

DRAFT

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

MEMORANDUM

January 24, 2017

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

THROUGH: Rick Groshong, Environmental Programs Manager

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

THROUGH: Jian Yue, P.E., New Source Permit Section

FROM: Morgan McGrath, E.I., Engineering Section, ROAT

SUBJECT: Evaluation of Permit No. **2016-1075-TVR**
Saint Francis Health System
Saint Francis Main Hospital (SIC 8062)
Facility ID: 3356
Section 3, Township 18N, Range 13E
Latitude 36.07278° Longitude 95.92022°
6161 S. Yale Avenue, Tulsa, Tulsa County, OK

SECTION I. INTRODUCTION

Saint Francis Health System (Saint Francis) has submitted an application for a Part 70 Renewal of the Saint Francis Main Hospital located at 6161 S. Yale, Tulsa, Oklahoma, Tulsa County. This facility is the headquarters and main treatment center for the Saint Francis Hospital - Tulsa Complex (SIC 8062). The facility currently operates under Permit No. 2011-003-TV (M-2) issued on November 20, 2014.

In the renewal application, Saint Francis has requested that the two cogeneration units in EUG 2, CG-1 and CG-2, be limited to 5,500 hours per year of operation. This change has been incorporated as an enforceable condition to the specific conditions of this renewal. This was done so that the two cogeneration units would not be applicable to CAM. Limiting the hours of operation in the TVR permit is an acceptable method of limiting the units PTE for CAM.

Additionally, the emissions section has been updated to include EUG 6. The emission unit group has two (2) controlled ethylene oxide (EO) sterilizer units which are affected sources under NESHAP 40 Part 63, Subpart WWWW.

The CO emissions factors for EG-3 and Heart GEN of EUG 3 have also been updated. The previous permit modifications incorporated a CO emissions factor of 2.19 lb/MMBTUH and referenced AP-42, however, the CO emission factor for engines smaller than 600 horsepower from Table 3.3-1 (10/96) is listed as 0.95 lb/MMBTU. The emissions from both engines have

been updated to have decreased CO emissions from EUG 3. Additionally, the SO₂ emission factor for EG-4 of EUG 4 has been updated. The previous modification incorporated the SO₂ emission factor for engines smaller than 600 horsepower, when the emission factor should have been for larger engines from Tables 3.4-1 (10/96). The emissions were updated and have slightly increased SO₂ emissions from EUG 4.

SECTION II PROCESS DESCRIPTION

The facility contains four (4) 49.53 MMBTUH natural gas-fired steam boilers. Each boiler can also be fired with No. 2 diesel as a backup fuel. To insure an adequate supply of back-up liquid fuel, Saint Francis maintains eight under-ground liquid fuel storage tanks: five (5) 25,000-gallon, two (2) 10,000-gallon, and one (1) 15,000-gallon, for a total of 160,000 gallons storage capacity. To ensure sufficient hospital operating capability during electrical power interruptions, the facility operates fourteen (14) diesel fired emergency electrical generators. Each generator set runs for approximately 36 hours per year, performing readiness checks. Operationally, each generator has been limited to 500 hours per year.

Two 2,889-hp natural gas fired reciprocating internal combustion engines are part of a “green” project to accomplish electrical generation, heating water production, and ice or chilled water production. The resulting facility is one of the largest thermal storage facilities in the country, processing about two million gallons of ice daily for use in hospital air conditioning.

Engines involved in the cogeneration project power electrical generators. Heat recovered from the engine exhaust is used to generate hot water, offsetting boiler heating duty demand. The engines also drive chillers for ice production, processing approximately 2 million gallons of water a day, generating ice used in chilled water (air conditioning) for the Hospital.

SECTION III EQUIPMENT

Emission units (EUs) have been arranged into Emission Unit Groups (EUGs) in Section III (Equipment), based on activity, type of control, and permitting status.

EUG 1 Boilers

EU	Description	Heat Input Rating	Construction
B-1	Babcock & Wilcox S/N 24344	49.53 MMBTUH	1976
B-2	Babcock & Wilcox S/N 24346	49.53 MMBTUH	1976
B-3	Babcock & Wilcox S/N 24345	49.53 MMBTUH	1976
B-4	Babcock & Wilcox S/N 24641	49.53 MMBTUH	1980

There are two operating scenarios for the boilers. Normal operation uses natural gas, but the boilers are capable of combusting diesel in the case of gas curtailment. It is not expected that the second scenario will be utilized more than 48 hours per year, principally for testing. The table below summarizes the utilization of natural gas and diesel fuel (in hours per year) from the previous two (2) years of operation.

EU	2015		2014	
	Natural Gas (hpy)	Diesel (hpy)	Natural Gas (hpy)	Diesel (hpy)
B-1	4,176	63	4,272	18
B-2	3,984	61	4,944	19
B-3	6,096	47	6,600	25
B-4	3,696	5	4,896	13

EUG 2 Cogeneration

In 2015, CG-1 operated for 4,387 hours per year and CG-2 operated for 3,288 hours per year. In 2014, CG-1 operated for 162 hours per year and CG-2 operated for 133 hours per year. Each cogeneration engine is limited to 5,500 hours per year. Historically, both CG-1 and CG-2 have never individually exceeded 5,500 hours per year of operation.

EU	Make/Model	Serial #	Rating	Construction
CG-1	Caterpillar G3520C LE	GZM00194	2,889 hp	5/2010
CG-2	Caterpillar G3520C LE	GZM00195	2,889 hp	5/2010

EUG 3 Emergency Generators

EU	Make/Model	Serial #	Rating	Construction
EG-2	Caterpillar D3406	4ZR01696	587 hp	11/4/96
EG-3	Caterpillar D348	36J01254	490 hp	6/11/74
EG-7	Caterpillar D348	36J03206	890 hp	2/4/81
EG-8	Caterpillar D3412	81Z05422	890 hp	4/29/86
EG-9	Caterpillar D3412	81Z05434	810 hp	5/1/86
EG-10	Caterpillar D3508	23Z01982	1324 hp	3/21/88
EG-11	Caterpillar D3512	24Z01658	1482 hp	8/28/86
EG-12	Caterpillar D3512	24Z01663	1482 hp	9/3/86
Heart GEN ⁽¹⁾	Onan 200DFBC	11645784	375 hp	1/23/92

⁽¹⁾ EU Heart GEN is equipped with a fuel tank (belly)

EUG 4 Emergency Generators Subject to NSPS

EU	Make/Model	Serial #	Rating	Construction
EG-4	Caterpillar C27	MJE03880	1,141 hp	4/1/14
EG-5	Caterpillar C27	MJE03162	998 hp	7/6/12
EG-6	Caterpillar C27	MJE00511	998 hp	6/7/07
EG-14	Caterpillar C27	MJE03146	1,141 hp	2012
EG-15	Caterpillar C27	MJE03172	1,141 hp	2012

EUG 5 Facility-wide

This emission unit group is facility-wide. This group includes all emission units and is established to discuss the applicability of the rules or compliance demonstrations that may affect all sources within the facility.

EUG 6 Ethylene Oxide Sterilization Units

This emission unit group has two (2) ethylene oxide (EO) sterilizer units which are affected sources under NESHAP 40 Part 63, Subpart WWWW.

Insignificant Activities

The eight (8) storage tanks qualify as sources that do not emit 5 TPY or more of a criteria air pollutant.

EU	Volume (gal)	Contents	Annual Throughput (gpy)
TK-1	25,000	Diesel	157,514
TK-2	25,000		157,514
TK-3	25,000		157,514
TK-4	25,000		157,514
TK-5	25,000		157,514
TK-6	10,000		17,170
TK-7	10,000		10,720
TK-8	15,000		12,050

SECTION IV. EMISSIONS

EUG 1 Boilers

The boilers are identical, so emissions are calculated based on total rating, or $49.53 \times 4 = 198.12$ MMBTUH. Emission factors are taken from Tables 1.4-1 and -2 of AP-42 (7/98), which assume 1,020 BTU/CF. The following table shows emissions for all four boilers, giving annual emissions based on potential to emit (PTE) for continuous operation, or 8,760 hrs/year.

Table 1 - Natural Gas Emission Factors

Emission Factor (lb/MMCF)				
NO _x	CO	SO ₂	VOC	PM ₁₀
100	84	0.6	5.5	7.6

Table 2 - Emissions from Natural Gas

EU	NO _x		CO		VOC		PM ₁₀		SO ₂	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
B-1	4.86	21.27	4.08	17.87	0.27	1.17	0.37	1.62	0.03	0.13
B-2	4.86	21.27	4.08	17.87	0.27	1.17	0.37	1.62	0.03	0.13
B-3	4.86	21.27	4.08	17.87	0.27	1.17	0.37	1.62	0.03	0.13
B-4	4.86	21.27	4.08	17.87	0.27	1.17	0.37	1.62	0.03	0.13
Total (8,760 hpy)	19.4	85.1	16.3	71.5	1.07	4.68	1.48	6.47	0.12	0.51

*Note that all PM is assumed to be PM₁₀

The boilers are capable of operating on diesel, but are not expected to do so for more than 100 hours per year. Assuming that diesel contains 140,000 BTU per gallon, then each boiler requires 354 gallons per hour (gph), and the full set would require 1,415 gph. Emission factors are taken from Table 1.3-1 and -3 of AP-42 (5/10), and assume a fuel sulfur content of 0.5%_w. The following table shows emissions for all four boilers, giving annual emissions based on potential to emit (PTE) for emergency operation, of 500 hrs/year.

Table 3 - Emissions Factors for Diesel

Emission Factors (lb/10 ³ gallon)				
NO _x	CO	SO ₂	VOC	PM ₁₀
24	5	71	2	2

Table 4 – Emissions from Diesel

EU	NO _x		CO		VOC		PM ₁₀		SO ₂	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Total (500 hpy)	33.96	8.49	7.08	1.77	2.83	0.71	2.83	0.71	100.47	25.12

EUG 2 Cogeneration

Emission factors for the two identical cogeneration engines are provided by Caterpillar for NO_x, CO, VOC, and formaldehyde. Factors for PM and SO₂ are taken from Table 3.2-2 of AP-42 (7/00). Fuel use is 6,922 BTU/hp-hr, so each unit consumes 20 MMBTUH. Figures presented in the following table show the two-engine totals, where PTE is limited to 5,500 hour per year. The facility controls emissions from these units using oxidation catalysts. The catalyst manufacturer indicates reductions of 90% for CO, 45% for VOC, and 85% for formaldehyde.

Table 5 – Emissions Factors for CG-1 and CG-2

	Emission Factors					
	NO _x (g/hp-hr)	CO (g/hp-hr)	SO ₂ (lb/MMBTU)	VOC (g/hp-hr)	PM -10 (lb/MMBTU)	CH ₂ O (g/hp-hr)
Uncontrolled	0.5	2.19	0.000588	0.59	0.00999	0.55
Controlled	0.5	0.22	0.000588	0.32	0.00999	0.08

Table 6 – Uncontrolled Emissions (5,500 hpy)

EU	NO _x		CO		VOC		PM ₁₀		SO ₂		CH ₂ O	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
CG-1	3.18	8.76	13.95	38.36	3.76	10.33	0.20	0.55	0.01	0.03	3.50	9.63
CG-2	3.18	8.76	13.95	38.36	3.76	10.33	0.20	0.55	0.01	0.03	3.50	9.63
Total	6.37	17.52	27.90	76.72	7.52	20.67	0.40	1.10	0.02	0.06	7.01	19.27

Table 7 – Controlled Emissions (5,500 hpy)

EU	NO _x		CO		VOC		PM ₁₀		SO ₂		CH ₂ O	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
CG-1	3.18	8.76	1.40	3.85	2.04	5.60	0.20	0.55	0.01	0.03	0.51	1.40
CG-2	3.18	8.76	1.40	3.85	2.04	5.60	0.20	0.55	0.01	0.03	0.51	1.40
Total	6.37	17.52	2.80	7.71	4.08	11.21	0.40	1.10	0.02	0.06	1.02	2.80

EUG 3 Emergency Generators

Emission factors for emergency engines associated with EUG 3 are taken from manufactures data and AP-42. Factors for engines smaller than 600 horsepower are taken from Table 3.3-1 (10/96) and Tables 3.4-1 and 3.4-2 (10/96) for larger engines. In some instances, manufacturers stated emissions in terms of pounds per hour rather than as a factor applied to power output or fuel input. Finally, each engine has a fuel input listed in gallons per hour. Assuming 140,000 BTU per gallon, the heat input of each engine may be calculated. Emissions are shown in combination with EUG 4 in Table 10 and all based on 500 hpy of emergency operation. All engines in EUG 3 are subject to the requirements of 40 CFR Part 63, Subpart ZZZZ.

Table 8 - Emission Factors for EUG 3

EU	Fuel	Heat Input	Emission Factors (lb/MMBTU)				
	gph	(MMBTUH)	NO _x	CO	SO ₂	PM ₁₀	VOC
EG-2 (<600 hp)	29	4.06			0.29		
EG-3 (<600 hp)	38.42	5.38	4.41	0.95	0.29	0.31	0.890
EG-7	41.5	5.81	3.20	0.85	0.001515 ⁽¹⁾	0.10	0.0819
EG-8	66	9.24			0.001515 ⁽¹⁾		
EG-9	40.37	5.65	3.20	0.85	0.001515 ⁽¹⁾	0.10	0.0819
EG-10	66	9.24			0.001515 ⁽¹⁾		
EG-11	75.4	10.6	3.20	0.85	0.001515 ⁽¹⁾	0.10	0.0819
EG-12	75.4	10.6	3.20	0.85	0.001515 ⁽¹⁾	0.10	0.0819
Heart GEN (<600 hp)	4	0.56	4.41	0.95	0.29	0.31	0.890

⁽¹⁾ Emission Factor assumes 0.0015% (wt.) sulfur content, per NESHAP ZZZZ fuel requirements

EUG 4 Emergency Generators Subject to NSPS IIII

Emission factors for the emergency generators from EUG 4 are from manufacture’s data, with the exception of SO₂. Sulfur Dioxide (SO₂) emission factors for engines smaller than 600 horsepower are taken from Table 3.3-1 (10/96) and Tables 3.4-1 and 3.4-2 (10/96) for the larger engines. Emissions are shown in combination with EUG 3 in Table 10 and are all based on 500 hpy of emergency operation.

Table 9 - Emission Factors for EUG 4

EU	Fuel	Heat Input	Emission Factors (lb/MMBTU)				
	gph	(MMBTUH)	NO _x	CO	SO ₂	PM ₁₀	VOC
EG-4	53.6	7.5	5.19 g/hp-hr	0.24 g/hp-hr	0.001515 ⁽¹⁾	0.02 g/hp-hr	0.024 g/hp-hr
EG-5	47.1	6.59	5.32 g/hp-hr	0.28 g/hp-hr	0.001515 ⁽¹⁾	0.02 g/hp-hr	0.023 g/hp-hr
EG-6	47	6.58	5.32 g/hp-hr	0.28 g/hp-hr	0.001515 ⁽¹⁾	0.02 g/hp-hr	0.023 g/hp-hr
EG-14	53.6	7.5	5.19 g/hp-hr	0.24 g/hp-hr	0.001515 ⁽¹⁾	0.02 g/hp-hr	0.024 g/hp-hr
EG-15	53.6	7.5	5.19 g/hp-hr	0.24 g/hp-hr	0.001515 ⁽¹⁾	0.02 g/hp-hr	0.024 g/hp-hr

⁽¹⁾ Emission Factor assumes 0.0015% (wt.) sulfur content, per NSPS IIII fuel requirements

Table 10 - Emissions from EUG 3 and EUG 4

EU	NO _x		CO		SO ₂		PM ₁₀		VOC	
	Lb/hr	TPY	Lb/hr	TPY	Lb/hr	TPY	Lb/hr	TPY	Lb/hr	TPY
EG-2	9.13	2.28	4.16	1.04	1.18	0.29	0.58	0.15	0.10	0.03
EG-3	23.73	5.93	5.11	1.28	1.56	0.39	1.67	0.42	4.79	1.20
EG-4	13.08	3.27	0.61	0.15	0.01	0.003	0.05	0.01	0.06	0.02
EG-5	11.54	2.89	0.63	0.16	0.01	0.002	0.05	0.01	0.05	0.01
EG-6	11.54	2.89	0.63	0.16	0.01	0.002	0.05	0.01	0.05	0.01
EG-7	18.59	4.65	4.94	1.23	0.01	0.002	0.58	0.15	0.48	0.12
EG-8	20.96	5.24	0.77	0.19	0.01	0.003	0.15	0.04	0.35	0.09
EG-9	18.08	4.52	4.80	1.20	0.01	0.002	0.57	0.14	0.46	0.12
EG-10	37.40	9.35	2.03	0.51	0.01	0.003	0.31	0.08	0.69	0.17
EG-11	33.79	8.45	8.98	2.24	0.02	0.004	1.06	0.26	0.86	0.22
EG-12	33.79	8.45	8.98	2.24	0.02	0.004	1.06	0.26	0.86	0.22
Heart GEN	2.47	0.62	0.53	0.13	0.16	0.04	0.17	0.04	0.50	0.12
EG-14	13.08	3.27	0.61	0.15	0.01	0.003	0.05	0.01	0.06	0.02
EG-15	13.08	3.27	0.61	0.15	0.01	0.003	0.05	0.01	0.06	0.02
Total	260.26	65.07	43.39	10.85	3.03	0.758	6.39	1.60	9.37	2.34

Insignificant List

The facility has two (2) ethylene oxide (EO) sterilizer units that are controlled by an ethylene oxide abator model 50. The EO unit normally operates one cycle per day, 5 days per week, for a total of 260 cycles per year. The 3M EO Abator system is designed to work automatically and the EO flow to the unit is halted until the catalyst bed reaches the correct operating temperatures. The oxidation process (where the proprietary catalyst converts EO into CO₂ and water vapor) is then continuously monitored to ensure that the oxidation stays within pre-determined temperature ranges. At normal operating temperatures and concentrations, the 3M Abator removes 99.9% of EO emissions. A single use cartridge in the control system minimizes EO quantities to 100 grams (<4 ounces) per cycle.

Table 11 – Ethylene Oxide Sterilizer Parameters

EU	Size (W x D x H)	Volume (ft ³)	Control
ST-1	17 x 32.5 x 15	690	3M Abator (99.9%)
ST-2	17 x 32.5 x 15	690	3M Abator (99.9%)

Table 12 – Emissions from Ethylene Oxide Sterilizer

EU	Annual Cycles	Ethylene Oxide (grams/year)	Ethylene Oxide (TPY)
ST-1	260	26,000	0.03
ST-2	260	26,000	0.03

Table 13 and Table 14 summarize facility-wide emissions of criteria air pollutants and hazardous air pollutants from all emission unit groups. Emissions from EUG 1 assume 8,760 hpy of operation with natural gas and 500 hpy (worst-case) of operation with diesel fuel, despite the fact that these scenarios are disjoint, for a conservatively high estimate. Controlled emissions from EUG 2 are limited by 5,500 hours per year. EUG 3 and EUG 4 are limited by 500 hpy of operation.

Table 13 – Emissions Summary (Facility-Wide)

Source	NO _x	CO	SO ₂	PM ₁₀	VOC
	(TPY)	(TPY)	(TPY)	(TPY)	(TPY)
EUG 1	93.6	73.2	25.6	7.18	5.39
EUG 2	17.5	7.71	0.06	1.1	11.2
EUG 3, EUG 4	65.07	10.85	0.76	1.60	2.34
Total	176.17	91.76	26.42	9.88	18.93

Note that emission factors for EUG 1 (HAPs), when operating with natural gas, is taken from Table 1.4-3 of AP-42 (7/98), yielding PTE of 1.60 TPY for all HAPs. The principal HAP is hexane, with 1.53 TPY. HAP emissions while firing on diesel were not calculated because they are negligible. The primary HAP emitted from EUG 2 is formaldehyde. The emissions factor was taken from manufacturer data (controlled) and estimated at 5,500 hpy of operation. Factors for all other HAPs for the cogeneration units were taken from Table 3.2-2 of AP-42 (10/96), yielding 2.55 TPY. HAP emission factors for the small engines in EUGs 3 & 4 are taken from Table 3.3-2 of AP-42 (10/96), yielding 0.015 TPY, of which 0.005 TPY is formaldehyde. HAP emission factors for the large engines in EUGs 3 and EUG 4 are taken from Table 3.4-3 of AP-42 (10/96), yielding 0.030 TPY, of which 0.015 TPY is benzene. Emissions of formaldehyde are expected to be less than 10 TPY and emissions of aggregate HAPs will be well below 25 TPY.

Table 14 – Facility-Wide Emissions of HAPs

Source	Formaldehyde (TPY)	Total HAP (TPY)
EUG 1	0.006	1.60
EUG 2	2.80	2.55
EUGs 3 & 4	0.0067	0.040
Insignificant List	--	0.06
Total	2.81	7.06*

*Includes CH₂O

SECTION V FEDERAL REGULATIONS

PSD, 40 CFR Part 52

[Not Applicable]

PSD does not apply. Total emissions are less than the level of significance of 250 TPY of any single regulated pollutant and the facility is not one of the 26 specific industries with a threshold of 100 TPY.

NSPS, 40 CFR Part 60

[Subpart IIII and Subpart JJJJ Applicable]

Subparts D, Da, Db, Dc apply to various steam generating units. The four boilers at this facility are smaller than the lowest threshold for D, Da, and Db, and were constructed before the effective date of Dc. They are not affected facilities.

Subpart Kb applies to volatile organic liquid storage vessels that have a capacity greater than 75 m³ (19,798 gallons). Although five tanks have 25,000-gallon capacity, they contain a fluid with vapor pressure less than 15 kPa, and therefore are not affected facilities.

Subpart IIII, Stationary Compression Ignition (CI) Internal Combustion Engines (ICE). The engines of EUG 3 and EUG 4 are CI-ICE. All of the engines in EUG 3 were constructed before the earliest date of any applicable section of this subpart and are not affected. Engine EG-6 in EUG 4 was manufactured June 7, 2007, engines EG-5, EG-14 and EG-15 were all manufactured in 2012, and engine EG-4 (the replacement) was manufactured April 1, 2014. All five (5) engines (EG-4, EG-5, EG-6, EG-14, and EG-15) are affected sources under Subpart IIII. According to 40 CFR 60.4205 (b), owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE. The reference requires that the engine be certified to specific standards. EUG 4 is subject to Tier 2 emission standards under Subpart IIII for NO_x, NMHC, and PM. The manufacture has met the Part 60 requirements to certify the engine to the standards in Part 89 and the applicant has provided the certificates of conformity (ECPXL27.0NZS-005 & ECPXL27.0NZS-005) for each engine family. Fuel oil must comply with the standards listed in 40 CFR 80.510(b). Monitoring requirements are described in 40 CFR 60.4209 and operating and maintenance requirements are listed in §4211. Part 5 documents submitted with the application claim compliance with all requirements.

Subpart JJJJ, Stationary Spark Ignition Internal Combustion Engines (SI-ICE), promulgates emission standards for all new SI engines ordered after June 12, 2006, and all SI engines modified or reconstructed after June 12, 2006, regardless of size. The specific emission standards (either in g/hp-hr or as a concentration limit) vary based on engine class, engine power

rating, lean-burn or rich-burn, fuel type, duty (emergency or non-emergency), and numerous manufacture dates. Both cogeneration engines were installed in May 2010. According to §60.4230(a)(4)(i), which concerns owners and operators of SI-ICE, engines larger than 500 hp (excluding lean-burn engines with hp between 500 and 1350) and manufactured after July 1, 2007 are affected facilities. Both CG-1 and CG-2 were manufactured after that date and are affected units under this subpart. The cogeneration engines are subject to emission standards found in Table 1 of the subpart, per §60.4233(d), including 2 g/hp-hr of NO_x, 4 g/hp-hr of CO, and 1 g/hp-hr of VOC, or ppmvd standards of 160 for NO_x, 540 for CO, and 86 for VOC, all based on 15% O₂. According to §60.4243(b)(2)(ii), maintenance records shall be kept for each engine and each requires performance testing at intervals of three years or 8,760 hours of runtime, whichever comes first.

NESHAP, 40 CFR Part 61

[Not Applicable]

There are only trace amounts of emissions of the regulated pollutants: asbestos, benzene, beryllium, coke oven emissions, inorganic arsenic, mercury, radionuclides, and vinyl chloride.

NESHAP, 40 CFR Part 63

[Subpart ZZZZ and Subpart WWWW Applicable]

Subpart ZZZZ, Reciprocating Internal Combustion Engines (RICE) affects new and existing engines at major and area sources. All engines associated with the emergency generators in EUG 3 and EUG 4 are affected facilities. According to §63.6604(b), the existing emergency CI stationary RICE engines in EUG 3 must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted. Additionally, the existing emergency CI stationary RICE engines in EUG 3 must comply with the maintenance practices in Table 2d. According to §63.6590 (c)(1), the “new” emergency engines of EUG 4 satisfy the requirements of this subpart by complying with the requirements of NSPS Subpart III. Similarly, under §63.6590(c)(1), the “new” cogeneration engines of EUG 2 satisfy the requirements of this subpart by complying with the requirements of NSPS Subpart JJJJ.

Subpart JJJJJ (Industrial, Commercial, and Institutional Boilers in Area Sources) affects boilers at area sources of HAPs. The facility is considered an area source for all HAPs. The facility contains four (4) 49.53-MMBTUH boilers which have the dual ability to use natural gas and diesel fuel. According to §63.11195(e), gas-fired boilers are not subject to the requirements under this subpart. *Gas-fired boiler* includes any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year. The four (4) boilers are limited individually to 8,760 hpy of natural gas combustion, along with a second operating scenario of 500 hpy of No. 2 diesel fuel combustion for emergency situations and gas-supply curtailment. The table below summarizes the fuel use (in hours per year) from all four (4) boilers from the most recent years.

Table 15 – Fuel Use (hpy)

EU	2015		2014	
	Natural Gas	Diesel	Natural Gas	Diesel
B-1	4,176	63	4,272	18
B-2	3,984	61	4,944	19
B-3	6,096	47	6,600	25
B-4	3,696	5	4,896	13

During March 2015, there was disruption of the natural gas supply to the hospital by ONG, due to public reporting of a possible natural gas leak. ONG coordinated a leak test with hospital staff. B-1 and B-2 were switched to diesel at 4:00 pm on March 10 for gas line leak testing which concluded at 2:00 pm on March 11, resulting in a natural gas supply disruption lasting 22 hours. B-3 was in standby for 6 hrs. Disruption concluded when ONG discovered leaks and repairs were completed. Once supply was restored, the boilers resumed normal natural gas operation and periodic testing on diesel. The diesel-fired operating hours in 2015 for B-1, B-2, and B-3 are then adjusted from the table above by subtracting out the time period in which gas-supply curtailment occurred. Periodic testing, maintenance, and operator training on diesel fuel for B-1, B-2, and B-3 are 41 hours, 39 hours, and 41 hours, respectively, and, the combustion of diesel fuel has not exceeded a combined total of 48 hours during any calendar year for periodic testing, maintenance, and operator training. Therefore, the boilers still meet the definition of “gas-fired boilers” and are still considered exempted sources under this subpart.

Subpart WWWW affects Ethylene Oxide Sterilization Facilities at a hospital that is an area source of HAPs. Sterilization units were constructed before November 6, 2006, and are “existing” facilities. The facility operates both units with control devices (see description in emissions and equipment section) and has retained records of their initial compliance notification status to DEQ.

CAM, 40 CFR Part 64

[Not Applicable]

This part applies to any pollutant-specific emissions unit at a major source that is required to obtain an operating permit, for any application for an initial operating permit submitted after April 20, 1998, that addresses “large pollutant-specific emissions units,” or any application that addresses “large pollutant-specific emissions units” as a significant modification to an operating permit, or for any application for renewal of an operating permit, if it meets all of the following criteria.

- The unit is subject to an emission limit or standard for an applicable regulated air pollutant
- The unit uses a control device to achieve compliance with the applicable emission limit or standard
- The unit has potential pre-control emissions of the applicable regulated air pollutant equal to or greater than 100 percent, in tons per year, required for a source to be classified as a major source.

EUG 1 is not subject to an emission limit or standard for any applicable air pollutants, operates uncontrolled, and has potential emissions less than major source thresholds for all pollutants. As such, CAM is *not* applicable to the emission units in this group.

EUG 2 is subject to emission limits under Subpart JJJJ for NO_x, CO, and VOC. Additionally this emission group is subject to Subpart ZZZZ, and satisfies the requirements by complying with Subpart JJJJ. The potential emissions for each criteria pollutant is below major source threshold. The potential emissions for each HAP is also under major source threshold. Potential emissions have an enforceable limit of 5,500 hours per year of operation. Therefore, CAM is *not* applicable to the emission units in this group.

EUG 3 is not subject to emission limits or standards for any applicable air pollutants, operates uncontrolled, and has potential emissions less than major source thresholds for all pollutants. Potential emissions have an enforceable limit of 500 hours per year of operation. As such, CAM is *not* applicable to the emission units in this group.

EUG 4 is subject to emission standards under Subpart IIII for NO_x, NMHC, and PM by the manufacture. EUG 4 operates uncontrolled, and has potential emissions less than major source thresholds for all pollutants. Potential emissions have an enforceable limit of 500 hours per year of operation. As such, CAM is *not* applicable to the emission units in this group.

EUG 5 is not subject to emission limits or standards for any applicable air pollutants, and has potential HAP emissions below major source levels. As such, CAM is *not* applicable to the emission units in this group.

EUG 6 is not subject to emission limits or standards for any applicable air pollutants, operates controlled, and has potential HAP emissions below major source levels. As such, CAM is *not* applicable to the emission units in this group.

Chemical Accident Prevention Provisions, 40 CFR Part 68 [Not Applicable]
This facility does not process or store more than the threshold quantity of any regulated substance (Section 112r of the Clean Air Act 1990 Amendments). More information on this federal program is available on the web page: www.epa.gov/rmp.

Stratospheric Ozone Protection, 40 CFR Part 82 [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 VI OKLAHOMA AIR POLLUTION CONTROL RULES

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

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

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

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

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

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

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

OAC 252:100-13 (Open Burning) [Applicable]

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

OAC 252:100-19 (Particulate Matter (PM)) [Applicable]

Section 19-4 regulates emissions of PM from new and existing fuel-burning equipment, with emission limits based on maximum design heat input rating. Fuel-burning equipment is defined in OAC 252:100-19 as any internal combustion engine or gas turbine, or other combustion device used to convert the combustion of fuel into usable energy. Thus, the boilers, the generator set engines, and the cogeneration engines are subject to the requirements of this subchapter. The Appendix C limit for the 49.53 MMBTUH boilers is 0.41 lb/MMBTU. As noted in the emission calculations, each boiler has maximum emissions of PM when using diesel. The 2.83 lb/hr of PM (from 2 lb per 1,000 gal) may be divided by 49.53 to yield 0.057 lb/MMBTU, nearly an order of magnitude below the required value. The cogeneration engines are rated at 20 MMBTUH each, for which the Appendix C limit is 0.51 lb/MMBTU. The AP-42 value cited in the emissions calculations is slightly less than 0.01 lb/MMBTU, more than an order of magnitude less than the required value. The emergency generator engines of EUGs 3 & 4 all have heat inputs less than 10 MMBTUH, so each is subject to the default standard of 0.6 lb/MMBTU. Units 3 and Heart 1 each show 0.31 lb/MMBTU in the previous calculations, and units 7, 9, 11, and 12 show 0.1 lb/MMBTU. The back-calculated value for unit 2 is 0.14 lb/MMBTU, for units 5 and 6 is 0.008, for units 8 and 10 is 0.038, and for units 4, 14 and 15 is 0.007. All sources are in compliance.

OAC 252:100-25 (Visible Emissions and Particulates) [Applicable]

No discharge of greater than 20% opacity is allowed except for short-term occurrences that consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity. When burning natural gas in any of the combustion devices at the facility, there is very little possibility of exceeding these standards. Proper combustion practices for the equipment that uses diesel maintains compliance with this subchapter.

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 originated 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 to interfere with the maintenance of air quality standards. Under normal operating conditions, this facility has negligible potential to violate this requirement; therefore, it is not necessary to require specific precautions to be taken.

OAC 252:100-31 (Sulfur Compounds)

[Applicable]

Part 2 limits the ambient air impact of hydrogen sulfide (H₂S) emissions from any new or existing source. Fuel-burning equipment fired with commercial natural gas will not have the potential to exceed the H₂S ambient air concentration limit.

Part 5 limits sulfur dioxide emissions from new fuel-burning equipment (constructed after July 1, 1972). For gaseous fuels the limit is 0.2 lb/MMBTU heat input averaged over 3 hours. For fuel gas having a gross calorific value of approximately 1,020 Btu/scf, this limit corresponds to fuel sulfur content of approximately 1,227 ppmv. The permit requires the use of gaseous fuel with sulfur content less than 1,227 ppmv to ensure compliance with Subchapter 31 for the boilers and cogeneration units. For liquid fuels the limit is 0.8 lb/MMBTU heat input averaged over 3 hours. Note that as of January 1, 2015, EUG 3 emergency engines are all required to use ultra-low sulfur fuel (15 ppmw), per NESHAP ZZZZ. Additionally, all the emergency engines contained in EUG 4 are also required to use ultra-low sulfur fuel (15 ppmw), per NSPS III. Based on the selected emission factors from AP-42 and the ultra-low sulfur fuel content of 0.0015%, emissions of sulfur dioxide from the emergency generator engines would not exceed 0.0015 lb/MMBTU.

Part 5 requires removal or oxidation of H₂S from the exhaust gas of any new petroleum or natural gas process equipment. This facility does not have process equipment used to convert crude petroleum and/or natural gas into refined products.

OAC 252:100-33 (Nitrogen Oxides)

[Not Applicable]

The new equipment standard for emissions of oxides of nitrogen measured as nitrogen dioxide from gas-fired/liquid-fired fuel-burning equipment with a rated heat input of 50 MMBTUH or more is 0.2/0.3 pounds per MMBtu heat input, with a two-hour maximum. None of the equipment present exceeds the 50 MMBTUH threshold.

OAC 252:100-35 (Carbon Monoxide)

[Not Applicable]

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

OAC 252:100-37 (Volatile Organic Compounds)

[Applicable]

Part 3 concerns the control of volatile organic compounds in storage and loading operations.

Section 37-15(b) requires existing storage tanks in Tulsa or Oklahoma Counties with a capacity of 400 gallons or more to be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. Section 37-4(a) exempts VOCs with vapor pressures less than 1.5 psia under actual storage conditions. One fuel tank stores jet fuel and all other fuel tanks store diesel, both of which have vapor pressure less than 1.5 psia at storage conditions, and are therefore exempt from this requirement.

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

Part 7 requires fuel-burning equipment to be operated and maintained so as to minimize VOC emissions. Temperature and available air must be sufficient to provide essentially complete combustion. All boilers and engines are designed to provide essentially complete combustion of organic materials.

OAC 252:100-39 (Organic Compounds, Nonattainment Areas) [Not Applicable]

This subchapter imposes additional conditions beyond those of Subchapter 37 on emissions of organic materials from new and existing facilities in Tulsa and Oklahoma Counties. This facility is located in Tulsa County.

Part 7 concerns Specific Operations. Section 39-41(b) affects gasoline or VOC storage vessel having a capacity of greater than 400 gallons but less than 40,000 gallons. Section 39-41(e) contains additional requirements for the control of vapors from storage vessels located in Tulsa County having a storage capacity of greater than 2,000 gallons but less than 40,000 gallons and having an average annual throughput of 120,000 gallons or greater of gasoline or other VOCs. Section 39-4 exempts VOCs with vapor pressures less than 1.5 psia under actual storage conditions. The fuel tanks store diesel and jet fuel, all of which have vapor pressure less than 1.5 psia at storage conditions, and are therefore exempt from these requirements.

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 Reduction	not eligible
OAC 252:100-15	Mobile Sources	not in source category
OAC 252:100-17	Incinerators	not type of emission unit
OAC 252:100-23	Cotton Gins	not type of emission unit
OAC 252:100-24	Feed & Grain Facility	not in source category
OAC 252:100-39	Nonattainment Areas	exempt (VOC stored < 1.5 psia)
OAC 252:100-47	Landfills	not type of source category

SECTION VII COMPLIANCE**Inspection**

Regional Office at Tulsa Environmental Specialist Tom Pinkston performed a full compliance evaluation on May 10, 2013. The report indicated compliance with all permit requirements.

Tier Classification

This application has been determined to be **Tier II** based on the request for renewal of a Part 70 operating permit.

Public Review

The applicant published the "Notice of Filing a Tier II Application" on October 24, 2016, in the *The Tulsa Word*, a daily newspaper in Tulsa County. The notice stated that the application was available for review at the Tulsa City County Library, 400 Civic Center, Tulsa, Oklahoma 74147, or at the Air Quality Division's Main Office in Oklahoma City, Oklahoma.

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

The draft/proposed permit will go through a 30-day public and 45-day EPA review.

State Review

This facility is not located within 50 miles of the border of Oklahoma and any other state.

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 has a current lease to accomplish the permitted purpose.

Fees Paid

The Part 70 operating permit renewal application fee of \$7,500 was received on October 5, 2016.

SUMMARY

There are no active Air Quality compliance or enforcement issues that would affect the issuance of this permit. Issuance of the permit is recommended, contingent on public and EPA review.

DRAFT

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

**Saint Francis Health System
Saint Francis Main Hospital, 6161 S. Yale Avenue, Tulsa**

Permit No. 2016-1075-TVR

The permittee is authorized to operate in conformity with the specifications submitted to Air Quality on October 5, 2016, and subsequent information received on November 17, 2016. The Evaluation Memorandum dated January 24, 2017, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain operating limitations or permit requirements. Continuing operations under this permit constitutes acceptance of, and consent to, the conditions contained herein.

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

EUG 1: Annual emissions of NO_x, CO, SO₂, PM₁₀, and VOC shall not exceed the amount listed in the table below.

EU	Description	Serial No.
B-1	49.53 MMBTUH Babcock & Wilcox Boiler	24344
B-2	49.53 MMBTUH Babcock & Wilcox Boiler	24346
B-3	49.53 MMBTUH Babcock & Wilcox Boiler	24345
B-4	49.53 MMBTUH Babcock & Wilcox Boiler	24641

Emissions (TPY)

NO_x	CO	SO₂	PM₁₀	VOC
93.6	73.3	25.6	7.18	5.39

- a. Each emission unit contained in EUG 1 shall be limited to natural gas as the primary fuel during normal operation.
- b. A serial number or other acceptable form of permanent (non-removable), readily accessible identification shall be on B-1, B-2, B-3, and B-4. [OAC 252:100-43]
- c. In the case of gas curtailment or supply interruption, emergency use of diesel fuel shall be limited to 500 hours per year for each emission unit in EUG 1.
 - i. Periodic testing, maintenance, and operating training using diesel fuel, excluding startup and shutdown, shall not exceed a combined total of 48 hours during any calendar year.

EUG 2: Annual emissions of NO_x, CO, SO₂, PM₁₀, VOC, and CH₂O shall not exceed the amount listed in the table below. CG-1 and CG-2 are subject to the hourly emission limitations for NO_x and CO in the table below.

EU	Description	Serial No.
CG-1	2,889-Hp Caterpillar G3520C LE	GZM00194
CG-2	2,889-Hp Caterpillar G3520C LE	GZM00195

Hourly Emission Rates

EU	NO _x (lb/hr)	CO (lb/hr)
CG-1	3.19	1.4
CG-2	3.19	1.4

Emissions (TPY)

NO _x	CO	SO ₂	PM ₁₀	VOC	CH ₂ O
17.5	7.71	0.06	1.1	11.2	2.8

- Each cogeneration engine shall be limited to 5,500 hours per year of operation using natural gas as the fuel source.
- Each cogeneration engine shall be operated with a functioning oxidation catalyst with an control efficiency of 90% for CO and 85% for CH₂O.
- A serial number or other acceptable form of permanent (non-removable), readily accessible identification shall be on the CG-1 and CG-2. [OAC 252:100-43]
- Each cogeneration engine shall be equipped with a non-resettable hour meter. [OAC 252:100-43]

EUG 3 and EUG 4: Emissions authorized for EUG 3 are combined with EUG 4. Annual emissions of NO_x, CO, SO₂, PM₁₀, and VOC shall not exceed the amount listed in the table below.

EUG 3 – Emergency Engines (NESHAP ZZZZ)

EU	Make/Model	Rating	Serial No.
EG-2	Caterpillar D3406	587 hp	4ZR01696
EG-3	Caterpillar D348	490 hp	36J01254
EG-7	Caterpillar D348	890 hp	36J03206
EG-8	Caterpillar D3412	890 hp	81Z05422
EG-9	Caterpillar D3412	810 hp	81Z05434
EG-10	Caterpillar D3508	1324 hp	23Z01982
EG-11	Caterpillar D3512	1482 hp	24Z01658
EG-12	Caterpillar D3512	1482 hp	24Z01663
Heart GEN	Onan 200DFBC	375 hp	11645784

EUG 4 – Emergency Engines (NSPS IIII)

EU	Make/Model	Rating	Serial No.
EG-4	Caterpillar C27	1,141 hp	MJE03880
EG-5	Caterpillar C27	998 hp	MJE03162
EG-6	Caterpillar C27	998 hp	MJE00511
EG-14	Caterpillar C27	1,141 hp	MJE03146
EG-15	Caterpillar C27	1,141 hp	MJE03172

Emissions (TPY)

NO _x	CO	SO ₂	PM ₁₀	VOC
65.07	10.85	0.76	1.6	2.34

- a. Each emission unit contained in EUG 3 and EUG 4 are limited to 500 hours per year of operation.
- b. A serial number or other acceptable form of permanent (non-removable), readily accessible identification shall be on the CG-1 and CG-2. [OAC 252:100-43]
- c. Each emergency engine shall be equipped with a non-resettable hour meter. [OAC 252:100-43]

EUG 6: Annual emissions of HAP shall not exceed the amount listed in the table below.

EU	Size, ft. (W x D x H)	Volume (ft ³)	Control
ST-1	17 x 32.5 x 15	690	3M Abator
ST-2	17 x 32.5 x 15	690	3M Abator

Emissions (TPY)

Ethylene Oxide (HAP)
0.06

- a. Each sterilization unit shall be operated with a functioning ethylene oxide abator system with an control efficiency of 99.9%.

Insignificant Activities

- 1. Eight (8) storage tanks ranging from 10,000 gallons to 25,000 gallons, storing #2 diesel or jet fuel.
- 2.) The permittee shall be authorized to operate the facility continuously (24 hours per day, every day of the year). [OAC 252:100-8-6(a)]
- 3.) All compression ignition (CI) internal combustion engines (ICE) shall be fired with diesel fuel with a maximum sulfur content of 15 ppm_w. Natural gas-fired spark ignition ICE

and other fuel-burning equipment shall be fired with pipeline grade natural gas. Compliance can be shown for pipeline grade natural gas by a current gas company bill, for other gaseous fuel by a current lab analysis, stain-tube analysis, gas contract, tariff sheet, or other approved methods, and for diesel by the supplier's delivery ticket. Compliance for gaseous fuels shall be demonstrated at least once annually. Permittee shall maintain a file of the diesel fuel supplier's delivery tickets. [OAC 252:100-31]

- 4.) At least once per calendar quarter, the permittee shall conduct tests of NO_x and CO emissions in exhaust gases from each engine and from each replacement engine/turbine when operating under representative conditions for that period. Testing is required for each engine or any replacement engine that runs for more than 220 hours during that calendar quarter. A quarterly test may be conducted no sooner than 20 calendar days after the most recent test. Testing shall be conducted using a portable analyzer in accordance with a protocol meeting the requirements of the latest AQD Portable Analyzer Guidance document, or an equivalent method approved by Air Quality. When four consecutive quarterly tests show the engine/turbine to be in compliance with the emissions limitations shown in the permit, then the testing frequency may be reduced to semi-annual testing. A semi-annual test may be conducted no sooner than 60 calendar days nor later than 180 calendar days after the most recent test. Likewise, when the following two consecutive semi-annual tests show compliance, the testing frequency may be reduced to annual testing. An annual test may be conducted no sooner than 120 calendar days nor later than 365 calendar days after the most recent test. Upon any showing of non-compliance with emissions limitations or testing that indicates that emissions are within 10% of the emission limitations, the testing frequency shall revert to quarterly. Reduced testing frequency does not apply to engines with catalytic converters. Any reduction in the testing frequency shall be noted in the next required compliance certification. [OAC 252:100-8-6 (a)(3)(A)]
- 5.) When periodic compliance testing shows emissions in excess of the lb/hr emission limits in Specific Condition Number 1, the permittee shall comply with the provisions of OAC 252:100-9 for excess emissions. Requirements of OAC 252:100-9 include immediate notification and written notification of Air Quality. [OAC 252:100-9]
- 6.) 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 lb/hr and TPY) are authorized under the following conditions. [OAC 252:100-8-6 (a)(3)(A)]
 - a. The permittee shall notify AQD in writing not later than 7 days in advance of the start-up 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 NO_x and CO emission

limitations. A copy of the first quarter testing shall be provided to AQD within 60 days of start-up of each replacement engine/turbine. The test report shall include the engine/turbine fuel usage, serial number, stack flow (ACFM), stack temperature (°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 and/or 40 CFR Part 60, Subpart IIII shall comply with all applicable requirements.
10. The ethylene oxide sterilizers in EUG 6 are subject to 40 CFR Part 63, Subpart WWWW and shall comply with all sections including, but not necessarily restricted to, the following.
- [40 CFR 63, Subpart WWWW]
- a. §63.10382 Am I subject to this subpart?
 - b. §63.10384 What are my compliance dates?
 - c. §63.10390 What management practice standard must I meet?
 - d. §63.10400 How do I demonstrate initial compliance?
 - e. §63.10402 By what date must I demonstrate initial compliance?
 - f. §63.10420 How do I demonstrate continuous compliance with the management practice requirements?
 - g. §63.10430 What notifications must I submit and by when?
 - h. §63.10432 What records must I keep?
 - i. §63.10434 In what form and for how long must I keep my records?
 - j. §63.10440 What parts of the General Provisions apply to me?
 - k. §63.10442 Who implements and enforces this subpart?
 - l. §63.10446 Do title V permitting requirements apply to area sources subject to this subpart?
 - m. §63.10448 What definitions apply to this subpart?
11. The emergency engines contained in EUG 4 shall comply with all applicable requirements of NSPS Subpart IIII, including but not limited to the following.
- [40 CFR Part 60, Subpart IIII]
- a. §60.4200 Am I subject to this subpart?
 - b. §60.4204 What emission standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?
 - c. §60.4205 What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

- d. §60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?
- e. §60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?
- f. §60.4208 What is the deadline for importing and installing stationary CI ICE produced in the previous model year?
- g. §60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?
- h. §60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?
- i. §60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?
- j. §60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?
- k. §60.4218 What parts of the General Provisions apply to me?
- l. §60.4219 What definitions apply to this subpart?

12. The owner/operator shall comply with all applicable requirements of NSPS Subpart JJJJ, for each affected spark ignition reciprocating internal combustion engine (RICE) including but not limited to the following. [40 CFR 60, Subpart JJJJ]

- a. §60.4230 Am I subject to this subpart?
- b. §60.4233 What emission standards must I meet if I am an owner or operator of a stationary SI internal combustion engine?
- c. §60.4234 How long must I meet the emissions standards if I am an owner or operator of a stationary SI internal combustion engine?
- d. §60.4236 What is the deadline for importing or installing stationary SI ICE produced in the previous model year?
- e. §60.4243 What are my compliance requirements if I am an owner or operator of a stationary SI internal combustion engine?
- f. §60.4244 What test methods and other procedures must I use if I am an owner or operator of a stationary SI internal combustion engine?
- g. §60.4245 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary SI internal combustion engine?
- h. §60.4246 What parts of the General Provisions apply to me?

13. All engines are affected facilities under NESHAP Subpart ZZZZ and shall comply with all sections including, but not necessarily restricted to, the following.

[40 CFR 63, Subpart ZZZZ]

- a. §63.6580 What is the purpose of subpart ZZZZ?
- b. §63.6585 Am I subject to this subpart?
- c. §63.6590 What parts of my plant does this subpart cover?
- d. §63.6595 When do I have to comply with this subpart?
- e. §63.6603 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?

- f. §63.6605 What are my general requirements for complying with this subpart?
 - g. §63.6625 What are my monitoring, installation, operation, and maintenance requirements?
 - h. §63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?
 - i. §63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?
 - j. §63.6650 What reports must I submit and when?
 - k. §63.6655 What records must I keep?
 - l. §63.6660 In what form and how long must I keep my records?
 - m. §63.6665 What parts of the General Provisions apply to me?
 - n. §63.6670 Who implements and enforces this subpart?
 - o. §63.6675 What definitions apply to this subpart?
14. The permittee shall keep records as follows. All records shall be retained on site for a period of at least five years following dates of recording, and shall be made available to regulatory personnel upon request. [OAC 252:100-43]
- a. Periodic testing for NO_x and CO exhaust from each engine in EUG 2 and each replacement engine in EUG 3 and 4.
 - b. Operating hours for each EUG 2 cogeneration engines, monthly and 12-month rolling.
 - c. Operating hours when combusting diesel fuel for each EUG 1 boiler, monthly and 12-month rolling. Appropriate records must be kept to demonstrate the reason for diesel usage in EUG 1 including but not limited to: gas supply interruption, gas curtailment, startup/shutdown, Periodic testing, maintenance, and operating training.
 - d. For the fuel(s) burned, the appropriate document(s) as described in Specific Condition 3.
 - e. Operating hours for each emergency engine of EUGs 3 and 4, monthly and 12-month rolling totals.
 - e. Records required to demonstrate compliance with NSPS Subpart IIII, NSPS Subpart JJJJ, NESHAP Subpart ZZZZ and NESHAP Subpart WWWW.
 - f. Records of the type of activity and the amount of annual emissions from activities that have the potential to emit less than 5 TPY (actual) of any criteria pollutant shall be maintained on-site to verify Insignificant Activities.
16. No later than 30 days after each anniversary date of the issuance of the initial Title V operating permit (August 12, 2011), 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)]
17. This permit shall supersede and replace all other Air Quality operating permits for this facility.

**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 (PM₁₀). NSPS may allow reporting of only particulate matter emissions caught in the filter (obtained using Reference Method 5).

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

SECTION IV. COMPLIANCE CERTIFICATIONS

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

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

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

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

C. The compliance certification shall contain a certification by a responsible official as to the results of the required monitoring. This certification shall be signed by a responsible official,

and shall contain the following language: “I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.” [OAC 252:100-8-5(f) and OAC 252:100-8-6(c)(1)]

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

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

SECTION V. REQUIREMENTS THAT BECOME APPLICABLE DURING THE PERMIT TERM

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

SECTION VI. PERMIT SHIELD

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

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

SECTION VII. ANNUAL EMISSIONS INVENTORY & FEE PAYMENT

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

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

SECTION VIII. TERM OF PERMIT

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

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

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

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

SECTION IX. SEVERABILITY

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

SECTION X. PROPERTY RIGHTS

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

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

SECTION XI. DUTY TO PROVIDE INFORMATION

A. The permittee shall furnish to the DEQ, upon receipt of a written request and within sixty (60) days of the request unless the DEQ specifies another time period, any information that the DEQ may request to determine whether cause exists for modifying, reopening, revoking, reissuing, terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the DEQ copies of records required to be kept by the permit. [OAC 252:100-8-6(a)(7)(E)]

B. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 27A O.S. § 2-5-105(18). Confidential information shall be clearly labeled as such and shall be separable from the main body of the document such as in an attachment. [OAC 252:100-8-6(a)(7)(E)]

C. Notification to the AQD of the sale or transfer of ownership of this facility is required and shall be made in writing within thirty (30) days after such sale or transfer. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112(G)]

SECTION XII. REOPENING, MODIFICATION & REVOCATION

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

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

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

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

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

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

[OAC 100-8-7.3(d)]

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

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

E. Activities that will result in air emissions that exceed the trivial/insignificant levels and that are not specifically approved by this permit are prohibited.

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

SECTION XIII. INSPECTION & ENTRY

A. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized regulatory officials to perform the following (subject to the permittee's right to seek confidential treatment pursuant to 27A O.S. Supp. 1998, § 2-5-105(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. 2016-1075-TVR

Saint Francis Health System,

having complied with the requirements of the law, is hereby granted permission to operate all the sources within Saint Francis Main Hospital, at 6161 S. Yale Avenue, Tulsa County,

subject to standard conditions dated June 21, 2016, and specific conditions, both attached.

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

Eddie Terrill,
Division Director

Date

Saint Francis Hospital System
Attn: Mr. Michael Mullins
6161 S. Yale Ave
Tulsa, OK 74136

SUBJECT: Part 70 Renewal; Permit No. **2016-1075-TVR**
Saint Francis Hospital System
Saint Francis Main Hospital
Facility ID: 3356
Section 3, Township 18N, Range 13E
Latitude 35.07278° Longitude 95.92022°
Tulsa, Tulsa County

Dear Mr. Mullins,

Air Quality has received the permit application for the referenced facility and completed initial review. This application has been determined to be a Tier II application. In accordance with 27A O.S. 2-14-301 and 302 and OAC 252:4-7-13(c), the enclosed draft permit is now ready for public review. The requirements for public review of the draft permit 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 the application and draft permit at a convenient location (preferentially at a public location) within the county of the facility.
3. Send AQD a signed affidavit of publication for the notice(s) from Item #1 above within 20 days of publication of the draft permit. *Any additional comments or requested changes you have for the draft permit or the application should be submitted within 30 days of publication.*

Thank you for your cooperation in this matter. If we may be of further service, please contact Morgan McGrath at 918-293-1622 or by email at morgan.mcgrath@deq.ok.gov.

Sincerely,

Phillip Fielder, P.E.
AIR QUALITY DIVISION