gas Combusted MMBtu/yr	Emission Factor lb/MMBTU		NOx TPY	CO TPY
			NOx[(1)]	CO[(1)]		
FL-1	Amine Flash Gas	2,423	0.068	0.31	0.08	0.38
FL-1	Regenerator	521	0.068	0.31	0.02	0.08
PILOT	Pilot Gas	4,056	0.068	0.31	0.14	0.63
Total					**0.24**	**1.09**

(1) Emission factors from AP-42 (02/18), Section 13.5, Table 13.5-1 and Table 13.5-2 for Industrial Flares.

Total Acid Gas Flare (FL-1) Emissions

EU	Equipment	NO_X		CO		VOC		SO_2		H_2S	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
FL-1	Acid Gas Flare	0.05	0.24	0.25	1.09	0.87	3.80	17.58	77.0	0.30	1.31

Process Flare (EUG 14)

Emissions from the process flare (FL-2) are based on an estimated flash gas vapor rate of 10.37 MMSCF/yr and a pilot gas combustion flare rate of 1.75 MMSCF/yr and AP-42 (1/95), Table 13.5-1.

Process Flare Combustion Emissions

Point	Source	Gas Combusted MMBtu/yr	Emission Factor lb/MMBTU		NOx TPY	CO TPY
			NO_x[(1)]	CO[(1)]		
FL-2	Flare Gas Combustion	24,007	0.068	0.31	0.82	3.72
PILOT	Pilot Gas	1,752	0.068	0.31	0.06	0.27
Total					**0.88**	**3.99**

(1) Emission factors from AP-42 (02/18), Section 13.5, Table 13.5-1 and Table 13.5-2 for Industrial Flares.

Total Process Flare (FL-2) Emissions.

EU	Equipment	NO_X		CO		VOC	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
FL-2	Process Flare	0.20	0.88	0.91	3.99	2.77	12.14

TANKS

Condensate Storage Tanks (EUG 7)

Working and breathing losses for the condensate tanks are based on Tanks 4.0 program and the PROMAX simulation program. Condensate flashing losses are estimated using PROMAX simulation program. The VRU is assumed to capture and collect 95% of the emissions from the tanks. If condensate is transferred through or to the tanks during VRU shutdown, OFS will track the amount of VOCs emitted by measuring the amount of condensate transferred, if any, for the duration of the VRU shutdown. The HP-SEP is not a tank; however, it is listed here because it will be vented to the same flare (FL-2) during instances of VRU downtime (assuming, 5% downtime). For HP-SEP, an overall control efficiency of 98% assumes a capture efficiency of 100% and a destruction efficiency of 98%.

High Pressure Separator Emissions

Parameter	HP-SEP
Throughput, gal/yr	4,200,000
Flash Calculation Method/Tool	ProMax
Control Type	VRU/Flare
Capture Efficiency, %	100
Control Efficiency, %	98
VOC Emissions Emitted at Tank, TPY	0.00

Parameter	HP-SEP
VOC Emissions Emitted at Flare, TPY	0.43
VOC Emissions, TPY	**0.43**

TK-1 through TK-4 Emissions (per Tank)

Parameter	TK-1, TK-2, TK-3 and TK-4
Content	Condensate
Throughput, gal/yr	1,050,000
Flash Calculation Method/Tool	ProMax
Working/Breathing Method/Tool	EPA TANKS 4.0.9d
Control Type	VRU
Overall Control Efficiency, %	95
VOC Emissions Emitted at Tank, TPY	18.36
VOC Emissions, TPY	**18.36**

Methanol Storage Tanks (EUG 9)

TK-5 through TK-7 Emissions and PLT-M

Parameter	TK-5	TK-6 and TK-7 (each)	PLT-M
Content	Methanol	Methanol	PLT-M
Throughput, gal/yr	26,000	29,120	52,000
Working/Breathing Method/Tool	EPA TANKS 4.0.9d	EPA TANKS 4.0.9d	EPA TANKS 4.0.9d
VOC Emissions Emitted at Tank, TPY	0.02	0.02	0.03
VOC Emissions, TPY	**0.02**	**0.02**	**0.03**

LOADING (EUG 8)

Loading losses are estimated using AP-42 (1/95) Section 5.2-4 Equation (1).

General Information

EU ID	Description	Fill Method	Type of Service	Mode of Operation
TL-1	Condensate Truck Loading	Submerged	Dedicated	Normal

Loading Parameters and Emissions

Point	TL-1
Liquids Loaded	Condensate
Throughput, gal/yr	4,200,000
Saturation Factor	0.6
Temp., ^{o}F	59.96
TVP, psia	11.33
MW, lb/lbmol	54.11

Point	**TL-1**
VOC, wt.%	10
Emission Factor, lb/10^3 gal	8.82
Reduction Factor Claimed, %	0.00
VOC Emissions, TPY	**18.52**

PROCESS VENTS (EUG 10)

Emissions from compressor blowdowns were determined with engineering estimates.

EU	**Activity**	**VOC**	
		lb/hr	**TPY**
VENT-1	Compressor Blowdowns	--	4.24

FUGITIVES

Fugitive VOC emissions are based on the EPA document EPA-453/R-95-017: "Protocol for Equipment Leak Emissions Estimates."

- Fugitive emissions previously not subject to either MACT Subpart HH or NSPS Subpart KKK (EUG 11) now subject to NSPS Subpart KKK and complying with Subpart KKK LDAR Monitoring.

Emission Units	**No. of Component**	**Emission Factor (lb/hr-source)**	**% VOC**	**VOC Emissions**		**Streams**
				lb/hr	**TPY**	
Valves - Light Oil	220	0.00551	100	1.21	5.31	NGL
Flanges - Light Oil	571	0.00024	100	0.14	0.60	NGL
Open-ended lines - Light Oil	5	0.00309	100	0.02	0.07	NGL
Pump Seals - Light Oil	10	0.00287	100	0.03	0.13	NGL
Other - Light Oil	3	0.0165	100	0.05	0.217	NGL
Total				**1.44**	**6.33**	

- Fugitive emissions subject to Subpart KKK LDAR monitoring (EUG 12).

Emission Units	**No. of Component**	**Emission Factor (lb/hr-source)**	**Control Efficiency (%)**	**% VOC**	**VOC Emissions**		**Streams**
					lb/hr	**TPY**	
Valves – Gas	390	0.00992	75	16	0.15	0.68	Wet Gas
Flanges – Gas	743	0.00086	30	16	0.07	0.31	Wet Gas
Connectors – Gas	132	0.00044	30	16	0.01	0.03	Wet Gas
Pressure Relieve Valves – Gas	24	0.01940	75	16	0.02	0.08	Wet Gas
Open Ended Lines - Gas	14	0.00441	100	16	0.00	0.00	Wet Gas
Compressor Seals - Gas	36	0.01940	75	16	0.03	0.12	Wet Gas

Emission Units	No. of Component	Emission Factor (lb/hr-source)	Control Efficiency (%)	% VOC	VOC Emissions		Streams
					lb/hr	TPY	
Other - Gas	41	0.01940	0	16	0.13	0.56	Wet Gas
Valves – Gas	30	0.00992	75	100	0.07	0.33	Recovered Vapors
Flanges – Gas	30	0.00086	30	100	0.02	0.08	Recovered Vapors
Pressure Relief Valves – Gas	2	0.01940	75	100	0.01	0.04	Recovered Vapors
Total					**0.51**	**2.23**	

- Fugitive emissions subject to LDAR monitoring under NSPS Subpart OOOOa (EUG 15).

Emission Units	No. of Component	Total Organic Compounds (lb/hr-source)	Control Effi (%)	% VOC	VOC Emissions		Streams
					lb/hr	TPY	
Valves – Gas	20	0.00992	75	16	0.01	0.03	Wet Gas
Connectors – Gas	110	0.00044	30	16	0.01	0.02	Wet Gas
Pressure Relief Valves - Gas	1	0.01940	0	16	0.00	0.01	Wet Gas
Valves – Light Oil	288	0.00551	75	16	0.06	0.28	Liquid-liquid
Flanges – Light Oil	240	0.00024	30	100	0.04	0.18	Liquid-liquid
Connectors – Light Oil	692	0.00046	30	100	0.22	0.98	Liquid-liquid
Pump Seals – Light Oil	8	0.00287	75	100	0.01	0.03	Liquid-liquid
Other – Light Oil	24	0.01650	97	100	0.01	0.05	Liquid-liquid
Total					**0.36**	**1.58**	

HAP EMISSIONS

The applicant has analyzed formaldehyde emissions using an AP-42 (7/00) emission factor of 0.0007 lb/MMBTU for the turbines and manufacturer data of 0.2 g/hp-hr with a 50% control factor for the oxidation catalyst for the internal combustion engine. Total formaldehyde emissions are below major source levels.

Formaldehyde Emissions

UNITS	lb/hr	TPY
2006	0.03	0.12
2247	0.01	0.04
2007	0.46	2.02
Total	**0.50**	**2.18**

Facility-Wide Emissions

Source	NOx		CO		VOC		Total HAPs	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
4,219-HP Solar Centaur T4500 (2006)	20.05	87.80	12.51	54.78	0.22	0.98	--	0.89
1,315-HP Solar Saturn T1302 (2247)	8.73	38.23	14.17	62.06	0.20	0.89	--	0.30
2,090-HP Waukesha 8L-AT27GL (C-1, 2007) with oxidation catalyst	9.22	40.36	0.51	2.22	1.15	5.05	--	3.09
Amine Heater (dual) 0.75 MMBTUH each (H-1)	0.15	0.64	0.12	0.54	<0.01	0.04	--	0.01
Demethanizer Heater 2.3 MMBTUH (H-2)	0.23	0.99	0.19	0.83	0.01	0.05	--	0.02
Regeneration Heater 4.15 MMBTUH (H-3)	0.41	1.78	0.34	1.50	0.02	0.10	--	0.03
Acid Gas Flare (FL-1) 1.93 MMBTUH	--	0.24	--	1.09	--	3.80	--	--
Process Flare (FL-2) 2.94 MMBTUH	--	0.88	--	3.99	--	12.14	--	--
Flash Separator - (HP-SEP) Condensate (TK 1, 2, 3, 4) Including Flash (FLASH-) - LP-VRU	--	--	--	--	--	73.87	--	5.90
Methanol Tanks (PLM M, TK-5, -6, -7)	--	--	--	--	--	0.09	--	0.09
Condensate Loading (LOAD-1)	--	--	--	--	--	18.52	--	0.98
Process Vents (VENT-1)	--	--	--	--	--	4.24	--	--
Fugitive emissions subject to NSPS Subpart KKK (EUG 11)	--	--	--	--	--	6.33	--	--
Fugitive emissions subject to NSPS Subpart KKK (EUG 12)	--	--	--	--	--	2.23	--	--
Fugitive emissions subject to NSPS Subpart OOOOa. (EUG 15)	--	--	--	--	--	1.58	--	--
Total Emissions of this Permit	**38.79**	**170.92**	**27.84**	**127.01**	**1.60**	**129.91**	**--**	**11.31**

H_2S and SO_2 Emissions

UNITS	H_2S		SO_2	
	lb/hr	TPY	lb/hr	TPY
4,219-HP Solar Centaur T4500 (2006)	--	--	0.14	0.59
1,315-HP Solar Saturn T1302 (2247)	--	--	0.05	0.20
2,090-HP Waukesha 8L-AT27GL (C-1, 2007) w/OC*	--	--	<0.01	0.04
1.93 MMBTUH Acid Gas Flare (FL-1)	0.30**	1.31	17.58	77.00
Totals	**0.30**	**1.31**	**17.78**	**77.83**

**w/OC = with oxidation catalyst; **OAC 252:100-31-26(a)(1) 95% reduction exemption limit.*

Greenhouse Gases

The applicant has submitted the greenhouse gas (GHG) emissions calculations with the application. The greenhouse gas potential emissions are stated at 41,243 TPY CO_2e. At that emission level, the facility is a minor source of greenhouse gases.

SECTION V. 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]
Primary Standards are in Appendix E and Secondary Standards are in Appendix F of the Air Pollution Control Rules. At this time, all of Oklahoma is in attainment of these standards.

OAC 252:100-5 (Registration, Emission Inventory, and Annual Operating Fees) [Applicable]
Subchapter 5 requires sources of air contaminants to register with Air Quality, file emission inventories annually, and pay annual operating fees based upon total annual emissions of regulated pollutants. Emission inventories have been submitted and fees paid for the past years.

OAC 252:100-8 (Permits for Part 70 Sources) [Applicable]
Part 5 includes the general administrative requirements for part 70 permits. Any planned changes in the operation of the facility which result in emissions not authorized in the permit and which exceed the "Insignificant Activities" or "Trivial Activities" thresholds require prior notification to AQD and may require a permit modification. Insignificant activities mean individual emission units that either are on the list in Appendix I (OAC 252:100) or whose actual calendar year emissions do not exceed the following limits:

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

Emission limits for the facility are based on information in the permit application.

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

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

OAC 252:100-19 (Particulate Matter) [Applicable]
This subchapter limits particulate emissions from fuel-burning equipment with a rated heat input of 10 million BTU per hour (MMBTUH) or less to 0.6 lb/MMBTU. For 2 cycle/4 cycle engines, AP-42 (7/00), Section 3.2 lists the total PM emissions for natural gas to be 0.05 lbs/MMBTU. AP-42 (4/00). This permit requires the use of natural gas for all fuel-burning equipment to ensure compliance with Subchapter 19. The following equipment are subject to OAC 252:100-19:

Equipment	**Maximum Heat Input (MMBTUH)**	**Appendix C Emission Limit (lbs/MMBTU)**	**Potential Emission Rate (lbs/MMBTU)**
Amine Heater	1.5*	0.60	0.0076
Demethanizer Reboiler Heater	2.30	0.60	0.0076
Regeneration Heater	4.15	0.60	0.0076
Solar Centaur T4500	39.89	0.43	0.0066
Solar Saturn T1302	13.42	0.51	0.0066
Waukesha 8L-AT27GL	14.26	0.51	0.00991

**equipped with dual burners (0.75 MMBTUH each)*

The permit requires the use of natural gas for all fuel-burning units to ensure compliance with Subchapter 19.

This subchapter also limits emissions of PM from industrial processes. Per AP-42 factors, there are no significant PM emissions from any other industrial activities at this facility.

OAC 252:100-25 (Visible Emissions and Particulates) [Applicable]
No discharge of greater than 20% opacity is allowed except for short-term occurrences, which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity. 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 to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards. Under normal operating conditions, this facility will not cause a problem in this area, therefore it is not necessary to require specific precautions to be taken.

OAC 252:100-31 (Sulfur Compounds) [Applicable]
Part 2, Section 31-7 limits the ambient air impact of hydrogen sulfide (H_2S) emissions from any facility to 0.2 ppmv at standard conditions (24-hour average) which is equivalent to 283 $\mu g/m^3$. Ambient impacts from the facility were modeled using AERMOD and were estimated at 1.89 $\mu g/m^3$.

Part 5 limits sulfur dioxide emissions from new fuel-burning equipment (constructed after July 1, 1972). For gaseous fuels the limit is 0.2 lb/MMBTU heat input averaged over 3 hours. For fuel gas having a gross calorific value of 1,000 BTU/SCF, this limit corresponds to fuel sulfur content of 1,203 ppmv. The permit requires the use of gaseous fuel with sulfur content less than 343 ppmv to ensure compliance with Subchapter 31.
Part 5, Section 31-26(1) requires H_2S in the waste gas stream from any new petroleum or natural gas process equipment (constructed after July 1, 1972) to be reduced by 95% by removal or by being oxidized to SO_2. This requirement does not apply if a facility's emissions of H_2S do not exceed 0.3 lb/hr, two-hour average. The owner or operator is required to install, maintain, and operate an alarm system that will signal a malfunction for all thermal devices used to control H_2S emissions from petroleum and natural gas processing facilities regulated under OAC 252:100-31-26.
For compliance demonstration, OFS will monitor the amount of H_2S throughput for the amine unit by measuring the daily averaged gas throughputs and the monthly H_2S concentrations of both inlet and residue gas streams. The monitoring data will be used to demonstrate compliance with the 0.30 lb/hr limit in order to avoid the H_2S reduction requirement. Annual compliance certification will include a statement that the H_2S in the acid gas is allowed to be vented without prior conversion to SO_2 when actual measurements of H_2S throughput are below 0.30 lb/hr.
Part 5, Section 31-26(2) acid gas streams with a sulfur content of greater than 0.54 LT/D or gas sweetening units or petroleum refinery process equipment which emit more than 100 lb/hr of SO_2 shall reduce the sulfur content prior to release to the ambient air by use of a sulfur recovery unit. The sulfur recovery unit shall meet the sulfur recovery efficiencies of OAC 252:100-31-26(2)(C-F).

At 30 ppmv and 85 MMSCFD, the sulfur content of the gas stream would be 0.096 LT/D which is less than the de minimis (0.54 LT/D) for use of a sulfur recovery unit. The permit will require the facility to measure and record monthly the H_2S concentration of the natural gas entering the facility. Requirements for testing have been placed in the Specific Conditions.

OAC 252:100-33 (Nitrogen Oxides) [Not Applicable]
This subchapter limits new gas-fired fuel-burning equipment with rated heat input greater than or equal to 50 MMBTUH to emissions of 0.2 lb of NOx per MMBTU. There are no equipment items that exceed the 50 MMBTUH threshold.

OAC 252:100-35 (Carbon Monoxide) [Not Applicable]
This facility has none of the affected sources: gray iron cupola, blast furnace, basic oxygen furnace, petroleum catalytic reforming unit or petroleum catalytic cracking unit.

OAC 252:100-37 (Volatile Organic Compounds) [Applicable]
Part 3 requires storage tanks constructed after December 28, 1974, with a capacity of 400 gallons or more and storing a VOC with a vapor pressure greater than 1.5 psia to be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. This applies to the condensate and methanol tanks.
Part 3 requires VOC loading facilities with a throughput equal to or less than 40,000 gallons per day to be equipped with a system for submerged filling of tank trucks or trailers if the capacity of

the vehicle is greater than 200 gallons. This facility does not have the physical equipment (loading arm and pump) to conduct this type of loading and is not subject to this requirement.
Part 5 limits the VOC content of coatings from any coating line or other coating operation. This facility does not normally conduct coating or painting operations except for routine maintenance of the facility and equipment, which is exempt.
Part 7 requires fuel-burning and refuse-burning equipment to be operated to minimize emissions of VOC. Temperature and available air must be sufficient to provide essentially complete combustion. The facility utilizes natural gas for fuel burning equipment and properly maintains equipment so the VOC emissions are minimized.
Part 7 requires all effluent water separator openings, which receive water containing more than 200 gallons per day of any VOC, to be sealed or the separator to be equipped with an external floating roof or a fixed roof with an internal floating roof or a vapor recovery system. There is no effluent water separator located at this facility.

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 are not applicable to this facility:

OAC 252:100-11	Alternative Emissions 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	Grain Elevators	not in source category
OAC 252:100-39	Nonattainment Areas	not in area category
OAC 252:100-47	Municipal Solid Waste Landfills	not in source category

SECTION VI. FEDERAL REGULATIONS

PSD, 40 CFR Part 52 [Not Applicable]
PSD does not apply. Final total emissions are less than the threshold of 250 TPY of any single regulated pollutant and the facility is not one of the 26 specific industries with a threshold of 100 TPY.

NSPS, 40 CFR Part 60 [Subparts A, GG, KKK and OOOOa Applicable]
Subpart A, §60.18, General Control Device Requirement, January 21, 1986. The plant flare is used as a control device to meet equipment leak standards in 40 CFR Part 60 Subpart KKK. Thus, a performance test was conducted on the flare on July 18, 2006, to demonstrate that it meets performance standards in 40 CFR Part 60 Subpart A.
Subpart GG, Stationary Gas Turbines. This subpart affects combustion turbines which commenced construction, reconstruction, or modification after October 3, 1977, and which have a heat input rating of 10 MMBTUH or more. There is one gas turbine (EU 2247) at this facility, which is subject to the requirements of this subpart. The other gas turbine (EU 2006) was constructed prior to October 3, 1977, and has not been modified or reconstructed. The revision of this subpart on July 8, 2004, exempts fuel nitrogen content sampling if the allowance for fuel-bound nitrogen is not claimed, and also exempts fuel sulfur content sampling if firing natural gas, which is defined as containing 680 ppmw or 338 ppmv total sulfur. OFS elects exemption from sulfur content monitoring of the fuel gas for the gas turbine since the fuel gas meets the definition of natural gas.
Subpart Kb, VOL Storage Vessels. This subpart regulates hydrocarbon storage tanks larger than 19,813 gallons capacity constructed, modified, or reconstructed after July 23, 1984. The four 400-bbl condensate tanks are smaller than 19,813 gallons.
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 for facilities for which construction, reconstruction, or modification occurred after January 20, 1984, and on or before August 23, 2011. Monitoring provisions of this subpart are applicable to the compressor attached to Turbine 2247, which is in inlet gas service and EU FUG-KKK, which mainly consists of fugitive emissions associated with Turbine 2247. Monitoring provisions of this subpart are not applicable to the compressor attached to Turbine #2006 or the compressor attached to Engine #C-1 (Unit 2007) because both of these compressors were manufactured in 1980 and are grandfathered from NSPS Subpart KKK and they have not been modified or reconstructed. EU FUG includes fugitive sources that were previously grandfathered from Subpart KKK because they were installed before January 20, 1984, and the process units have not been modified or reconstructed between January 20, 1984 and August 23, 2011. However, in 2019, OFS elected to bring them into Subpart KKK and they are now subject to Subpart KKK monitoring along with fugitives included in EU FUG-KKK. OFS will submit periodic reports and annual compliance certifications to verify compliance with applicable standards. The permit incorporates all applicable requirements.
Subpart LLL Onshore Natural Gas Processing: SO_2 Emissions. This subpart sets standards for natural gas sweetening units, which commence construction, reconstruction, or modification after January 20, 1984, and on or before August 23, 2011. The amine unit was installed in 1980.

Although the flare was installed in 1984, NSPS Section 60.14 (e)(5) states that the addition or use of any systems or devices whose primary function is the reduction of air pollutants shall not, by themselves, be considered a modification. Therefore, Subpart LLL is not applicable.

Subpart VV, Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry. Subpart KKK references Subpart VV.

Subpart IIII, Stationary Compression Ignition (CI) Internal Combustion Engines (ICE). This subpart affects CI ICE manufactured after 2007. There are no CI ICE located at this facility.

Subpart JJJJ, Stationary Spark Ignition (SI) Internal Combustion Engines (ICE). For the purposes of this subpart, the date of construction is the date the engine is ordered by the owner or operator. All owners or operators of SI ICE will be required to keep records of all maintenance conducted on an engine per § 60.4245(a)(2).

This subpart affects engines ordered after June 12, 2006, which are manufactured after July 1, 2007. The engine in this permit was manufactured prior to July 1, 2007, and has not been modified or reconstructed and is not subject to this subpart.

Subpart KKKK, Stationary Combustion Turbines. This subpart establishes emission standards and compliance schedules for the control of emissions from stationary combustion turbines with a heat input at peak load equal to or greater than 10 MMBTU, based on the higher heating value of the fuel, which commenced construction, modification, or reconstruction after February 18, 2005. Stationary combustion turbines regulated under this subpart are exempt from the requirements of Subpart GG of this part. The turbines have original manufacture dates prior to February 18, 2005, and have not been modified or reconstructed since that date.

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

1. Each single gas well;
2. Single centrifugal compressors using wet seals that are located between the wellhead and the point of custody transfer to the natural gas transmission and storage segment;
3. Single reciprocating compressors located between the wellhead and the point of custody transfer to the natural gas transmission and storage segment;
4. Single continuous bleed natural gas driven pneumatic controllers with a natural gas bleed rate greater than 6 SCFH, which commenced construction after August 23, 2011, located between the wellhead and the point of custody transfer to the natural gas transmission and storage segment and not located at a natural gas processing plant;
5. Single continuous bleed natural gas driven pneumatic controllers which commenced construction after August 23, 2011, and is located at a natural gas processing plant;
6. Single storage vessels located in the oil and natural gas production segment, natural gas processing segment, or natural gas transmission and storage segment;
7. All equipment, except compressors, within a process unit at an onshore natural gas processing plant;
8. Sweetening units located at onshore natural gas processing plants.

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.

Pneumatic controllers at a natural gas processing plant must have a bleed rate of zero.

Storage vessels constructed, modified or reconstructed after August 23, 2011**,** with VOC emissions equal to or greater than 6 TPY must reduce VOC emissions by 95.0 % or greater. All new or modified storage vessels will have to comply with 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. All new or modified process units will have to comply with this subpart.

A sweetening unit means a process device that removes hydrogen sulfide and/or carbon dioxide from the sour natural gas stream. A sour natural gas stream is defined as containing greater than or equal to 0.25 grains sulfur per 100 standard cubic feet or 4 ppmv. The existing amine unit commenced construction prior to August 23, 2011, and has not been modified or reconstructed.

There is no affected equipment at this facility.
Subpart OOOOa, Crude Oil and Natural Gas Facilities for which construction, modification, or reconstruction commenced after September 18, 2015. This subpart affects the following onshore affected facilities:

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

(i) The collection of fugitive emissions components at a well site, as defined in §60.5430a, is an affected facility, except as provided in § 60.5365a (i)(2).
(j) The collection of fugitive emissions components at a compressor station, as defined in § 60.5430a, is an affected facility.

There may be additional fugitive equipment resulting from replacement of the two (2) product pumps (Project) of the process unit which will be evaluated once construction occurs and it will also be determined if any other process units underwent a modification and would also be subject to this subpart. Additionally, OFS has elected to move fugitives previously subject to MACT Subpart HH to be rolled into the applicability of NSPS Subpart OOOOa making them subject to the subparts monitoring requirements. All requirements of Subpart OOOOa have been incorporated into the permit.

NESHAP, 40 CFR Part 61 [Not Applicable]
There are no emissions of any of the regulated pollutants: arsenic, asbestos, beryllium, benzene, coke oven emissions, mercury, radionuclides, or vinyl chloride except for trace amounts of benzene. Subpart J (Equipment Leaks of Benzene) concerns only process streams which contain more than 10% benzene by weight. All process streams at this facility are below this threshold.

NESHAP, 40 CFR Part 63 [Subpart ZZZZ Applicable]
Subpart HH, Oil and Natural Gas Production Facilities. This subpart applies to affected emission points that are located at facilities that are major and area sources of HAP, and either process, upgrade, or store hydrocarbon liquids prior to custody transfer or that process, upgrade, or store natural gas prior to entering the natural gas transmission and storage source category. The facility is an "area" source of HAP and there are no TEG dehydration units at this facility.
Subpart HHH, Natural Gas Transmission and Storage Facilities. Since this facility is a production facility, this subpart does not apply.
Subpart YYYY, Stationary Combustion Turbines. This subpart affects stationary combustion turbines that are located at major source of HAP. This facility is not a major source of HAPs.
Subpart ZZZZ, Reciprocating Internal Combustion Engines (RICE). This subpart affects any existing, new, or reconstructed stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand. The following table differentiates existing, new, or reconstructed units based on their construction dates.

	Construction/Reconstruction Dates	
	Engines >500 hp	**Engines ≤ 500hp**
Existing Unit		
Located at Major HAP Source	Before 12/19/02	Before 6/12/06
Located at Area HAP Source	Before 6/12/06	
New or Reconstructed Unit		
Located at Major HAP Source	On and After 12/19/02	On and After 6/12/06
Located at Area HAP Source	On and After 6/12/06	

The stationary RICE at the site was constructed after December 19, 2002, and is of spark ignition 4 stroke lean burn (4SLB) design. Because there was a period of time in which the facility was a major for HAP emissions, this resulted in the 4SLB stationary RICE to be subject to emission control, SSM plan, testing, monitoring, recordkeeping, and reporting requirements of this subpart

despite the vapor controls that brought the facility back to an "area" source. However, on January 25, 2018, the EPA issued a guidance memorandum revoking the "once-in, always-in" requirement; thus, removing the major MACT status of the facility. The engine is now subject to the area source requirements. The following summary shows the requirements for the existing SI RICE located at this facility.

Engine Category	
Existing	**Requirements**[1]
Non-emergency, non-black start 4SLB remote stationary RICE > 500 HP	a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first;[2]
	b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and
	c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.

[1] – During periods of startup you must minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
[2] – Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement.

Subpart DDDDD, Industrial, Commercial and Institutional Boilers and Process Heaters at major sources of HAPs This facility is a minor source of HAPs.
Subpart JJJJJJ, Industrial, Commercial, and Institutional Boilers Area Sources. This subpart affects new and existing boilers located at area sources of HAP, except for gas-fired boilers. Gas-fired boilers are defined as any boiler that burns gaseous fuel not combined with any solid fuels, liquid fuel only during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel. Periodic testing under this definition shall not exceed a combined total of 48 hours during any calendar year. The boiler at this facility meets the definition of a gas-fired boiler and is not subject to this subpart.

Chemical Accident Prevention Provisions, 40 CFR Part 68 [Applicable]
The owner or operator to a stationary source subject to this part shall submit a Risk Management Plan by June 21, 1999. A Risk Management Plan is in place at the facility. More information on this federal program is available on the web page: *www.epa.gov/rmp*.

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

manufacturing industry include carbon tetrachloride (Class I, Group IV) and methyl chloroform (Class I, Group V). A complete phase-out of production of Class I substances is required by January 1, 2000 (January 1, 2002, for methyl chloroform). Class II chemicals, which are hydrochlorofluorocarbons (HCFCs), are generally seen as interim substitutes for Class I CFCs. Class II substances consist of 33 HCFCs. A complete phase-out of Class II substances, scheduled in phases starting by 2002, is required by January 1, 2030.
Subpart F requires that any persons servicing, maintaining, or repairing appliances except for motor vehicle air conditioners; persons disposing of appliances, including motor vehicle air conditioners; refrigerant reclaimers, appliance owners, and manufacturers of appliances and recycling and recovery equipment comply with the standards for recycling and emissions reduction.

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

SECTION VII. COMPLIANCE

Tier Classification and Public Review

This application has been determined to be **Tier II** based on the request for a significant modification to a Part 70 permit that requires a construction permit. 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 required to accomplish the permitted purpose. Information on all permit actions is available for review by the public on the Air Quality section of the DEQ web page at *www.deq.ok.gov.*

The applicant will publish a "Notice of Filing a Tier II Application" and a "Notice of Tier II Draft Permit" in a newspaper in the county where the facility is located. The notices will state that where the application and the draft permit will be available for public review. The notices will also state that the application and the draft permit will be available for public review on DEQ web page at *www.deq.ok.gov*.

State Review

This site is within 50 miles of the Oklahoma-Texas border; the state of Texas will be notified of the draft permit.

EPA Review

The draft permit will be sent concurrently as "Proposed" to EPA Region VI for a 45-day review.

Fee Paid

A fee of $5,000 has been paid for a significant modification to a Part 70 source.

SECTION VIII. SUMMARY

This facility has demonstrated the ability to comply with all Air Quality rules and regulations. Ambient air quality standards are not threatened at this site. There are no active Air Quality compliance or enforcement issues concerning this facility. Issuance of the permit is recommended, contingent on public review and EPA review.

PERMIT TO CONSTRUCT
AIR POLLUTION CONTROL FACILITY
SPECIFIC CONDITIONS

ONEOK Field Services Company, L.L.C. **Permit No. 2015-1034-C (M-2)**
Woodward Gas Processing Plant

The permittee is authorized to construct in conformity with the specifications submitted to Air Quality on February 3, 2020. The Evaluation Memorandum dated September 14, 2020, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain operating limitations or permit requirements. Commencing construction or continuing operations under this permit constitutes acceptance of, and consent to, the conditions contained herein.

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

EUG 2. Large Natural Gas-Fired Combustion Turbine

EU	Make/Model	NO_X		CO		VOC	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
2006	Solar Centaur T4500	20.05	87.80	12.51	54.78	0.22	0.98

EUG 3. Small Natural Gas-Fired Combustion Turbine

EU	Make/Model	NO_X		CO		VOC	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
2247	Solar Saturn T1302	8.73	38.23	14.17	62.06	0.20	0.89

EUG 4. Natural Gas-Fired Internal Combustion Engine

EU	Make/Model	NO_X		CO		VOC	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
2007	Waukesha 8L-AT27GL w/ oxidation catalyst	9.22	40.36	0.51	2.22	1.15	5.05

a. The permittee shall keep records to demonstrate that the equipment (compressor and fugitive sources) are not in VOC service and shall keep information and data used for this demonstration in a log at the facility. [40 CFR § 60.635(c)]

b. The owner/operator shall comply with all applicable requirements of the NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE), Subpart ZZZZ, including but not limited to: [40 CFR §§ 63.6580 to 63.6675]

What This Subpart Covers

(1) § 63.6580 What is the purpose of subpart ZZZZ?
(2) § 63.6585 Am I subject to this subpart?

(3) § 63.6590 What parts of my plant does this subpart cover?
(4) § 63.6595 When do I have to comply with this subpart?

Emission and Operating Limitations

(5) § 63.6603 What emission limitations and operating limitations must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?
(6) § 63.6604 What fuel requirements must I meet if I own or operate a stationary CI RICE?

General Compliance Requirements

(7) § 63.6605 What are my general requirements for complying with this subpart?

Testing and Initial Compliance Requirements

(8) § 63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?
(9) § 63.6615 When must I conduct subsequent performance tests?
(10) § 63.6620 What performance tests and other procedures must I use?
(11) § 63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?
(12) § 63.6630 How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements?

Continuous Compliance Requirements

(13) § 63.6635 How do I monitor and collect data to demonstrate continuous compliance?
(14) § 63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?

Notifications, Reports, and Records

(15) § 63.6645 What notifications must I submit and when?
(16) § 63.6650 What reports must I submit and when?
(17) § 63.6655 What records must I keep?
(18) § 63.6660 In what form and how long must I keep my records?

Other Requirements and Information

(19) § 63.6665 What parts of the General Provisions apply to me?
(20) § 63.6670 Who implements and enforces this subpart?
(21) § 63.6675 What definitions apply to this subpart?

EUG 5. Heaters

The following emission units are "insignificant activities" since emissions are less than 5 TPY.

EU	Point	Make/Model	MMBTU/hr	Installed Date
H-1	H-1	Amine Heater	1.5*	1980
H-2	H-2	Demethanizer Heater	2.3	1976
H-3	H-3	Regeneration Heater	4.15	1976

**equipped with dual burner (0.75 MMBTUH each burner).*

EUG 6. Acid Gas Flare

EU	Equipment	NO_X		CO		VOC		SO_2		H_2S	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
FL-1	Acid Gas Flare	0.05	0.24	0.25	1.09	0.87	3.80	17.58	77.00	0.30	1.31

a. The permittee shall comply with OAC 252:100-31 for the Acid Gas Flare (FL-1) and amine unit.

(1) Emissions of hydrogen sulfide from the amine unit shall be reduced by 95% either by being oxidized to sulfur dioxide by the Amine Unit Flare or reduced by an equally effective means of control. OFS will either add supplemental residue gas to increase the heat content of the acid gas to assure 95% H_2S combustion efficiency, or use another equally effective means of control to ensure that the H_2S reduction efficiency of 95% will be met. The amine unit shall not be required to meet the 95% H_2S control requirement per OAC 252:100-31-26(1) provided the H_2S throughput for the amine unit as calculated using data from conditions (a)(4) and (a)(5) below does not exceed 0.3 lb/hr.

(2) The exhaust from the Amine Unit Flare shall be emitted from a stack at least 50 feet in height.

(3) The Amine Unit Flare shall be equipped with an alarm system to signal non-combustion of the exhaust gases.

(4) The permittee shall track H_2S concentrations in the plant inlet gas stream and the plant residue gas stream. The permittee shall use stain tubes (or an equivalent method) with a first scale mark no larger than 1 ppmv and a maximum measurement concentration of 15 ppmv or less. If an equivalent method is used, it must satisfy the same requirements for scale and maximum concentration. Testing shall be conducted each calendar quarter.

(5) The permittee shall track daily averaged throughputs of the plant inlet gas stream and the plant residue gas stream for the calculation of actual H_2S (and SO_2 if applicable) emissions, to be updated monthly.

(6) Plant inlet throughput shall not exceed 85 MMSCFD.

EUG 7. Condensate Storage Tanks

EU	Contents	Tank Capacity (TK-1 through TK-4)	VOC TPY
TK-1, TK-2, TK-3, TK-4, HP-SEP	Condensate	400-bbls Each	73.87*

*VOC emissions from the condensate tanks include working, breathing, and flashing losses.

a. Under normal operating conditions with vapor recovery, site-wide condensate throughput shall be no more than 4,200,000 gallons in any 12-month period.

b. Each condensate tank shall be controlled by a vapor recovery system with 100% control efficiency except during maintenance of the vapor recovery system, when throughput shall be no more than 210,000 (5% of 4,200,000) gallons in any 12-month rolling period.

c. During shutdown of the vapor recovery system for maintenance, flashing losses from HP-SEP shall be controlled by the process flare (FL-2) or equivalent control device with at least 98% control efficiency. Periods in which the flashing losses from the HP-SEP are not controlled shall be an excursion and shall be reported in the semi-annual monitoring reports, except during startup, shutdown, or malfunction of the flare and when there are no gases being vented to the flare. [OAC 252: 100-37-15(a)]

EUG 8. Condensate Truck Loading

EU	Activity	VOC	
		lb/hr	TPY
LOAD-1	Condensate Truck Loading	--	18.52

EUG 9. Methanol Storage Tanks

The following emission units are "insignificant activities" since emissions are less than 5 TPY.

EU ID #	Point #	Contents	Capacity
TK-5	TK-5	Methanol	500-gal
TK-6	TK-6	Methanol	560-gal
TK-7	TK-7	Methanol	560-gal
PLT M	PLT M	Methanol	1,000-gal

a. Each methanol tank shall be equipped with a permanent submerged fill pipe.

EUG 10. Miscellaneous Process Vents

The following emission units are "insignificant activities" since emissions are less than 5 TPY.

EU ID #	Point #	Emission Units
VENT-1	VENT-1	Compressor Blowdowns

EUG 11. Fugitive Emissions previously not subject to either MACT Subpart HH or NSPS Subpart KKK. However, these were voluntarily rolled into the applicable requirements under Subpart KKK in 2019 and are subject to the subpart's monitoring requirements. Fugitive VOC emissions are based on existing equipment items, but do not have a specific limitation.

Emission Units	No. of Components*	Streams
Valves - Light Oil	220	NGL
Flanges - Light Oil	571	NGL
Open-ended lines - Light Oil	5	NGL
Pump Seals - Light Oil	10	NGL
Other - Light Oil	3	NGL

*Estimated only, not a permit limit

EUG 12. Fugitive Emissions Subject to KKK Monitoring. Fugitive VOC emissions are based on existing equipment items, but do not have a specific limitation.

Emission Units	No. of Components*	Streams
Valves – Gas	390	Wet Gas
Flanges – Gas	743	Wet Gas
Connectors – Gas	132	Wet Gas
Pressure Relieve Valves – Gas	24	Wet Gas
Open Ended Lines - Gas	14	Wet Gas
Compressor Seals - Gas	36	Wet Gas
Other - Gas	41	Wet Gas
Valves – Gas	30	Recovered Vapors
Flanges – Gas	30	Recovered Vapors
Pressure Relief Valves – Gas	2	Recovered Vapors

*Estimated only, not a permit limit

a. The permittee shall comply with the New Source Performance Standards (NSPS) for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants NSPS Subpart KKK, for each of the affected facilities located on-site. [40 CFR §§ 60.630 to 60.636]

b. The owner operator shall comply with the requirements of §§ 60.482-1(a), (b), and (d) and § 60.482-2 through § 60.482-10 except as provided in § 60.633 [§ 60.632(a)]

(1) The owner operator shall comply with the monitoring, inspection, and repair requirements, for pumps in light liquid service, of §§ 60.482-2(a), (b), and (c) except as provided in §§ 60-482-2(d), (e), and (f).

(2) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in § 60.632(c), § 60.633(f), § 60.482-1(c), § 60.482-3(h), and § 60.482-3(i). [§ 60.482-3(a)]

i) Each compressor seal system shall comply with the requirements of §§ 60.482-3(b).

ii) Each barrier fluid system shall be equipped with a sensor as required by § 60.482-3(d) that is monitored or equipped with an alarm as required by § 60.482-3(e) and repaired as required by §§ 60.482-3(f) and (g).

(3) Any existing reciprocating compressor in a process unit which becomes an affected facility under provisions of § 60.14 or § 60.15 is exempt from §§ 60.482(a), (b), (c), (d), (e), and (h) , provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of §§ 60.482-3(a) through (e) and (h). [§ 60.482-3(j)]

(4) The owner operator shall comply with the operation and monitoring requirements, for pressure relief devices in gas/vapor service, of §§ 60.482-4(a) and (b) except as provided in § 60-482-4(c) and § 60.633(b).

(5) Sampling and connection systems are exempt from the requirements of § 60.482-5. [§ 60.633(c)]

(6) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in § 60.632(c). The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line. Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed. When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall be closed at all other times. [§ 60.482-6]

(7) The owner operator shall comply with the monitoring, inspection, and repair requirements, for valves in gas/vapor service and light liquid service, of §§ 60.482-7(b) through (e), except as provided in §§ 60.633(d), 60.482-7(f), (g), and (h), §§ 60.483-1, 60.483-2, and 60.482-1(c). [§ 60.482-7(a)]

(8) The owner operator shall comply with the monitoring and repair requirements, for pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors, of §§ 60.482-8(a) through (d). [§ 60.482-8]

(9) Delay of repair of equipment is allowed if it meets one of the requirements of §§ 60.482-9(a) through (e).

(10) The owner or operators using a closed vent system and control device to comply with these provisions shall comply with the design, operation, monitoring and other requirements of 60.482-10(b) through (g). [§ 60.482-10(a)]

c. An owner or operator may elect to comply with the alternative requirements for valves of §§ 60.483-1 and 60.483-2. [§ 60.632(b) & § 60.482-1(b)]

d. An owner or operator may apply to the Administrator for permission to use an alternative means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to that achieved by the controls required in NSPS Subpart KKK. In doing so, the owner or operator shall comply with requirements of § 60.634. [§ 60.632(c)]

e. Each owner or operator subject to the provisions of NSPS Subpart KKK shall comply with the test method and procedures of § 60.485 except as provided in §§ 60.632(f) and 60.633(h). [§ 60.632(d)]

f. Each owner or operator subject to the provisions of NSPS Subpart KKK shall comply with the recordkeeping requirements of § 60.486 and the reporting requirements of § 60.487 except as provided in §§ 60.633, 60.635, and 60.636. [§ 60.632(e)]

g. Each owner or operator subject to the provisions of NSPS Subpart KKK shall comply with the recordkeeping requirements of §§ 60.635(b) and (c) in addition to the requirements of § 60.486. [§ 60.635(a)]

h. Each owner or operator subject to the provisions of NSPS Subpart KKK shall comply with the reporting requirements of §§ 60.636(b) and (c) in addition to the requirements of § 60.487. [§ 60.636(a)]

EUG 14. Process Flare

EU	Equipment	NO_X		CO		VOC	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
FL-2	Process Flare	-	0.88	-	3.99	-	12.14

a. The process/emergency flare is subject to 40 CFR §60.18 General Control Requirements and the permittee shall comply with all requirements, including, but not limited to, the following. [40 CFR §60.18]

(1) Records of the pilot flame outages shall be maintained along with the time and duration of all periods during which the pilot flame was absent. Periods of pilot flame outages shall be an excursion and shall be reported in the semi-annual monitoring reports, except during startup, shutdown, or malfunction of the flare and when there are no gases being vented to the flare.

(2) The presence of a pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

EUG 15: Fugitive Emissions subject to LDAR monitoring under NSPS Subpart OOOOa.

Emission Units	No. of Component*	Streams
Valves – Gas	20	Wet Gas
Connectors – Gas	110	Wet Gas
Pressure Relief Valves - Gas	1	Wet Gas
Valves – Light Oil	288	Liquid-liquid
Flanges – Light Oil	240	Liquid-liquid
Connectors – Light Oil	692	Liquid-liquid
Pump Seals – Light Oil	8	Liquid-liquid
Other – Light Oil	24	Liquid-liquid

*Estimated only, not a permit limit

a. The permittee shall comply with all applicable requirements in 40 CFR Part 60, Subpart OOOOa, Crude Oil and Natural Gas Production, Transmission, and Distribution that commence construction, reconstruction, or modification after September 18, 2015 [40 CFR § 60.5360a to § 60.5432a]

2. The fuel-burning equipment shall be fired with pipeline grade natural gas or other gaseous fuel with a sulfur content less than 343 ppmv. Compliance can be shown by the following methods: for pipeline grade natural gas, a current gas company bill; for other gaseous fuel, a current lab analysis, stain-tube analysis, gas contract, tariff sheet, or other approved methods. Compliance shall be demonstrated at least once every calendar year. [OAC 252:100-31]

3. Upon issuance of an operating permit, the permittee is authorized to operate this facility continuously (24 hours per day, every day of the year). [OAC 252:100-8-6 (a)]

4. The Waukesha 8L-AT27GL engine shall be set to operate with exhaust gases passing through a properly operated and maintained oxidation catalyst. [OAC 252:100-8-6(a)(1)]

5. All heaters and other fuel burning equipment other than engines or turbines shall have some form of permanent (non-removable) identification that shall list the maximum heat input of the unit. [OAC 252:100-43]

6. Each engine/turbine at the facility shall have a permanent identification plate attached, which shows the make, model number, and serial number. [OAC 252:100-43]

7. At least once per calendar quarter, the permittee shall conduct tests of NOx and CO emissions from each engine/turbine and from each replacement engine/turbine when operating under representative conditions for that period. Testing is required for any engine/turbine that runs for more than 220 hours during that calendar quarter. Engines shall be tested no sooner than 20 calendar days after the last test. Testing shall be conducted using a portable analyzer in accordance with a protocol meeting the requirements of the "AQD Portable Analyzer Guidance" document or an equivalent method approved by Air Quality. When four consecutive quarterly tests show an engine 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 indicate that emissions are within 10% of the emission limitation, the testing frequency shall revert to quarterly. Reduced engine testing does not apply to engines with catalytic converters. [OAC 252:100-8-6 (a)(3)(A)]

8. When periodic compliance testing shows exhaust emissions from the engines/turbines in excess of the lb/hr limits in Specific Condition No. 1, the permittee shall comply with the provisions of OAC 252:100-9. [OAC 252:100-9]

9. The permittee shall keep operation and maintenance (O&M) records for those emission units, which do not conduct quarterly testing. Such records shall at a minimum include the dates of operation, and maintenance, type of work performed, and the increase, if any, in emissions as a result. [OAC 252:100-8-6 (a)(3)(B)]

10. The permittee shall comply with all applicable requirements in 40 CFR Part 60, Subpart OOOOa, Crude Oil and Natural Gas Production, Transmission, and Distribution. This subpart affects the following sources that commence construction, reconstruction, or modification after September 18, 2015, including, but not limited to, the following.

    a. § 60.5360a What is the purpose of this subpart?
    b. § 60.5365a Am I subject to this subpart?

c. § 60.5370a When must I comply with this subpart?
d. § 60.5375a What GHG and VOC standards apply to well affected facilities?
e. §60.5380a What GHG and VOC standards apply to centrifugal compressor affected facilities?
f. §60.5385a What GHG and VOC standards apply to reciprocating compressor affected facilities?
g. §60.5390a What GHG and VOC standards apply to pneumatic controller affected facilities?
h. §60.5393a What GHG and VOC standards apply to pneumatic pump affected facilities?
i. §60.5395a What VOC standards apply to storage vessel affected facilities?
j. §60.5397a What fugitive emissions GHG and VOC standards apply to the affected facility which is the collection of fugitive emissions components at a well site and the affected facility which is the collection of fugitive emissions components at a compressor station?
k. §60.5398a What are the alternative means of emission limitations for GHG and VOC from well completions, reciprocating compressors, the collection of fugitive emissions components at a well site and the collection of fugitive emissions components at a compressor station?
l. §60.5400a What equipment leak GHG and VOC standards apply to affected facilities at an onshore natural gas processing plant?
m. §60.5401a What are the exceptions to the equipment leak GHG and VOC standards for affected facilities at onshore natural gas processing plants?
n. §60.5402a What are the alternative means of emission limitations for GHG and VOC equipment leaks from onshore natural gas processing plants?
o. §60.5405a What standards apply to sweetening unit affected facilities at onshore natural gas processing plants?
p. §60.5406a What test methods and procedures must I use for my sweetening unit affected facilities at onshore natural gas processing plants?
q. §60.5407a What are the requirements for monitoring of emissions and operations from my sweetening unit affected facilities at onshore natural gas processing plants?
r. §60.5408a What is an optional procedure for measuring hydrogen sulfide in acid gas—Tutwiler Procedure?
s. §60.5410a How do I demonstrate initial compliance with the standards for my well, centrifugal compressor, reciprocating compressor, pneumatic controller, pneumatic pump, storage vessel, collection of fugitive emissions components at a well site, and collection of fugitive emissions components at a compressor station, and equipment leaks and sweetening unit affected facilities at onshore natural gas processing plants?
t. §60.5411a What additional requirements must I meet to determine initial compliance for my covers and closed vent systems routing emissions from centrifugal compressor wet seal fluid degassing systems, reciprocating compressors, pneumatic pump and storage vessels?
u. §60.5412a What additional requirements must I meet for determining initial compliance with control devices used to comply with the emission standards for my centrifugal compressor, and storage vessel affected facilities?

v. §60.5413a What are the performance testing procedures for control devices used to demonstrate compliance at my centrifugal compressor, pneumatic pump and storage vessel affected facilities?
w. §60.5415a How do I demonstrate continuous compliance with the standards for my well, centrifugal compressor, reciprocating compressor, pneumatic controller, pneumatic pump, storage vessel, collection of fugitive emissions components at a well site, and collection of fugitive emissions components at a compressor station affected facilities, and affected facilities at onshore natural gas processing plants?
x. §60.5416a What are the initial and continuous cover and closed vent system inspection and monitoring requirements for my centrifugal compressor, reciprocating compressor, pneumatic pump, and storage vessel affected facilities?
y. §60.5417a What are the continuous control device monitoring requirements for my centrifugal compressor, pneumatic pump, and storage vessel affected facilities?
z. §60.5420a What are my notification, reporting, and recordkeeping requirements?
aa. §60.5421a What are my additional recordkeeping requirements for my affected facility subject to GHG and VOC requirements for onshore natural gas processing plants?
bb. §60.5422a What are my additional reporting requirements for my affected facility subject to GHG and VOC requirements for onshore natural gas processing plants?
cc. §60.5423a What additional recordkeeping and reporting requirements apply to my sweetening unit affected facilities at onshore natural gas processing plants?
dd. §60.5425a What parts of the General Provisions apply to me?
ee. §60.5430a What definitions apply to this subpart?
ff. §60.5432a How do I determine whether a well is a low pressure well using the low pressure well equation?

11. Replacement (including temporary periods of 6 months or less for maintenance purposes), of internal combustion engines/turbines with emissions limitations specified in this permit with engines/turbines of lesser or equal emissions of each pollutant (in lbs/hr and TPY) are authorized under the following conditions. [OAC 252:100-8-6 (f)]

a. The permittee shall notify AQD in writing not later than 7 days in advance of the startup of the replacement engine(s)/turbine(s). Said notice shall identify the equipment removed and shall include the new engine/turbine make, model, and horsepower; date of the change, and any change in emissions.
b. Quarterly emissions tests for the replacement engine(s)/turbine(s) shall be conducted to confirm continued compliance with NOx 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 (^{o}F), stack height (feet), stack diameter (inches), and pollutant emission rates (lbs/hr and TPY) at maximum rated horsepower for the altitude/location.
c. Replacement equipment and emissions are limited to equipment and emissions which 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.

d. 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.

12. The following records shall be maintained on-site to verify insignificant activities. No recordkeeping is required for those operations, which qualify as Trivial Activities. [OAC 252:100-8-6 (a)(3)(B)]

    a. For activities having the potential to emit no more than 5.0 TPY (actual) of any criteria pollutant: type of activity and amount of emissions from that activity (cumulative annual).

13. The permittee shall maintain records of operations as listed below. These records shall be maintained on site or at a local field office for at least five years after the date of recording and shall be provided to regulatory personnel upon request. [OAC 252:100-43]

    a. Periodic testing for each engine/turbine and replacement engine/turbine or hours of operation.
    b. O&M records for any emission unit not tested in each quarter.
    c. Throughput of inlet gas (monthly).
    d. Condensate throughput (monthly and 12 month rolling totals).
    e. Calculations of H_2S emission rates (monthly).
    f. Records of condensate throughput during VRU shutdowns for maintenance operations (12-month rolling total).
    g. Summary of gas vented through compressor blowdowns (monthly and 12-month rolling total).
    h. For the fuel(s) burned, the appropriate document(s) as described in Specific Condition No. 2.
    i. Recordkeeping as required by NESHAP, 40 CFR Part 63, Subpart ZZZZ.
    j. Recordkeeping as required by NSPS, 40 CFR Part 60, Subparts GG and OOOOa.

14. No later than 30 days after each anniversary date of the issuance of the initial Title V operating permit (February 26, 2004), the permittee shall submit to Air Quality Division of DEQ, with a copy to the US EPA, Region 6, a certification of compliance with the terms and conditions of this permit. [OAC 252:100-8-6 (c)(5)(A) & (D)]

15. The Permit Shield (Standard Conditions) is extended to the following requirements that have been determined to be inapplicable to this facility: [OAC 252:100-8-6(d)(2)]

    a. OAC 252:100-8, Part 7, PSD
    b. OAC 252:100-33, Control of Emissions of Nitrogen Oxides
    c. OAC 252:100-35, Control of Emissions of Carbon Monoxide

16. The permittee shall submit a request for modification of the current Title V operating permit within 180 days of commencement of operations of the proposed project.

MAJOR SOURCE AIR QUALITY PERMIT
STANDARD CONDITIONS
(June 21, 2016)

SECTION I. DUTY TO COMPLY

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

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

C. The permittee shall comply with all conditions of this permit. Any permit noncompliance shall constitute a violation of the Oklahoma Clean Air Act and shall be grounds for enforcement action, permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application. All terms and conditions are enforceable by the DEQ, by the Environmental Protection Agency (EPA), and by citizens under section 304 of the Federal Clean Air Act (excluding state-only requirements). This permit is valid for operations only at the specific location listed.
[40 C.F.R. §70.6(b), OAC 252:100-8-1.3 and OAC 252:100-8-6(a)(7)(A) and (b)(1)]

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

SECTION II. REPORTING OF DEVIATIONS FROM PERMIT TERMS

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

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

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

SECTION III. MONITORING, TESTING, RECORDKEEPING & REPORTING

A. The permittee shall keep records as specified in this permit. These records, including monitoring data and necessary support information, shall be retained on-site or at a nearby field office for a period of at least five years from the date of the monitoring sample, measurement, report, or application, and shall be made available for inspection by regulatory personnel upon request. Support information includes all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Where appropriate, the permit may specify that records may be maintained in computerized form.

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

B. Records of required monitoring shall include:

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

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

C. No later than 30 days after each six (6) month period, after the date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to AQD a report of the results of any required monitoring. All instances of deviations from permit requirements since the previous report shall be clearly identified in the report. Submission of these periodic reports will satisfy any reporting requirement of Paragraph E below that is duplicative of the periodic reports, if so noted on the submitted report. [OAC 252:100-8-6(a)(3)(C)(i) and (ii)]

D. If any testing shows emissions in excess of limitations specified in this permit, the owner or operator shall comply with the provisions of Section II (Reporting Of Deviations From Permit Terms) of these standard conditions. [OAC 252:100-8-6(a)(3)(C)(iii)]

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

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

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

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

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

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

I. All testing must be conducted under the direction of qualified personnel by methods approved by the Division Director. All tests shall be made and the results calculated in accordance with standard test procedures. The use of alternative test procedures must be approved by EPA. When a portable analyzer is used to measure emissions it shall be setup, calibrated, and operated in accordance with the manufacturer's instructions and in accordance with a protocol meeting the requirements of the "AQD Portable Analyzer Guidance" document or an equivalent method approved by Air Quality. [OAC 252:100-8-6(a)(3)(A)(iv), and OAC 252:100-43]

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

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

SECTION IV. COMPLIANCE CERTIFICATIONS

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

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

B. The compliance certification shall describe the operating permit term or condition that is the basis of the certification; the current compliance status; whether compliance was continuous or intermittent; the methods used for determining compliance, currently and over the reporting period. The compliance certification shall also include such other facts as the permitting authority may require to determine the compliance status of the source. [OAC 252:100-8-6(c)(5)(C)(i)-(v)]

C. The compliance certification shall contain a certification by a responsible official as to the results of the required monitoring. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete." [OAC 252:100-8-5(f) and OAC 252:100-8-6(c)(1)]

D. Any facility reporting noncompliance shall submit a schedule of compliance for emissions units or stationary sources that are not in compliance with all applicable requirements. This schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with any applicable requirements for which the emissions unit or stationary source is in noncompliance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the emissions unit or stationary source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based, except that a compliance plan shall not be required for any noncompliance condition which is corrected within 24 hours of discovery.
[OAC 252:100-8-5(e)(8)(B) and OAC 252:100-8-6(c)(3)]

SECTION V. REQUIREMENTS THAT BECOME APPLICABLE DURING THE PERMIT TERM

The permittee shall comply with any additional requirements that become effective during the permit term and that are applicable to the facility. Compliance with all new requirements shall be certified in the next annual certification. [OAC 252:100-8-6(c)(6)]

SECTION VI. PERMIT SHIELD

A. Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC 252:100-8) shall be deemed compliance with the applicable requirements identified and included in this permit. [OAC 252:100-8-6(d)(1)]

B. Those requirements that are applicable are listed in the Standard Conditions and the Specific Conditions of this permit. Those requirements that the applicant requested be determined as not applicable are summarized in the Specific Conditions of this permit. [OAC 252:100-8-6(d)(2)]

SECTION VII. ANNUAL EMISSIONS INVENTORY & FEE PAYMENT

The permittee shall file with the AQD an annual emission inventory and shall pay annual fees based on emissions inventories. The methods used to calculate emissions for inventory purposes shall be based on the best available information accepted by AQD.
[OAC 252:100-5-2.1, OAC 252:100-5-2.2, and OAC 252:100-8-6(a)(8)]

SECTION VIII. TERM OF PERMIT

A. Unless specified otherwise, the term of an operating permit shall be five years from the date of issuance. [OAC 252:100-8-6(a)(2)(A)]

B. A source's right to operate shall terminate upon the expiration of its permit unless a timely and complete renewal application has been submitted at least 180 days before the date of expiration. [OAC 252:100-8-7.1(d)(1)]

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

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

SECTION IX. SEVERABILITY

The provisions of this permit are severable and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
[OAC 252:100-8-6 (a)(6)]

SECTION X. PROPERTY RIGHTS

A. This permit does not convey any property rights of any sort, or any exclusive privilege.
[OAC 252:100-8-6(a)(7)(D)]

B. This permit shall not be considered in any manner affecting the title of the premises upon which the equipment is located and does not release the permittee from any liability for damage to persons or property caused by or resulting from the maintenance or operation of the equipment for which the permit is issued. [OAC 252:100-8-6(c)(6)]

SECTION XI. DUTY TO PROVIDE INFORMATION

A. The permittee shall furnish to the DEQ, upon receipt of a written request and within sixty (60) days of the request unless the DEQ specifies another time period, any information that the DEQ may request to determine whether cause exists for modifying, reopening, revoking, reissuing,

terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the DEQ copies of records required to be kept by the permit.

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

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

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

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

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

SECTION XII. REOPENING, MODIFICATION & REVOCATION

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

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

B. The DEQ will reopen and revise or revoke this permit prior to the expiration date in the following circumstances: [OAC 252:100-8-7.3 and OAC 252:100-8-7.4(a)(2)]

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

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

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

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

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

SECTION XIII. INSPECTION & ENTRY

A. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized regulatory officials to perform the following (subject to the permittee's right to seek confidential treatment pursuant to 27A O.S. Supp. 1998, § 2-5-105(17) for confidential information submitted to or obtained by the DEQ under this section):

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

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

SECTION XIV. EMERGENCIES

A. Any exceedance resulting from an emergency shall be reported to AQD promptly but no later than 4:30 p.m. on the next working day after the permittee first becomes aware of the exceedance. This notice shall contain a description of the emergency, the probable cause of the exceedance, any steps taken to mitigate emissions, and corrective actions taken.

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

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

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

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

(1) an emergency occurred and the permittee can identify the cause or causes of the emergency;

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

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

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

SECTION XV. RISK MANAGEMENT PLAN

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

SECTION XVI. INSIGNIFICANT ACTIVITIES

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

(1) 5 tons per year of any one criteria pollutant.
(2) 2 tons per year for any one hazardous air pollutant (HAP) or 5 tons per year for an aggregate of two or more HAP's, or 20 percent of any threshold less than 10 tons per year for single HAP that the EPA may establish by rule.
[OAC 252:100-8-2 and OAC 252:100, Appendix I]

SECTION XVII. TRIVIAL ACTIVITIES

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate any individual or combination of air emissions units that are considered inconsequential and are on the list in Appendix J. Any activity to which a State or Federal applicable requirement applies is not trivial even if included on the trivial activities list.
[OAC 252:100-8-2 and OAC 252:100, Appendix J]

SECTION XVIII. OPERATIONAL FLEXIBILITY

A. A facility may implement any operating scenario allowed for in its Part 70 permit without the need for any permit revision or any notification to the DEQ (unless specified otherwise in the permit). When an operating scenario is changed, the permittee shall record in a log at the facility the scenario under which it is operating. [OAC 252:100-8-6(a)(10) and (f)(1)]

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

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

provided that the facility provides the EPA and the DEQ with written notification as required below in advance of the proposed changes, which shall be a minimum of seven (7) days, or twenty four (24) hours for emergencies as defined in OAC 252:100-8-6 (e). The permittee, the DEQ, and the EPA shall attach each such notice to their copy of the permit. For each such change, the written notification required above shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change. The permit shield provided by this permit does not apply to any change made pursuant to this paragraph. [OAC 252:100-8-6(f)(2)]

SECTION XIX. OTHER APPLICABLE & STATE-ONLY REQUIREMENTS

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

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

(2) No particulate emissions from any fuel-burning equipment with a rated heat input of 10 MMBTUH or less shall exceed 0.6 lb/MMBTU. [OAC 252:100-19]

(3) For all emissions units not subject to an opacity limit promulgated under 40 C.F.R., Part 60, NSPS, no discharge of greater than 20% opacity is allowed except for: [OAC 252:100-25]

(a) Short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity;
(b) Smoke resulting from fires covered by the exceptions outlined in OAC 252:100-13-7;
(c) An emission, where the presence of uncombined water is the only reason for failure to meet the requirements of OAC 252:100-25-3(a); or
(d) Smoke generated due to a malfunction in a facility, when the source of the fuel producing the smoke is not under the direct and immediate control of the facility and the immediate constriction of the fuel flow at the facility would produce a hazard to life and/or property.

(4) No visible fugitive dust emissions shall be discharged beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of

adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards. [OAC 252:100-29]

(5) No sulfur oxide emissions from new gas-fired fuel-burning equipment shall exceed 0.2 lb/MMBTU. No existing source shall exceed the listed ambient air standards for sulfur dioxide. [OAC 252:100-31]

(6) Volatile Organic Compound (VOC) storage tanks built after December 28, 1974, and with a capacity of 400 gallons or more storing a liquid with a vapor pressure of 1.5 psia or greater under actual conditions shall be equipped with a permanent submerged fill pipe or with a vapor-recovery system. [OAC 252:100-37-15(b)]

(7) All fuel-burning equipment shall at all times be properly operated and maintained in a manner that will minimize emissions of VOCs. [OAC 252:100-37-36]

SECTION XX. STRATOSPHERIC OZONE PROTECTION

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

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

B. If the permittee performs a service on motor (fleet) vehicles when this service involves an ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all applicable requirements. Note: The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant. [40 CFR 82, Subpart B]

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

(1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156;
(2) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to § 82.158;
(3) Persons performing maintenance, service, repair, or disposal of appliances must be

certified by an approved technician certification program pursuant to § 82.161;

(4) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record-keeping requirements pursuant to § 82.166;

(5) Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to § 82.158; and

(6) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.

SECTION XXI. TITLE V APPROVAL LANGUAGE

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

(1) The construction permit goes out for a 30-day public notice and comment using the procedures set forth in 40 C.F.R. § 70.7(h)(1). This public notice shall include notice to the public that this permit is subject to EPA review, EPA objection, and petition to EPA, as provided by 40 C.F.R. § 70.8; that the requirements of the construction permit will be incorporated into the Title V permit through the administrative amendment process; that the public will not receive another opportunity to provide comments when the requirements are incorporated into the Title V permit; and that EPA review, EPA objection, and petitions to EPA will not be available to the public when requirements from the construction permit are incorporated into the Title V permit.

(2) A copy of the construction permit application is sent to EPA, as provided by 40 CFR § 70.8(a)(1).

(3) A copy of the draft construction permit is sent to any affected State, as provided by 40 C.F.R. § 70.8(b).

(4) A copy of the proposed construction permit is sent to EPA for a 45-day review period as provided by 40 C.F.R.§ 70.8(a) and (c).

(5) The DEQ complies with 40 C.F.R. § 70.8(c) upon the written receipt within the 45-day comment period of any EPA objection to the construction permit. The DEQ shall not issue the permit until EPA's objections are resolved to the satisfaction of EPA.

(6) The DEQ complies with 40 C.F.R. § 70.8(d).

(7) A copy of the final construction permit is sent to EPA as provided by 40 CFR § 70.8(a).

(8) The DEQ shall not issue the proposed construction permit until any affected State and EPA have had an opportunity to review the proposed permit, as provided by these permit conditions.

(9) Any requirements of the construction permit may be reopened for cause after incorporation into the Title V permit by the administrative amendment process, by DEQ as provided in OAC 252:100-8-7.3(a), (b), and (c), and by EPA as provided in 40 C.F.R. § 70.7(f) and (g).

(10) The DEQ shall not issue the administrative permit amendment if performance tests fail to demonstrate that the source is operating in substantial compliance with all permit requirements.

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

SECTION XXII. CREDIBLE EVIDENCE

For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any provision of the Oklahoma implementation plan, nothing shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed. [OAC 252:100-43-6]

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. 2015-1034-C (M-2)

ONEOK Field Services Company, L.L.C.,

having complied with the requirements of the law, is hereby granted permission to construct the specified equipment at the Woodward Gas Plant, SW ¼ NW ¼ of Section 29, T23N, R21W, Woodward County, subject to the Standard Conditions dated June 21, 2016 and Specific Conditions, both attached

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

Division Director **Date**

SCOTT A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

KEVIN STITT
Governor

September 14, 2020

ONEOK Field Services Company
Attn: Mr. Kale Hanner
P. O. Box 871
Tulsa, OK 74102-0871

SUBJECT: Title V Operating Permit No. **2015-1034-C (M-2)**
Woodward Gas Plant (Facility ID: 1533)
Section 29, T23N, R21W, Woodward County, Oklahoma

Dear Mr. Hanner:

Air Quality Division has completed the initial review of your permit application referenced above. This application has been determined to be a **Tier II**. In accordance with 27A O.S. § 2-14-302 and OAC 252:004-7-13(c) the enclosed draft permit is now ready for public review. The requirements for public review include the following steps which you must accomplish:

1. Publish at least one legal notice (one day) in at least one newspaper of general circulation within the county where the facility is located. (Instructions enclosed)

2. Provide for public review (for a period of 30 days following the date of the newspaper announcement) a copy of this draft permit on the DEQ website and access to the application through the DEQ website.

3. Send to AQD a copy of the proof of publication notice from Item #1 above together with any additional comments or requested changes which you may have on the draft permit.

Thank you for your cooperation in this matter. If we may be of further service, or you have any questions about this permit, please contact the permit writer or me at (405) 702-4100.

Sincerely,

Phillip Fielder

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

Enclosures

SCOTT A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

KEVIN STITT
Governor

September 14, 2020

Texas Commission on Environmental Quality
Operating Permits Divisions (MC 163)
P. O. Box 13087
Austin, Texas 78711-3087

SUBJECT: Title V Operating Permit No. **2015-1034-C (M-2)**
Woodward Gas Plant (Facility ID: 1533)
Section 29, T23N, R21W, Woodward County, Oklahoma
Permit Writer: Iftekhar Hossain

Dear Sir / Madame:

The subject facility has requested a major source operating permit under OAC 252:100-8. Air Quality Division has completed the initial review of the application and prepared a draft permit for public review. Since this facility is within 50 miles of the **Oklahoma - Texas** border, a copy of the proposed permit will be provided to you upon request. The draft permit is also available for review in the Air Quality Section of DEQ Web Page: *http://www.deq.ok.gov*.

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

Sincerely,

Phillip Fielder

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

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

APPLICANT RESPONSIBILITIES

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

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

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

SAMPLE NOTICE on page 2.

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

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

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

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

In response to the application, DEQ has prepared a draft permit [modification] (Permit Number: *…xx-xxx-x…***), which may be reviewed at the Air Quality Division's main office (see address below). The draft permit is also available for review in the Air Quality Section of DEQ's Web Page: http://www.deq.ok.gov**

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

This public notice shall include notice to the public that this permit is subject to Environmental Protection Agency (EPA) review, EPA objection, and petition to EPA, as provided by 40 CFR § 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.

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

For additional information, contact *…names, addresses and telephone numbers of contact persons for the applicant,* **or contact DEQ at: Chief Engineer, Permits Section, Air Quality Division, 707 N. Robinson, Suite 4100, P.O. Box 1677, Oklahoma City, OK, 73101-1677, (405) 702-4100.**

Department of Environmental Quality (DEQ)
Air Quality Division (AQD)
Acronym List
7-1-20

ACFM	Actual Cubic Feet per Minute
AD	Applicability Determination
AFRC	Air-to-Fuel Ratio Controller
API	American Petroleum Institute
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
BHP	Brake Horsepower (bhp)
BTU	British thermal unit (Btu)
C&E	Compliance and Enforcement
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CAS	Chemical Abstract Service
CAAA	Clean Air Act Amendments
CC	Catalytic Converter
CD	Consent Decree
CEM	Continuous Emission Monitor
CFC	Chlorofluorocarbon
CFR	Code of Federal Regulations
CI	Compression Ignition
CNG	Compressed Natural Gas
CO	Carbon Monoxide or Consent Order
COM	Continuous Opacity Monitor
D	Day
DEF	Diesel Exhaust Fluid
DSCF	Dry Standard (At Standard Conditions) Cubic Foot (Feet)
EGU	Electric Generating Unit
EI	Emissions Inventory
EPA	Environmental Protection Agency
ESP	Electrostatic Precipitator
EUG	Emissions Unit Group
EUSGU	Electric Utility Steam Generating Unit
FCE	Full Compliance Evaluation
FIP	Federal Implementation Plan
FR	Federal Register
GACT	Generally Achievable Control Technology
GAL	Gallon (gal)
GDF	Gasoline Dispensing Facility
GEP	Good Engineering Practice
GHG	Greenhouse Gases
GR	Grain(s) (gr)
HAP	Hazardous Air Pollutants
HC	Hydrocarbon
HCFC	Hydroclorofluorocarbon
HON	Hazardous Organic NESHAP
HP	Horsepower (hp)

HR	Hour (hr)
H_2S	Hydrogen Sulfide
I&M	Inspection and Maintenance
IBR	Incorporation by Reference
IC	Internal Combustion
LAER	Lowest Achievable Emission Rate
LB	Pound(s) [Mass] (lb, lbs, lbm)
LB/HR	Pound(s) per Hour (lb/hr)
LDAR	Leak Detection and Repair
LNG	Liquefied Natural Gas
LT	Long Ton(s) (metric)
M	Thousand (Roman Numeral)
MAAC	Maximum Acceptable Ambient Concentration
MACT	Maximum Achievable Control Technology
MM	Prefix used for Million (Thousand-Thousand)
MMBTU	Million British Thermal Units (MMBtu)
MMBTUH	Million British Thermal Units per Hour (MMBtu/hr)
MMSCF	Million Standard Cubic Feet (MMscf)
MMSCFD	Million Standard Cubic Feet per Day
MSDS	Material Safety Data Sheet
MWC	Municipal Waste Combustor
MWe	Megawatt Electrical
NA	Nonattainment
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NESHAP	National Emission Standards for Hazardous Air Pollutants
NH_3	Ammonia
NMHC	Non-methane Hydrocarbon
NO_2	Nitrogen Dioxide
NOx	Nitrogen Oxides
NOI	Notice of Intent
NSCR	Non-Selective Catalytic Reduction
NSPS	New Source Performance Standards
NSR	New Source Review
O_3	Ozone
O&G	Oil and Gas
O&M	Operation and Maintenance
O&NG	Oil and Natural Gas
OAC	Oklahoma Administrative Code
OC	Oxidation Catalyst
PAH	Polycyclic Aromatic Hydrocarbons
PAL	Plant-wide Applicability Limit
Pb	Lead
PBR	Permit by Rule
PCB	Polychlorinated Biphenyls
PCE	Partial Compliance Evaluation
PEA	Portable Emissions Analyzer
PFAS	Per-and Polyfluoroalkyl Substance
PM	Particulate Matter
$PM_{2.5}$	Particulate Matter with an Aerodynamic Diameter <= 2.5 Micrometers
PM_{10}	Particulate Matter with an Aerodynamic Diameter <= 10 Micrometers

POM Particulate Organic Matter Or Polycyclic Organic Matter
ppb Parts per Billion
ppm Parts per Million
ppmv Parts per Million Volume
ppmvd Parts per Million Dry Volume
PSD Prevention of Significant Deterioration
psi Pounds per Square Inch
psia Pounds per Square Inch Absolute
psig Pounds per Square Inch Gage

RACT Reasonably Available Control Technology
RATA Relative Accuracy Test Audit
RICE Reciprocating Internal Combustion Engine
RO Responsible Official
ROAT Regional Office at Tulsa
RVP Reid Vapor Pressure

SCC Source Classification Code
SCF Standard Cubic Foot
SCFD Standard Cubic Feet per Day
SCFM Standard Cubic Feet per Minute
SCR Selective Catalytic Reduction
SER Significant Emission Rate
SI Spark Ignition
SIC Standard Industrial Classification
SIP State Implementation Plan
SNCR Selective Non-Catalytic Reduction
SO_2 Sulfur Dioxide
SOx Sulfur Oxides
SOP Standard Operating Procedure

T Tons
TAC Toxic Air Contaminant
THC Total Hydrocarbons
TPY Tons Per Year
TRS Total Reduced Sulfur
TSP Total Suspended Particulates
TV Title V of the Federal Clean Air Act

US EPA U. S. Environmental Protection Agency

VMT Vehicle Miles Traveled
VOC Volatile Organic Compound
VRU Vapor Recovery Unit

YR Year

$\mu g/m^3$ Micrograms Per Cubic Meter
2SLB 2-Stroke Lean Burn
4SLB 4-Stroke Lean Burn
4SRB 4-Stroke Rich Burn