OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

MEMORANDUM **November 4, 2022**

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

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

THROUGH: Peer Review, Iftekhar Hossain, P.E.

FROM: Anthony Maxwell, Regional Office at Tulsa

SUBJECT: Evaluation of Permit Application No. **2019-0102-TVR3**
University of Oklahoma (OU)
OU Power Plant, Utility Plant #4, and Printing Plant (SIC 8221)
Facility ID 4488
160 Felgar Street, Norman, Cleveland County
Located ½ block south of the intersection of Felgar St. and Jenkins St.
Latitude 35.209° N and Longitude 97.441° W

SECTION I. INTRODUCTION

The University of Oklahoma (OU or applicant) has requested renewal of their Part 70 Operating Permit. The facility is currently operating under Permit No. 2012-1290-TVR2 (M-1), issued December 10, 2014. The facility is a Prevention of Significant Deterioration (PSD) major source and an area source of Hazardous Air Pollutants (HAP).

SECTION II. FACILITY DESCRIPTION

OU operates a power plant. The OU Power Plant generates electricity for OU. The power plant consists of four (4) high-pressure boilers that are dual fuel, capable of being fueled with either natural gas or diesel. The power plant was originally constructed in 1948 with two high-pressure boilers. In 1963 and 1969, two more boilers were added. All of the boilers are grandfathered emission units which were constructed prior to May 31, 1972.

OU operates a utility plant. Utility Plant #4 is a combined heat and power facility that will utilize two combustion turbine generators with heat recovery boilers running base-load to produce steam and electricity to serve the Norman campus. The combustion turbines will be continuously operated except for maintenance once a year. The heat recovery boilers feature supplemental duct firing to allow for increased steam production in the winter. The packaged steam boiler will provide backup and supplemental steam production. The utility plant includes a diesel-fired black start generator that will be used to restart the plant upon loss of electrical service and will not be used for peak shaving.

OU has two operating scenarios for the above boilers and turbines. For Scenario I, the boilers and turbines will be fueled with commercial-grade natural gas. For Scenario II, the boilers will be fueled with fuel oil No. 2, with a maximum sulfur content of 0.2 percent by weight, during periods of gas curtailment, gas supply interruption, startups, or periodic testing.

OU operates a printing press. OU has twenty-three (23) emergency generators located at various buildings across its campus. OU has other insignificant and trivial sources. Emission units (EUs) have been arranged into Emission Unit Groups (EUGs) as outlined in the equipment section of this memorandum.

SECTION III. PERMIT HISTORY

Permits	Date Issued	Description
92-024-C	5/4/1992	Initial construction
92-024-O	11/16/1994	Initial operating permit
2000-305-TV	1/3/2002	Initial Title V operating permit
2000-305-TV (M-1)	9/22/2006	Significant modification
2006-198-TVR	5/30/2007	First Title V operating renewal
2006-198-TVR (M-1)	5/20/2008	Minor modification to add a printing press
2006-198-C (M-2)	5/17/2011	Construction to add turbines, boiler, engine
2012-1290-TVR2	7/24/2014	Second Title V renewal
2012-1290-TVR2 (M-1)	10/10/2014	Minor modification to operations of boiler and generator

SECTION IV. REQUESTED CHANGES

OU has requested the following changes. In 2018, a single Heidelberg SM102-8P+L (color and coater) press replaced three (3) printing presses in EUG 3 – one 25” x 28” (2-color) press, one 26” x 40” (5-color) press, and one 23” x 29” (5-color) press. EUG 3 is updated. EUG 3 emissions are retained and carried from the previous permit.

OU operates a Cummins QSK60-G6 generator engine (EU 8). In the previous permit, EU 8 was permitted as a generator used for peak shaving. EU 8 operates only as an emergency generator but is not used for peak shaving. The memorandum is updated for EU 8.

OU’s inventory of emergency generators indicates twenty-three (23) emergency generators have been installed across their campus. A review of OU’s permit history revealed that most of these emergency generators were added without a proper permit application. Emergency generators are for backup power as part of OU’s ongoing life safety planning and development.

As part of the process to review historical compliance issues regarding installation of the emergency engines and required permitting, the unpermitted emergency engines were evaluated and grouped into “projects” based on EPA criteria. Each project was then evaluated to determine the appropriate permitting action. This review determined which “project(s)” qualified as a minor

modification to the Title V permit, and a fee was paid for each minor modification. Upon review, the Air Quality Division agrees with OU's segregation of these emergency engines into six (6) projects. Two other emergency engines were installed prior to 2009 and were considered insignificant activities for which a minor modification would not have been required. The memorandum and permit are updated with the listing of OU's emergency generator engines.

Minor Modification #6 (2020)				
EU	**Point**	**Point**	**GENSET Make/Model/Serial Number**	**Construction Date**
31	31	OU Physical Plant (OUPP/FM complex)	GEN: 42-KW, Kohler 40REOZK ENG: 67-HP, Kohler KDI 3404TM Diesel fired (Model Year 2019) S/N: 4934702120	2020

Minor Modification #5 (2018 - 2019)				
EU	**Point**	**Point**	**Description/Serial Number**	**Construction Date**
29	29	Gallogly Hall	GEN: 405-KW Kohler 400REOZJB ENG: 617-HP John Deere 6135HFG84 Diesel fired (Model Year 2017) S/N: RG6135L034266	2019
28	28	Lin Hall / Physics & Astronomy Bldg	GEN: 515-KW Kohler 500 REOZVC ENG: 757-HP Volvo TAD1641GE Diesel fired (Model Year 2017) S/N: SGM32KP2S	2018

Modification #4 (2016 - 2017)				
EU	**Point**	**Location**	**Make/Model/Serial Number**	**Construction Date**
27	27	OU Residential College	GEN: 180-KW Kohler 180REZXB ENG: 302-HP Power Solutions D111 (Doosan D111TIC) Natural Gas fired (Model Year 2015) S/N: EEIOH404710	2017
26	26	Gaylord Stadium South	GEN: 500-KW Cummins/Onan 500GFGB ENG: 769-HP Cummins GTA28 Natural Gas fired (Model Year 2016) S/N: 25414268	2017
25	25	Goddard Health	GEN: 35-KW Generac SG035 ENG: 82-HP Generac 30R82 Natural Gas fired (Model Year 2016) S/N: 30000141313	2016

Modification #3 (2013 - 2014)				
EU	**Point**	**Location**	**Make/Model/Serial Number**	**Construction Date**
24	24	Headington Hall	GEN: 250-KW Onan 250GFBC ENG: 383-HP Cummins GTA855E Natural Gas fired (Model Year 2012) S/N: 25372057	2014
18	18	OU Law Center	GEN: 25-KW Cummins 25DGDK ENG: 49-HP Kubota V3300 Diesel fired (Model Year 2013) S/N: 8G3761	2013
15	15	Boomer Outreach	GEN: 60-KW Kohler 60REOZJD ENG: 96-HP John Deere 5030HF285G Diesel fired (Model Year 2014) S/N: PE5030L012006	2014
23	23	Radar Innovation	GEN: 125-KW Onan GGHJ-1332054 ENG: 194-HP WSG-1068 Natural Gas fired (Model Year 2013) S/N: G130531549	2014

Modification #2 (2012 - 2013)				
EU	**Point**	**Location**	**Make/Model/Serial Number**	**Construction Date**
32	32	Hazardous Materials Management Center (HMMC)	GEN: 30-KW Kohler 30REZG ENG: 51-HP Power Solutions Natural Gas fired (Model Year 2011) S/N: 39001019	2012
22	22	Four Partners Place (Tenant 4)	GEN: 125-KW Caterpillar D125-6 ENG: 217-HP Caterpillar C6.6 Diesel fired (Model Year 2010) S/N: E6L00324	2012
21	21	Four Partners Place	GEN: 1,500-KW Caterpillar SR4B ENG: 2,206-HP Caterpillar 3512C Diesel fired (Model Year 2011) S/N: G4W00980	2012
20	20	Four Partners Place	GEN: 1,500-KW Caterpillar SR4B ENG: 2,206-HP Caterpillar 3512C Diesel fired (Model Year 2011) S/N: G4W00983	2012
19	19	Four Partners Place	GEN: 1,500-KW Caterpillar SR4B ENG: 2,206-HP Caterpillar 3512C Diesel fired (Model Year 2011) S/N: G4W00984	2012

Modification #1 (2009 - 2010)				
EU	**Point**	**Location**	**Make/Model/Serial Number**	**Construction Date**
30	30	Stephenson Life Sciences	GEN: 1,000-KW Cummins DQFAA ENG: 1,490-HP Cummins QST30-G5 Diesel fired (Model Year 2009) S/N: 37240025	2009
17	17	Three Partners Place	GEN: 300-KW Cummins DQHAB ENG: 470-HP Cummins QSM11-G4 Diesel fired (Model Year 2008) S/N: 35221952	2010
16	16	Stephenson Research and Tech. Center	GEN: 750-KW Caterpillar C27 ENG: 1,141-HP Caterpillar C27 Diesel fired (Model Year 2009) S/N: MJE00960	2009

Emergency Engines Added Prior to 2009				
EU	**Point**	**Location**	**Make/Model/Serial Number**	**Construction Date**
13	13	Rawls/Devon Hall	GEN: 350-KW Cummins GFEB (350 kW) ENG: 495-HP Cummins GTA19G2 Natural Gas fired, (Mfr. Date 3/1/2007) S/N: (none given)	2008
14	14	OU Police Dept. (OUPD)	GEN: 125-KW Cummins DGDK ENG: 207-HP Cummins 6BTA5.9-G3 Diesel fired, (Model Year 2006) S/N: 21736465	2007

SECTION V. EQUIPMENT

EUG 1, Grandfathered Boilers

EU	Point	Manufacturer	MMBTUH	Serial #	Const. Date
1	1	Erie City Iron Works	156	96558	1963
2	2	Springfield Boiler Co.	78	48155A	1948
3	3	Springfield Boiler Co.	78	48155B	1948
4	4	Clever Brooks Co.	156	WL1216*	1969

* - Unit Number

EUG 3, Printing Presses

EU	Make/Model	# of Units
6	Sheet Fed Offset Printing Presses	
	11” x 17” Duplicators	3
	12” x 18” Envelope Press	1

EU	Make/Model	# of Units
	28” x 40” (8 Color) Press	1
	Heidelberg SM102-8P+L (Color w/ coater) Press	1

EUG 4, Tanks

EU	Contents	Barrels	Gallons
Tanks	Fuel Oil	595	25,000
	Fuel Oil	595	25,000
	Fuel Oil	595	25,000
	Fuel Oil	595	25,000

EUG 5, Existing Institutional Emergency Generator Engine

EU	Point	Make/Model	Engine HP	Generator KW	Const. Date
8	8	Cummins QSK60-G6, diesel-fired	2,922	2,000	2004

EUG 6, Electricity/Steam Generating Units

EU	Point	Name & Make	Heat Input-LHV (MMBTUH)	Serial #	Installed Date
U1a	9	Solar Taurus 70 Turbine	69.40	0656B	2010
U1b		W/Duct Burner	40.35		
U2a	10	Solar Taurus 70 Turbine	69.40	0657B	2010
U2b		W/Duct Burner	40.35		

EUG 7, Auxiliary Boiler

EU	Point	Make/Model	Heat Input-HHV (MMBTUH)	Installed Date
U3	11	Rentech Boiler Systems	71.1	2010

EUG 8, Emergency Diesel Generator Subject to NSPS, Subpart IIII

EU	Point	Make/Model	hp	Manuf. Date	Const. Date
U4	12	Caterpillar C18 ATAAC (utility plant black start generator)	1,006	2011	2010

EUG 9, Transportation Operations Center

EU	Point	Description	Const. Date
LR-1	LR-1	Gasoline Loading Rack & Associated Storage Tanks	<1/2008

Stack Parameters

EU	Height (feet)	Diameter (feet)	Flow (ACFM)	Temp. (°F)
1	66	3.3	37,095	250
2	66	3.3	18,547	250
3	66	3.3	18,547	250
4	66	3.3	37,095	250
8	20	1.5	15,500	890
U1	52	4.0	62,529	275
U2	52	4.0	62,529	275
U3	52	4.0	21,130	300
U4	25	1.0	4,994	1,028

EUG 10, JJJJ Spark Ignition Emergency Generator Engines

EU	Point	Make/Model	HP	Manuf. Date	Const. Date
23	23	GEN: 125-KW Onan GGHJ-1332054 ENG: 194-HP WSG-1068 S/N: G130531549	194	2013	2014
24	24	GEN: 250-KW Onan 250GFBC ENG: 383-HP Cummins GTA855E S/N: 25372057	383	2012	2014
25	25	GEN: 35-KW Generac SG035 ENG: 82-HP Generac 30R82 S/N: 30000141313	82	2016	2016
26	26	GEN: 500-KW Cummins/Onan 500GFGB ENG: 769-HP Cummins GTA28 S/N: 25414268	769	2016	2017
27	27	GEN: 180-KW Kohler 180REZXB ENG: 302-HP PSI/Doosan D111TIC S/N: EEIOH404710	302	2015	2017
32	32	GEN: 30-KW Kohler 30REZG ENG: 51-HP PSI 3.0L S/N: 39001019	51	2011	2012

EUG 11a, ISA ZZZZ Existing Institutional Emergency RICE
(Emergency Generator Engines manufactured prior to June 12, 2006)

EU	Point	Make/Model	Engine HP	Generator KW	Manuf. Date	Const. Date
---	---	Generac 4090-2, natural gas-fired, Animal Holding Facility	< 25	10	Pre-2003	2002

EUG 11b, ISA GAP Emergency SI ICE
(Spark Ignition Emergency Generator Engine manufacture prior to 2009)

EU	Point	Make/Model	Engine HP	Generator KW	Manuf. Date	Const. Date
13	13	Cummins GTA19G2, natural gas-fired, Rawls/Devon Hall	495	350	3/2007	2008

EUG 12a, IIII Emergency CI ICE
(EPA Certified Emergency Engines, ≥50 HP)

EU	Point	Make/Model	hp	Manuf. Date	Const. Date
15	15	GEN: 60-KW Kohler 60REOZJD ENG: 96-HP John Deere 5030HF285G	96	2014	2014
16	16	GEN: 750-KW Caterpillar C27 ENG: 1,141-HP Caterpillar C27	1,141	2009	2009
17	17	GEN: 300-KW Cummins DQHAB ENG: 470-HP Cummins QSM11-G4	470	2008	2010
19	19	GEN: 1,500-KW Caterpillar SR4B ENG: 2,206-HP Caterpillar 3512C	2,208	2011	2012
20	20	GEN: 1,500-KW Caterpillar SR4B ENG: 2,206-HP Caterpillar 3512C	2,208	2011	2012
21	21	GEN: 1,500-KW Caterpillar SR4B ENG: 2,206-HP Caterpillar 3512C	2,208	2011	2012
22	22	GEN: 125-KW Caterpillar D125-6 ENG: 217-HP Caterpillar C6.6	217	2010	2012
28	28	GEN: 515-KW Kohler 500 REOZVC ENG: 757-HP Volvo TAD1641GE	757	2017	2018
29	29	GEN: 405-KW Kohler 400REOZJB ENG: 617-HP John Deere 6135HFG84	617	2017	2019
30	30	GEN: 1,000-KW Cummins DQFAA ENG: 1,490-HP Cummins QST30-G5	1,490	2009	2009
31	31	GEN: 42-KW, Kohler 40REOZK ENG: 67-HP, Kohler KDI 3404TM	67	2019	2020

EUG 12b, IIII Compression Ignition Emergency Generator Engines (EPA Certified, <50 HP)

EU	Point	Make/Model	hp	Manuf. Date	Const. Date
18	18	GEN: 25-KWCummins 25DGDK ENG: 49-HP, Kubota V3300	49	2013	2013

EUG 12c, IIII Compression Ignition Emergency Generator Engines (Pre-2007 model year, <10 liters per cylinder displacement)

EU	Point	Make/Model	hp	Manuf. Date	Const. Date
14	14	GEN: 125-KW Cummins DGDK ENG: 207-HP Cummins 6BTA5.9-G3	207	2006	2007

SECTION VI. EMISSIONS

A. Criteria Pollutants

EUG 1, Grandfathered Boilers

For Scenario I, the boilers are fired with pipeline natural gas. Estimated emissions from the boilers are based on continuous operation, AP-42 (7/98), Section 1.4, and the maximum rating for the boilers.

For Scenario II, the boilers are fired with distillate fuel oil, with a maximum sulfur content of 0.2% by weight during periods of gas curtailment, gas supply interruption, startups, or periodic testing. The facility uses low sulfur fuel oil (<0.1% S by wt.). Estimated emissions from the boilers are based on continuous operation, AP-42 (10/96), Section 1.3, and the maximum rating for the boilers. SO_2 and PM_{10} emissions from Scenario II are overestimated due to the fact that Fuel Oil No. 2 is only allowed to be used during periods of gas curtailment, gas supply emergencies, or periodic testing.

EUG 1 Emissions – Scenario I (Natural Gas)

EU	NO_X		CO		VOC		SO_2		$PM_{10}/PM_{2.5}$	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
1	42.84	187.57	12.85	56.27	0.84	3.68	0.09	0.40	1.16	5.09
2	7.65	33.49	6.42	28.14	0.42	1.84	0.05	0.20	0.58	2.55
3	7.65	33.49	6.42	28.14	0.42	1.84	0.05	0.20	0.58	2.55
4	42.84	187.57	12.85	56.27	0.84	3.68	0.09	0.40	1.16	5.09
Totals	**100.98**	**442.12**	**38.54**	**168.82**	**2.52**	**11.04**	**0.28**	**1.20**	**3.48**	**15.28**

EUG 1 Emissions – Scenario II (Fuel Oil No. 2; 0.2% by Wt S)

EU	NO_X		CO		VOC		SO_2		$PM_{10}/PM_{2.5}$	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
1	26.74	117.13	5.57	24.40	0.22	0.98	31.85	139.50	2.23	9.76
2	13.37	58.57	2.79	12.20	0.11	0.49	15.82	69.30	1.11	4.88
3	13.37	58.57	2.79	12.20	0.11	0.49	15.82	69.30	1.11	4.88
4	26.74	117.13	5.57	24.40	0.22	0.98	31.85	139.50	2.23	9.76
Totals	**80.22**	**351.40**	**16.72**	**73.20**	**0.66**	**2.94**	**95.34**	**417.60**	**6.68**	**29.28**

EUG 3, Printing Presses

Estimated emissions from the printing plant are based on the materials maximum VOC and HAP content, annual usage, and engineering calculations from AP-42 (1/95), Chapter 4.2.2.2. All the VOC/HAP constituents in the products are assumed to be emitted to the atmosphere. VOC is as defined in Subchapter 37 and excludes acetone. All emissions of particulates from the printing plant are insignificant and are not included below. The permit establishes a cap for VOC emissions of 99 TPY.

EUG 3 Emissions – Printing Presses

EU	NO_X		CO		VOC		SO_2		$PM_{10}/PM_{2.5}$	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
6	---	---	---	---	6.28	27.52	----	---	---	---
Totals	**---**	**---**	**---**	**---**	**---**	**27.52**	**---**	**---**	**---**	**---**

EUG 4, Tanks

Emissions from the fuel oil storage tanks are based on AP-42 Section 7.1 (6/20).

EUG 4 Emissions – Tanks

EU	NO_X		CO		VOC		SO_2		$PM_{10}/PM_{2.5}$	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Tanks	---	---	---	---	<0.01	0.01	---	---	---	---
Totals	**---**	**0.00**	**---**	**0.00**	**---**	**0.01**	**---**	**0.00**	**---**	**0.00**

EUG 5, Existing Institutional Emergency Generator Engine

NO_X, CO, and VOC emissions from the Chilled Water Plant #3 emergency generator (EU 8) are based on the maximum rating of the engine (2,922-hp), manufacturer's data (7.0 g/hp-hr NO_X, 0.9 g/hp-hr CO, and 0.2 g/hp-hr VOC), and 500 hours of operation. Emissions of PM_{10} and SO_2 from the generator are based on the rated hp, AP-42 Section 3.4 (10/96), and a fuel sulfur content of 0.05% (Low Sulfur Diesel). The sulfur content has been reduced to account for promulgation of the new 1-hr SO_2 NAAQS.

EUG 5 Emissions – Existing Institutional Emergency Generator Engine

EU	NO_X		CO		VOC		SO_2		$PM_{10}/PM_{2.5}$	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
8	45.09	11.27	5.80	1.45	1.29	0.32	4.73	1.18	2.05	0.51
Totals	**45.09**	**11.27**	**5.80**	**1.45**	**1.29**	**0.32**	**4.73**	**1.18**	**2.05**	**0.51**

EUG 6 and EUG 7

NO_X, CO, and VOC emissions from the turbines and duct burners of EUG 6 and the auxiliary boiler of EUG 7 are based on the data listed below:

EUG 6 Emissions Data for Turbines (8,760 hours)

Pollutant	Concentration	lb/MMBTU[1]
NO_X	15.0 ppmvd @ 15% O_2	0.05952
CO	25.0 ppmvd @ 15% O_2	0.06053
VOC[2]	25.0 ppmvd @ 15% O_2	0.03453

[1] – LHV; [2] – As Methane.

EUG 6 Emissions Data for Duct Burners (8,760 hours)

Pollutant	Concentration	lb/MMBTU[1]
NO_X	22.25 ppmvd @ 15% O_2	0.08791
CO	36.55 ppmvd @ 15% O_2	0.08791
VOC[2]	35.89 ppmvd @ 15% O_2	0.04968

[1] – LHV; [2] – As Methane

EUG 7 Emissions Data for Auxiliary Boiler (8,760 hours)

Pollutant	Concentration	lb/MMBTU[1]
NO_X	30 ppmvd @ 3% O_2	0.03544
CO	100 ppmvd @ 3% O_2	0.07193
VOC[2]	10 ppmvd @ 3% O_2	0.01132

[1] – LHV; [2] – As Propane

SO_2 and PM_{10} emissions from EUG 6 (turbines and duct burners) and EUG 7 (auxiliary boiler) are based on AP-42 (7/98), Chapter 1.4. For the turbines, PM_{10} emissions were increased by a safety factor of 50%.

EUG 6 Emissions – Turbines, Duct Burners

EU	NO_X		CO		VOC		SO_2		$PM_{10}/PM_{2.5}$	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
U1a	4.13	18.09	4.56	19.99	2.40	10.50	0.04	0.20	0.75	3.28
U1b	3.55	15.54	3.55	15.54	2.00	8.78	0.03	0.13	0.33	1.45
U2a	4.13	18.09	4.56	19.99	2.40	10.50	0.04	0.20	0.75	3.28
U2b	3.55	15.54	3.55	15.54	2.00	8.78	0.03	0.13	0.33	1.45
Totals	**15.36**	**67.26**	**16.22**	**71.06**	**8.80**	**38.56**	**0.14**	**0.66**	**2.16**	**9.46**

EUG 7 Emissions – Auxiliary Boiler

EU	NO_X		CO		VOC		SO_2		$PM_{10}/PM_{2.5}$	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
U3	2.52	11.04	5.11	22.40	0.81	3.53	0.04	0.18	0.53	2.32
Totals	**2.52**	**11.04**	**5.11**	**22.40**	**0.81**	**3.53**	**0.04**	**0.18**	**0.53**	**2.32**

EUG 8, Emergency Diesel Generator Subject to NSPS, Subpart IIII

NO_X, CO, and PM_{10} emissions from the black start emergency diesel generator (EU "U4") are based on 6.4 NO_X g/kW-hr, 3.5 CO g/kW-hr, and 0.20 PM g/kW-hr which are taken from NSPS Subpart IIII and Table 2 to Appendix I of Part 1039, and 500 hours/year of operation. SO_2 and VOC emissions from the backup diesel generator were based on AP-42 Section 3.4 (10/96), and a fuel sulfur content of 0.05% sulfur by weight was assumed.

EUG 8 Data for Emergency Diesel Generator Subject to NSPS, Subpart IIII

EU	HP	NO_X (g/hp-hr)	CO (g/hp-hr)	VOC (lb/hp-hr)	SO_2 (lb/hp-hr)	PM (lb/hp-hr)
U4	1,006	4.77	2.61	0.015	0.0004	0.149

EUG 8 Emissions – Emergency Diesel Generator Subject to NSPS, Subpart IIII

EU	NO_X		CO		VOC		SO_2		PM	
	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)
U4	10.58	2.65	5.79	1.45	0.02	0.01	0.01	0.01	0.33	0.08
Totals	**10.58**	**2.65**	**5.79**	**1.45**	**0.02**	**0.01**	**0.01**	**0.01**	**0.33**	**0.08**

EUG 9, Transportation Operations Center

VOC emissions from the gasoline loading rack are based on AP-42 (6/2008), Section 5.2, emission factor of 12 lb/1,000 gallons and a throughput of 100 gallons per hour and 10,000 gallons per year.

EUG 9 Emissions – Loading Rack

EU	NO_X		CO		VOC		SO_2		$PM_{10}/PM_{2.5}$	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
LR-1	----	----	----	----	1.20	0.06	----	----	----	----
Totals	**---**	**0.00**	**---**	**0.00**	**---**	**0.06**	**---**	**0.00**	**---**	**0.00**

EUG 10, JJJJ Spark Ignition Emergency Engines

NOx, CO, and VOC emissions from the EUG 10 engines were based on manufacturer's data, except for EU 26 which was based on an initial JJJJ performance test. PM and SO_2 emissions were based on factors taken from AP-42 Section 3.2 (8/00) and engine rating. Annual emissions are based on 500 hours per year operation. PM and SO_2 emissions are negligible.

EUG 10 Data for JJJJ Spark Ignition Emergency Engines

EU	HP	NO_X (g/hp-hr)	CO (g/hp-hr)	VOC (g/hp-hr)	SO_2 (lb/MMBtu)	PM (lb/MMBtu)
23	194	0.07	0.06	0.294	0.000588	0.01941
24	383	0.31	1.4	0.17	0.000588	0.01941
25	82.1	2.52	95.32	1.6	0.000588	0.01941
26	769	0.17	0.67	0.3	0.000588	0.01941
27	302	0.022	0.216	0.254	0.000588	0.01941
32*	51	5.38	21.98	0.00	0.000588	0.01941

* NO_X value = NO_X+VOC (i.e., NO_X includes VOC); VOC = 0 is assumed.

EUG 10 Emissions – JJJJ Spark Ignition Emergency Engines

EU	NO_X		CO		VOC		SO_2		PM	
	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)
23	0.03	0.01	0.03	0.01	0.13	0.03	<0.01	<0.01	0.03	0.01
24	0.26	0.07	1.18	0.30	0.14	0.04	<0.01	<0.01	0.07	0.02
25	0.46	0.11	17.25	4.31	0.29	0.07	<0.01	<0.01	0.01	<0.01
26	0.29	0.07	1.14	0.28	0.51	0.13	<0.01	<0.01	0.14	0.03
27	0.01	0.00	0.14	0.04	0.17	0.04	<0.01	<0.01	0.04	0.01
32*	0.61	0.15	2.47	0.62	0.00	0.00	<0.01	<0.01	0.01	<0.01
Totals	**1.66**	**0.41**	**22.21**	**5.56**	**1.24**	**0.31**	**0.06**	**0.06**	**0.30**	**0.09**

* NO_X value = NO_X+VOC (i.e., NO_X includes VOC); VOC = 0 is assumed.

EUG 11 – Insignificant Emergency Engines

EUG 11 is divided into subgroups EUG 11a and EUG 11b for purposes of regulatory discussion in this memorandum. However, "EUG 11" is inclusive of both these subgroups, and "EUG 11" emissions are the sum of these subgroups. Potential annual emissions for the emergency generator engines are based on 500 hours per year operation.

Emissions from the "Animal Holding Facility" natural gas-fired emergency engine of EUG 11a are based on factors taken from AP-42 Section 3.2 (8/00) and assume a 25-horsepower rating, though the engine is likely rated less. NOx, CO, and VOC are shown in the table below. VOC is negligible. SO_2 and PM emissions are likely negligible.

EUG 11a, ISA Existing Institutional Emergency RICE – Factors

EUG	HP	NO_X (lb/MMBtu)	CO (lb/MMBtu)	VOC (lb/MMBtu)
11a	<25	2.21	3.72	0.0296

EUG 11a, ISA Existing Institutional Emergency RICE – Emissions

EUG	NO_X		CO		VOC	
	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)
11a	0.50	0.12	0.84	0.21	0.01	0.00

NOx, CO, and VOC emissions from the "Rawls/Devon Hall" natural gas-fired emergency engine of EUG 11b are based on manufacturer's data and horsepower rating. SO_2 and PM emissions are likely negligible based on AP-42 Section 3.2 (8/00).

EUG 11b, ISA GAP Emergency SI ICE – Data

EUG	HP	NO_X (g/hp-hr)	CO (g/hp-hr)	VOC (g/hp-hr)
11b	495	15.78	0.37	2.35

EUG 11b, ISA GAP Emergency SI ICE – Emissions

EUG	NO_X		CO		VOC	
	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)
11b	17.22	4.31	0.40	0.10	2.56	0.64

EUG 12 – IIII Compression Ignition Emergency Engines

NOx, CO, VOC, and PM emissions from EUG 12 engines were based on manufacturers' data. SO_2 emissions were based on the engine rating and AP-42. For the diesel engines rated 600 HP or less, a SO_X factor is taken from AP-42 Section 3.3 (10/96) Table 3.3-1. For engines rated greater than 600 HP, a SO_X factor is taken from AP-42 Section 3.4 (10/96) Table 3.4-1 and assumes ultra low sulfur diesel (ULSD). SO_X is assumed as SO_2. Potential annual emissions for the emergency generator engines are based on 500 hours per year operation. PM and SO_2 emissions are likely negligible. EUG 12 is divided into subgroups EUG 12a, EUG 12b, and EUG 12c for purposes of regulatory discussion in this memorandum; however, "EUG 12" is inclusive of these three subgroups, and "EUG 12" emissions are the sum of these three subgroups.

Subgroup EUG 12a Data for IIII Emergency CI ICE
(EPA Certified, ≥50 HP)

EU	HP	NO_X (g/hp-hr)	CO (g/hp-hr)	VOC (g/hp-hr)	SO_2 (lb/hp-hr)	PM (g/hp-hr)
15	96	3.13	0.45	0.15	0.00205	0.164
16	1,141	5.25	0.25	0.03	0.000012135	0.02
17	470	2.59	0.08	0.08	0.00205	0.04
19	2,206	5.08	0.44	0.11	0.000012135	0.03
20	2,206	5.08	0.44	0.11	0.000012135	0.03
21	2,206	5.08	0.44	0.11	0.000012135	0.03
22*	217	2.80	0.60	0.00	0.00205	0.112
28	757	3.87	1.42	0.05	0.000012135	0.105
29	617	2.68	1.12	0.13	0.000012135	0.089
30*	1,490	4.62	0.52	0.00	0.000012135	0.082
31	67	2.65	0.67	0.08	0.00205	0.231

* NO_X value = NO_X+VOC (i.e., NO_X includes VOC); VOC = 0 is assumed.

Subgroup EUG 12a Emissions – IIII Emergency CI ICE
(EPA Certified, ≥50 HP)

EU	NO_X		CO		VOC		SO_2		PM	
	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)
15	0.66	0.17	0.09	0.02	0.03	0.01	0.20	0.05	0.03	0.01
16	13.21	3.30	0.63	0.16	0.08	0.02	0.01	<0.01	0.05	0.01
17	2.68	0.67	0.08	0.02	0.08	0.02	0.96	0.24	0.04	0.01
19	24.71	6.18	2.14	0.54	0.53	0.13	<0.01	<0.01	0.15	0.04
20	24.71	6.18	2.14	0.54	0.53	0.13	<0.01	<0.01	0.15	0.04
21	24.71	6.18	2.14	0.54	0.53	0.13	<0.01	<0.01	0.15	0.04
22*	1.34	0.33	0.29	0.07	0	0	0.44	0.11	0.05	0.01
28	6.46	1.61	2.36	0.59	0.08	0.02	0.01	<0.01	0.18	0.04
29	3.65	0.91	1.52	0.38	0.18	0.05	0.01	<0.01	0.12	0.03
30*	15.19	3.80	1.71	0.43	0	0	0.02	<0.01	0.27	0.07
31	0.39	0.10	0.01	0.02	0.01	<0.01	0.14	0.03	0.03	0.01
Subtotals	**117.71**	**29.43**	**13.11**	**3.31**	**2.05**	**0.52**	**1.82**	**0.50**	**1.22**	**0.31**

* NO_X value = NO_X+VOC (i.e., NO_X includes VOC); VOC = 0 is assumed.

Subgroup EUG 12b Data for IIII Emergency CI ICE
(EPA Certified, <50 HP)

EU	HP	NO_X (g/hp-hr)	CO (g/hp-hr)	VOC (g/hp-hr)	SO_2 (lb/hp-hr)	PM (g/hp-hr)
18*	49	4.3	0.9	0.00	0.00205	0.1

* NO_X value = NO_X+VOC (i.e., NO_X includes VOC); VOC = 0 is assumed.

Subgroup EUG 12b Emissions – IIII Emergency CI ICE
(EPA Certified, <50 HP)

EU	NO_X		CO		VOC		SO_2		PM	
	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)
18*	0.46	0.12	0.10	0.02	0	0	0.10	0.03	0.01	<0.01
Subtotals	**0.46**	**0.12**	**0.10**	**0.02**	**0.00**	**0.00**	**0.10**	**0.03**	**0.01**	**0.01**

* NO_X value = NO_X+VOC (i.e., NO_X includes VOC); VOC = 0 is assumed.

Subgroup EUG 12c Data for IIII Emergency CI ICE
(Pre-2007, <10 liters per cylinder)

EU	HP	NO_X (g/hp-hr)	CO (g/hp-hr)	VOC (g/hp-hr)	SO_2 (lb/hp-hr)	PM (g/hp-hr)
14	207	6.82	2.26	0.16	0.00205	0.49

Subgroup EUG 12c Emissions – IIII Emergency CI ICE
(Pre-2007, <10 liters per cylinder)

EU	NO_X		CO		VOC		SO_2		PM	
	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)
14	3.11	0.78	1.03	0.26	0.07	0.02	0.42	0.11	0.22	0.06
Subtotals	**3.11**	**0.78**	**1.03**	**0.26**	**0.07**	**0.02**	**0.42**	**0.11**	**0.22**	**0.06**

EUG 12 Emissions – IIII Compression Ignition Emergency Engines

Subgroup	NO_X		CO		VOC		SO_2		PM	
	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)
EUG 12a	117.71	29.43	13.11	3.31	2.05	0.52	1.82	0.50	1.22	0.31
EUG 12b	0.46	0.12	0.10	0.02	0.00	0.00	0.10	0.03	0.01	0.01
EUG 12c	3.11	0.78	1.03	0.26	0.07	0.02	0.42	0.11	0.22	0.06
Totals	**121.28**	**30.33**	**14.24**	**3.59**	**2.12**	**0.54**	**2.34**	**0.64**	**1.45**	**0.38**

Facility Wide Emissions Scenario I (Natural Gas)

EUG	NO_X		CO		VOC		SO_2		$PM_{10}/PM_{2.5}$	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
1	100.98	442.12	38.54	168.82	2.52	11.04	0.28	1.20	3.48	15.28
3	---	---	---	---	---	27.52	---	---	---	---
4	---	---	---	---	---	0.01	---	---	---	---
5	45.09	11.27	5.80	1.45	1.29	0.32	4.73	1.18	2.05	0.51
6	15.36	67.26	16.22	71.06	8.80	38.56	0.14	0.66	2.16	9.46
7	2.52	11.04	5.11	22.4	0.81	3.53	0.04	0.18	0.53	2.32
8	10.58	2.65	5.79	1.45	0.02	0.01	0.01	0.01	0.33	0.08
9	---	---	---	---	1.20	0.06	---	---	---	---
10	1.66	0.41	22.21	5.56	1.24	0.31	0.06	0.06	0.30	0.09
12	121.28	30.33	14.24	3.59	2.12	0.54	2.34	0.64	1.45	0.38
TOTALS		**565.08**		**274.33**		**81.90**		**3.93**		**28.12**

* NO_X value = NO_X+VOC (i.e., NO_X includes VOC); VOC = 0 is assumed.

Facility Wide Emissions Scenario II (Fuel Oil No. 2; 0.2% by Wt S)

EUG	NO_X		CO		VOC		SO_2		$PM_{10}/PM_{2.5}$	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
1	80.22	351.40	16.72	73.20	0.66	2.94	95.34	417.60	6.68	29.28
3	---	---	---	---	---	27.52	---	---	---	---
4	---	---	---	---	---	0.01	---	---	---	---
5	45.09	11.27	5.80	1.45	1.29	0.32	4.73	1.18	2.05	0.51
6	15.36	67.26	16.22	71.06	8.80	38.56	0.14	0.66	2.16	9.46
7	2.52	11.04	5.11	22.4	0.81	3.53	0.04	0.18	0.53	2.32
8	10.58	2.65	5.79	1.45	0.02	0.01	0.01	0.01	0.33	0.08
9	---	---	---	---	1.20	0.06	---	---	---	---
10	1.66	0.41	22.21	5.56	1.24	0.31	0.06	0.06	0.30	0.09
12	121.28	30.33	14.24	3.59	2.12	0.54	2.34	0.64	1.45	0.38
TOTALS		**474.36**		**178.71**		**73.80**		**420.33**		**42.12**

* NO_X value = NO_X+VOC (i.e., NO_X includes VOC); VOC = 0 is assumed.

B. HAP

Materials used in the printing plant contain hazardous air pollutants (HAP). The individual materials' chemical composition and safety data are available on Material Safety Data Sheets (MSDS) which are kept on file at the plant. The boilers, turbines, and diesel fired engines will also have emissions of HAP, the most significant being formaldehyde for the boilers and turbines and benzene for the engines. HAP emissions from the boilers are based on AP-42, Section 1.4 (7/98), except n-hexane which is based on an estimated concentration in the natural gas. HAP emissions from the turbines are based on AP-42, Section 3.1 (4/2000). HAP emissions from each emergency generator engine is likely negligible based on AP-42 Section 3.4 (10/96) for diesel-fired engines that are greater than or equal to 600 HP, Section 3.3 (10/96) for diesel-fired engines that are less than 600 HP, and Section 3.3 (10/96) for natural gas-fired engines. The following table is carried forward from the previous permit, and it lists estimates of HAP emissions that are greater than 1.0E-3 (lb/hr and TPY), but it does not include HAP from EUGs 10, 11, or 12.

HAP Emissions

		Emissions	
HAP	**CAS #**	**lb/hr**	**TPY**
Acetaldehyde	75070	0.009	0.039
Acrolein	107028	0.001	0.006
Benzene	71432	0.024	0.021
Toluene	108883	0.030	0.126
Ethylbenzene	100414	0.007	0.031
Xylenes	1330207	0.015	0.062
Formaldehyde	50000	0.162	0.706
PAH	N/A	0.002	0.002
DGEE	111900	0.010	0.060
Ethylene Glycol	107211	0.020	0.080
Methanol	67561	0.040	0.160
Naphthalene	91203	0.004	0.002
Phenanathrene	85018	0.001	0.001
Dichlorobenzene	25321226	0.001	0.003
Subtotal	---	---	**1.299**

HAP from EUG 10, EUG 11, or EUG 12 are likely negligible and are not speciated. The sum of combined HAP from the 21 emergency engines listed in EUG 10, EUG 11, and EUG 12 is estimated to be 0.357 TPY, based on AP-42 factors and 7,000 Btu/hp-hr assumed for each diesel engine and 9,000 Btu/hp-hr assumed for each NG engine. Therefore, 0.357 TPY combined HAP is added at the bottom of the table to represent the 21 engines from EUG 10, EUG 11, and EUG 12.

Subtotal (table above)	---	---	1.299
EUGs 10, 11, & 12	---	---	0.357
Total			**1.656**

SECTION VII. INSIGNIFICANT ACTIVITIES

The insignificant activities (ISA) identified and justified in the application are duplicated below. Appropriate recordkeeping of activities indicated below with "*" is specified in the Specific Conditions. Any activity to which a state or federal work practice or emission standard is applicable is not insignificant even if it is included on this list.

1. * Stationary reciprocating engines burning natural gas, gasoline, aircraft fuels, or diesel fuel which are used exclusively for emergency power generation or for peaking power service not exceeding 500 hours/year. The emergency generator engines listed under EUG 11a and EUG 11b are ISA engines. EUG 11a and EUG 11b engines are not subject to a federal NESHAP or NSPS. EUG 11a and EUG 11b engines are used exclusively for emergency backup power generation and have insignificant emissions. Therefore, the emergency generator engines listed under EUG 11a and EUG 11b are ISA.

2. Emissions from stationary internal combustion engines rated at less than 50-hp output. The university has small engines rated less than 50-hp located throughout their campus. ISA engines are already discussed in the previous paragraph.

3. * Emissions from fuel storage/dispensing equipment operated solely for facility owned vehicles if fuel throughput is not more than 2,175 gallons/day, averaged over a 30-day period. Tanks are used to store and dispense fuel to facility owned vehicles and the fuel throughput is not more than 2,175 gallons/day. This activity is regulated under NESHAP, Subpart CCCCCC and is not considered an ISA.

4. * Emissions from storage tanks constructed with a capacity less than 39,894 gallons which store VOC with a vapor pressure less than 1.5 psia at maximum storage temperature. The large fuel oil tanks have capacities less than 39,894 gallons and store products having a vapor pressure less than 1.5 psia.

5. Exhaust systems for chemical, paint, and/or solvent storage rooms or cabinets, including hazardous waste satellite (accumulation) areas. The facility has storage rooms/cabinets used for storing chemicals, paints, and solvents and others may be used in the future.

6. Hand wiping and spraying of solvents from containers with less than 1 liter capacity used for spot cleaning and/or degreasing in ozone attainment areas. Small amounts of solvent used for degreasing are applied to facility components using a rag.

7. * Activities that have the potential to emit no more than 5 TPY (actual) of any criteria pollutant. The facility has identified other activities, some of which qualify as Trivial Activities, that have actual emissions of less than 5 TPY of any criteria pollutant and others may be added in the future.

SECTION VIII. OKLAHOMA AIR POLLUTION CONTROL RULES

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

OAC 252:100-2 (Incorporation by Reference) [Applicable]
This Subchapter incorporates by reference applicable provisions of Title 40 of the Code of Federal Regulations. These requirements are addressed in the "Federal Regulations" section.

OAC 252:100-3 (Air Quality Standards and Increments) [Applicable]
Primary Standards are in Appendix E and Secondary Standards are in Appendix F of the Air Pollution Control Rules. At this time, all of Oklahoma is in attainment of these standards.

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

OAC 252:100-8 (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 single HAP that the EPA may establish by rule

The four boilers are grandfathered and no specific emission limits have been established for these emission units. The limits for the peaking generators are based on the previous permit. Limits for the turbines, duct burners, auxiliary boiler, and emergency generator are based on information from the construction permit.

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

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

OAC 252:100-19 (Particulate Matter) [Applicable]
This subchapter specifies a particulate matter (PM) emission limitation of 0.6 lb/MMBTU from fuel-burning equipment with a rated heat input of 10 MMBTUH or less. For fuel-burning equipment greater than 10 MMBTUH but less than 1,000 MMBTUH, this subchapter specifies a PM emission limitation (E) based on the heat input of the equipment (X) and calculated using the equation from Appendix C ($E = 1.042808X^{-0.238561}$). The heat input, calculated PM emission limitation, and expected emissions from all of the fuel-burning equipment are shown in the table below.

Equipment	**Max. Heat Input (MMBTUH) (HHV)**	**Allowable PM Emission Rate (lb/MMBTU) (HHV)**	**Potential PM Emissions (lb/MMBTU) (HHV)**
Erie City Iron Works	156	0.31	0.02
Springfield Boiler Co.	78	0.37	0.02
Springfield Boiler Co.	78	0.37	0.02
Clever Brooks Co.	156	0.31	0.02
Cummins QSK60-G6	23.4	0.49	0.10
Solar Taurus 70 w/Duct Burner	120.6	0.33	0.01
Solar Taurus 70 w/Duct Burner	120.6	0.33	0.01
Rentech Boiler Systems	71.1	0.38	0.01
Caterpillar C18 ATAAC	5.9	0.60	0.10

All of these emission factors are in compliance with this subchapter. The permit will require the use of natural gas or distillate fuel (fuel oil No. 2) for all fuel-burning equipment to ensure compliance with Subchapter 19.

OAC 252:100-25 (Visible Emissions and Particulate Matter) [Applicable]
No discharge of greater than 20% opacity is allowed except for short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case, shall the average of any six-minute period exceed 60% opacity. When burning natural gas, there is very little possibility of exceeding the opacity standards, therefore no periodic observation is necessary. When burning distillate fuel oil in the boilers, the permit requires daily observation of the stacks and opacity readings to be conducted if visible emissions are detected.

OAC 252:100-29 (Fugitive Dust) [Applicable]
No person shall cause or permit the discharge of any visible fugitive dust emissions beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards. Under normal operating conditions, this facility will not cause a problem in this area, therefore it is not necessary to require specific precautions to be taken.

OAC 252:100-31 (Sulfur Compounds) [Applicable]
Part 2 limits the ambient air impact of hydrogen sulfide (H_2S) emissions from any facility such that the H_2S emissions do not cause an ambient air concentration of H_2S to exceed 0.2 ppmv (24-hour average) at standard conditions, which is equivalent to 280 µg/m^3. Fuel-burning equipment fired with pipeline natural gas or low sulfur diesel will not have the potential to exceed the H_2S ambient air concentration limit.
Part 5 affects new fuel-burning equipment. The boilers were constructed prior to the applicable effective date of this section and are exempt. The turbines, auxiliary boiler, and generator engines are subject to the new equipment standards which limit sulfur dioxide emissions from gaseous fuels to 0.2 lb/MMBTU and liquid fuels to 0.8 lb/MMBTU, heat input, averaged over 3 hours. For fuel gas having a gross calorific value of 1,000 BTU/SCF, this limit corresponds to fuel sulfur content of 1,203 ppmv. AP-42 (7/98), Table 1.4-2, lists the total SO_2 emissions for natural gas to be 0.6 lb/MMft^3 or about 0.0006 lb/MMBTU which is in compliance with this limit. AP-42 (10/96), Section 3.4, lists the total SO_2 emissions from diesel fired engines as "1.01S lb/MMBTU," where "S" is the % sulfur by weight; fuel oil with a maximum sulfur content of 0.05% by weight correlates to 0.0505 lb/MMBTU. The permit requires the use of commercial natural gas or diesel fuel with a maximum sulfur content of 0.05 percent by weight or less, which ensures compliance with this limit.

OAC 252:100-33 (Nitrogen Oxides) [Applicable]
NO_X emissions are limited to 0.20 lb/MMBTU from all new gas-fired fuel-burning equipment with a rated heat input of 50 MMBTUH or greater. All of the boilers were constructed prior to the effective date of this regulation and are not subject to these requirements. The new turbines, duct burners, and auxiliary boilers are subject to this subchapter. The heat input, the NO_2 emission limitation, and expected emissions from the affected fuel-burning equipment are shown in the table below. All affected equipment will comply with this subchapter.

Equipment	**Max. Heat Input (MMBTUH) (HHV)**	**Allowable NO_X Emission Rate (lb/MMBTU) (HHV)**	**Potential NO_X Emissions (lb/MMBTU) (HHV)**
Solar Taurus 70 Turbines	76.3	0.2	0.02
Duct Burners	44.3	0.2	0.02
Rentech Boiler Systems	71.1	0.2	0.02

OAC 252:100-37 (Volatile Organic Compounds) [Applicable]
Part 3 requires storage tanks constructed after December 28, 1974, with a capacity of 400 gallons or more and storing a VOC with a vapor pressure greater than 1.5 psia to be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. There are no tanks on-site which are above 400 gallons and which store a VOC with a vapor pressure greater than 1.5 psia.
Part 3 requires VOC loading facilities with a throughput equal to or less than 40,000 gallons per day to be equipped with a system for submerged filling of tank trucks or trailers if the capacity of the vehicle is greater than 200 gallons. This facility does not load tanks that have a capacity greater than 200 gallons.

Part 5 limits the VOC content of coatings used in any coating line or other coating operation. This facility has a paint booth but it emits less than 100 lb/day and is not subject to the coating VOC limitations.
Part 7 requires fuel-burning and refuse-burning equipment to be cleaned, operated, and maintained to minimize emissions of VOC. Based on manufacturer's data and good engineering practice, the equipment must not be overloaded and temperature and available air must be sufficient to provide essentially complete combustion.
Part 7 requires all effluent water separator openings, which receive water containing more than 200 gallons per day of any VOC, to be sealed or the separator to be equipped with an external floating roof or a fixed roof with an internal floating roof or a vapor recovery system. There are no effluent water separators located at this facility.

OAC 252:100-42 (Toxic Air Contaminants (TAC)) [Applicable]
This subchapter regulates toxic air contaminants (TAC) that are emitted into the ambient air in areas of concern (AOC). Any work practice, material substitution, or control equipment required by the Department prior to June 11, 2004, to control a TAC, shall be retained, unless a modification is approved by the Director. Since no AOC has been designated there are no specific requirements for this facility at this time.

OAC 252:100-43 (Testing, Monitoring, and Recordkeeping) [Applicable]
This subchapter provides general requirements for testing, monitoring and recordkeeping and applies to any testing, monitoring or recordkeeping activity conducted at any stationary source. To determine compliance with emissions limitations or standards, the Air Quality Director may require the owner or operator of any source in the state of Oklahoma to install, maintain and operate monitoring equipment or to conduct tests, including stack tests, of the air contaminant source. All required testing must be conducted by methods approved by the Air Quality Director and under the direction of qualified personnel. A notice-of-intent to test and a testing protocol shall be submitted to Air Quality at least 30 days prior to any EPA Reference Method stack tests. Emissions and other data required to demonstrate compliance with any federal or state emission limit or standard, or any requirement set forth in a valid permit shall be recorded, maintained, and submitted as required by this subchapter, an applicable rule, or permit requirement. Data from any required testing or monitoring not conducted in accordance with the provisions of this subchapter shall be considered invalid. Nothing shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

The following Oklahoma Air Pollution Control Rules are not applicable to this facility:

OAC 252:100-11	Alternative Emissions Reduction	not requested
OAC 252:100-17	Incinerators	not type of emission unit
OAC 252:100-23	Cotton Gins	not type of emission unit
OAC 252:100-24	Grain Elevators	not in source category
OAC 252:100-35	Carbon Dioxide	not type of emission unit
OAC 252:100-39	Nonattainment Areas	not in area category
OAC 252:100-47	Municipal Solid Waste Landfills	not in source category

SECTION IX. FEDERAL REGULATIONS

PSD, 40 CFR Part 52 [Not Applicable]
Total potential emissions for NO_X and CO are greater than the major source threshold of 250 TPY. Any future increases of emissions must be evaluated for PSD if they exceed a significance level (40 TPY NO_X, 100 TPY CO, 40 TPY SO_2, 40 TPY VOC, 25 TPY TSP, 15 TPY PM_{10}, 10 TPY of $PM_{2.5}$, 75 KTPY of CO_{2e}, 0.6 TPY Pb, 10 TPY TRS).

NSPS, 40 CFR Part 60 [Subparts A, Dc, IIII, JJJJ, and KKKK are Applicable]
Subparts D, Da, Electric Utility Steam Generating Units. All of the boilers were constructed prior to the applicability dates of these subparts (August 17, 1971, and September 18, 1978).
Subpart Db, Industrial-Commercial-Institutional Steam Generating Units. This subpart affects steam generating units with a heat input capacity greater than 100 MMBTUH and that commence construction, modification, or reconstruction after June 19, 1984. The existing boilers were constructed prior to the applicability date of this subpart. The auxiliary boiler is below the de minimis level of 100 MMBTUH.
Subpart Dc, Small Steam Generating Units. This subpart affects steam generating units with a heat input capacity greater than 10 MMBTUH and that commence construction, modification, or reconstruction after June 9, 1989. The existing boilers were constructed prior to the applicability date of this subpart and have not been modified or reconstructed. The duct burners for the new turbines are subject to Subpart KKKK and are exempt from this subpart. The auxiliary boiler will be subject to this subpart. Since the boiler will be limited to firing natural gas it is only subject to recordkeeping requirements of § 60.48c(g). The duct burners are exempt since they are regulated under Subpart KKKK. The facility will keep records of the amount of each fuel combusted during each calendar month. All applicable requirements will be incorporated into the permit.
Subparts K, Ka, Kb, VOL Storage Vessels. The fuel oil tanks were built prior to the applicability of Subpart K (June 11, 1973).
Subpart GG, Stationary Gas Turbines. This subpart affects combustion turbines which commenced construction, reconstruction, or modification after October 3, 1977, and which have a heat input rating of 10 MMBTUH or more. The new combustion turbines are subject to Subpart KKKK and are exempt from this subpart.
Subpart QQ, Publication Rotogravure Printing. This subpart does not apply because the presses are not rotogravure printing presses.

Subpart IIII, Stationary Compression Ignition Internal Combustion Engines. This subpart affects compression ignition (CI) internal combustion engines (ICE) that are constructed, modified, or reconstructed after July 11, 2005, where the CI ICE are manufactured after April 1, 2006, and are not fire pump engines. For the purposes of this subpart, the date that construction commences is the date that the engine is ordered by the owner or operator.

The diesel-fired emergency generator engines listed in EUG 8 and EUG 12 (i.e., 12a, 12b, and 12c) commenced construction after July 11, 2005, and they were manufactured after April 1, 2006, and thus are subject to Subpart IIII. Owners or operators of emergency stationary CI ICE must operate their emergency CI ICE in accordance with §60.4211, must meet emission standards in §60.4205, and must fuel their CI ICE in accordance with §60.4207.

Per §60.4211(f), the emergency stationary CI ICE must be operated according to requirements in paragraphs §§60.4211(f)(1) through (3). Any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as allowed in §§60.4211(f)(1) through (3), is prohibited. There is no time limit on the use of emergency stationary CI ICE in emergency situations. Emergency engines can be operated for a maximum of 100 hours per calendar year for the following situations:

- For maintenance checks and readiness testing, as recommended by the appropriate authorities;
- For emergency demand response when an Energy Emergency Alert Level 2 has been declared; and
- For periods where there is a deviation of voltage or frequency of 5% or greater below standard voltage or frequency.

Any operation for non-emergency situations as allowed by §§ 60.4211(f)(1) through (3) counts as part of the 100 hours per calendar year. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity except as authorized by §§60.4211(f)(3)(i)(A) through (E).

Per §60.4205(a), pre-2007 model year emergency stationary CI ICE with a displacement of less than 10 liters per cylinder that are not fire pump engines must comply with the emission standards in Table 1 to Subpart IIII. EU 14 of EUG 12c is a 2006 model year CI ICE with a displacement of less than 10 liters per cylinder that is rated at 207 horsepower. Therefore, it is subject to the emission standards in Table 1 to Subpart IIII. Per §60.4211(b)(3), the manufacturer's data for EU 14 of EUG 12a demonstrates compliance with the applicable emission standards, which are shown below.

EUG	EU	Point	Make/Model	HP	Manuf. Date
12c	14	14	Cummins 6BTA5.9-G3	207	2006

Table 1 to 40 CFR Part 60 Subpart IIII – Emission Standards for Stationary Pre-2007 Model Year Engines With a Displacement of <10 Liters per Cylinder and 2007-2010 Model Year Engines >2,237 KW (3,000 HP) and With a Displacement of <10 Liters per Cylinder

Maximum Engine Power (HP)	NMHC + NO_X (g/hp-hr)	HC (g/hp-hr)	NO_X (g/hp-hr)	CO (g/hp-hr)	PM (g/hp-hr)
175≤HP<300	N/A	1.0	6.9	8.5	0.40

Per §60.4205(b), 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.

Per §§60.4205(b) and 60.4202(a)(2), the 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines yet have rated engine power greater than or equal to 37 KW (50 HP) must meet the Tier 2 or Tier 3 emission standards for new nonroad CI engines for the same rated power as described in 40 CFR Part 1039 Appendix I for all pollutants and the smoke standards as specified in §1039.105 beginning in model year 2007. The emergency generator engines listed in EUG 8 and EUG 12a are CI ICE that are 2007 or later model years that are greater than or equal to 50 HP (37 KW). Therefore, they are subject to the emission standards described in 40 CFR Part 1039 Appendix I. CI ICE listed under EUG 8 and EUG 12a are certified to meet respectively applicable emissions standards which are shown below.

EUG	EU	Point	Make/Model	HP	Manuf. Date
8	U4	12	Caterpillar C18 ATAAC	1,006	2011
12a	15	15	96-HP John Deere 5030HF285G	96	2014
12a	16	16	750-KW Caterpillar C27	1,141	2009
12a	17	17	470-HP Cummins QSM11-G4	470	2008
12a	19	19	2,206-HP Caterpillar 3512C	2,208	2011
12a	20	20	Caterpillar 3512C	2,208	2011
12a	21	21	Caterpillar 3512C	2,208	2011
12a	22	22	Caterpillar C6.6	217	2010
12a	28	28	Volvo TAD1641GE	757	2017
12a	29	29	John Deere 6135HFG84	617	2017
12a	30	30	Cummins QST30-G5	1,490	2009
12a	31	31	Kohler KDI 3404TM	67	2019

Table 2 to Appendix I – Tier 2 Emissions Standards (40 CFR Part 1039 Appendix I)

Rated power (KW)*	Starting Model year	NO_X+NMHC (g/kW-hr)	CO (g/kW-hr)	PM (g/kW-hr)
KW > 560	2006	N/A**	N/A**	N/A**

* Rated engine mechanical power in kilowatts.

** No numerical standards are presented for this rated power class of engines that are subject to the Tier 2 emission standards of 40 CFR Part 1039 Appendix I.

Table 3 to Appendix I – Tier 3 Emissions Standards (40 CFR Part 1039 Appendix I)

Rated power (KW)*	Starting Model year	NO_X+NMHC (g/kW-hr)	CO (g/kW-hr)	PM (g/kW-hr)
37 ≤ KW < 75	2008	4.7	5.0	0.40
75 ≤ KW < 130	2007	4.0	5.0	0.30
130 ≤ KW ≤ 560	2006	4.0	3.5	0.20

* Rated engine mechanical power in kilowatts.

Per §§60.4205(b) and 60.4202(a)(1)(ii), the 2008 model year and later emergency stationary CI ICE with a maximum engine power less than 37 KW (50 HP) must meet emission standards in Table 2 to Subpart IIII and smoke (opacity) standards of §1039.105. EU 18 of EUG 12b is a model year 2008 or later engine that is less than 50 HP, and it is certified to meet emissions standards of Table 2 as shown in the table below.

EUG	EU	Point	Make/Model	HP	Manuf. Date
12b	18	18	Kubota V3300	49	2013

Table 2 to Subpart IIII Emission Standards (g/hp-hr) for 2008 model year and later Emergency Stationary CI ICE <37 KW (<50 HP) with a displacement of <10 Liters per Cylinder

Rated power (HP)	Model year(s)	NO_X+NMHC	CO	PM
25 ≤ HP < 50	2008+	5.6	4.1	0.22

Smoke from the CI-ICE may not exceed the following standards:

§ 1039.105(b)(1) 20 percent during the acceleration mode.
§ 1039.105(b)(2) 15 percent during the lugging mode.
§ 1039.105(b)(3) 50 percent during the peaks in either the acceleration or lugging modes.

Per §60.4207(b), beginning October 1, 2010, owners/operators of stationary CI ICE with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 1090.305 for nonroad diesel fuel (<15 ppm S; Ultra Low Sulfur Diesel). Diesel fuel obtained prior to October 1, 2010, may be used until depleted.

Per §60.4209(a), emergency stationary CI ICE that do not meet the standards applicable to non-emergency engines must have a non-resettable hour meter prior to startup of the engine. Each emergency generator engine of EUG 8 is equipped with a non-resettable hour meter.

Per §60.4209(b), engines equipped with a diesel particulate filter to comply with the emission standards in §60.4204, must also have a backpressure monitor that notifies the owner/operator when the high backpressure limit of the engine is approached. All engines listed under EUG 8 are for emergency use only, and thus are not subject to this requirement.

All applicable requirements are incorporated into the permit for diesel-fired emergency engines.

Subpart JJJJ, Stationary Spark Ignition (SI) Internal Combustion Engines (ICE). This subpart applies to spark ignition internal combustion engines (SI ICE) constructed after June 12, 2006, and manufactured on or after specific dates for as indicated for the specific engine types and sizes:

- July 1, 2007, for SI ICE with a maximum engine power ≥ 500-hp (except lean burn SI ICE with a maximum engine power ≥ 500-hp and < 1,350-hp);
- January 1, 2008, for lean burn SI ICE with a maximum engine power ≥ 500-hp and < 1,350-hp;
- July 1, 2008, for SI ICE with a maximum engine power < 500-hp; or
- January 1, 2009, for emergency SI ICE with a maximum engine power > 25-hp.

For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator. The emergency generators listed in EUG 10 are driven by natural gas-fired engines that were constructed after June 12, 2006, manufactured after January 1,

2009, and have maximum engine power greater than 19 KW (25 HP). Therefore, the six (6) natural gas-fired emergency generator engines that are listed in EUG 10 are emergency SI ICE that are subject to this subpart.

EUG	EU	Point	Make/Model	HP	Manuf. Date
10	23	23	WSG-1068	194	2013
10	24	24	Cummins GTA855E	383	2012
10	25	25	Generac 30R82	82	2016
10	26	26	Cummins GTA28	769	2016
10	27	27	PSI/Doosan D111TIC	302	2015
10	32	32	PSI 3.0L	51	2011

Per §60.4233(d), emergency stationary SI ICE must comply with emission standards in Table 1 to Subpart JJJJ. Each emergency engine in EUG 10 is certified to meet the applicable standards.

Table 1 to Subpart JJJJ - NO_X, CO, and VOC Emission Standards (g/HP-hr)

Engine Type	Max Engine Power	Mfg. Date	NO_X	CO	VOC**
Emergency	25<HP<130	1/1/2009	10*	387	N/A
	HP≥130		2.0	4.0	1.0

* The emission standards applicable to emergency engines between 25-hp and 130-hp are in terms of NO_X + HC.

** For purposes of this subpart, when calculating emissions of VOC, emissions of formaldehyde should not be included.

Owners or operators of emergency stationary SI ICE must meet the emission standards in §60.4233, must operate their emergency SI ICE in accordance with §60.4243(d), and must fuel their SI ICE in accordance with §60.4235.

Per §60.4243(d), the emergency stationary SI ICE must be operated according to requirements in paragraphs §§60.4243(d)(1) through (3). Any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as allowed in §§60.4243(d)(1) through (3), is prohibited. There is no time limit on the use of emergency stationary SI ICE in emergency situations. Emergency engines can be operated for a maximum of 100 hours per calendar year for the following situations:

- For maintenance checks and readiness testing, as recommended by the appropriate authorities;
- For emergency demand response when an Energy Emergency Alert Level 2 has been declared; and
- For periods where there is a deviation of voltage or frequency of 5% or greater below standard voltage or frequency.

Any operation for non-emergency situations as allowed by §§60.4243(d)(1) through (3) counts as part of the 100 hours per calendar year. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity except as authorized by §§60.4243(d)(3)(i)(A) through (E).

The Rawls/Devon Hall emergency generator engine, listed under EUG 11b, was constructed after June 12, 2006, yet it was manufactured before January 1, 2009. Therefore, it is a "gap" emergency engine that is not subject to any standards under Subpart JJJJ.

Subpart KKKK, Stationary Combustion Turbines. This subpart establishes emission standards and compliance schedules for the control of emissions from stationary combustion turbines with a heat input at peak load equal to or greater than 10.7 gigajoules (10 MMBTU) per hour, based on the higher heating value of the fuel, that commenced construction, modification, or reconstruction after February 18, 2005. The stationary combustion turbines were constructed after the applicability date of this subpart and are subject to this subpart.

Stationary combustion turbines regulated under this subpart are exempt from the requirements of Subpart GG. Heat recovery steam generators and duct burners regulated under this subpart are exempted from the requirements of Subparts Da, Db, and Dc. Natural gas fired turbines with a heat input at peak load of > 50 MMBTUH and ≤ 850 MMBTUH must meet a NO_X emission limit of ≤ 25 ppmdv @ 15% O_2. The turbines will be below this level even with the duct burners firing. Turbines shall also either comply with the SO_2 emission limitation of § 60.4330(a)(1) {0.90 lb SO_2/MWhr} or the fuel sulfur content limitation of § 60.4330(a)(2) {0.060 lb SO_2/MMBTU}. The turbines will comply with the fuel sulfur limit and the permit will establish a limit of approximately 0.0006 lb/MMBTU. The permittee must operate and maintain each turbine in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction. As an alternative to annual performance tests, the permittee will install, calibrate, maintain and operate continuous emission monitoring (CEM) as described in §60.4345. All CEMS data must be reduced to hourly averages as specified in § 60.13(h). Each affected unit required to continuously monitor emissions must submit reports of excess emissions and monitor downtime, in accordance with § 60.7(c). The permit will incorporate all applicable requirements.

NESHAP, 40 CFR Part 61 [Not Applicable]
There are no emissions of any of the regulated pollutants: arsenic, asbestos, beryllium, benzene, coke oven emissions, mercury, radionuclides or vinyl chloride from the regulated processes.

NESHAP, 40 CFR Part 63 [Subpart CCCCCC is Applicable]
Subpart KK, Printing and Publishing Industry. This subpart affects publication rotogravure, product and packaging rotogravure, and wide-web flexographic printing presses that are located at a major source of HAP. This facility is not a major source of HAP.
Subpart ZZZZ, Reciprocating Internal Combustion Engines (RICE). This subpart affects any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions. Owners and operators of the following new or reconstructed RICE must meet the requirements of Subpart ZZZZ by complying with either 40 CFR Part 60 Subpart IIII (for CI engines) or 40 CFR Part 60 Subpart JJJJ (for SI engines):

1) Stationary RICE located at an area source;
2) The following Stationary RICE located at a major source of HAP emissions:
   i) 2SLB and 4SRB stationary RICE with a site rating of ≤ 500 brake HP;

ii) 4SLB stationary RICE with a site rating of < 250 brake HP;
iii) Stationary RICE with a site rating of ≤ 500 brake HP which combust landfill or digester gas equivalent to 10% or more of the gross heat input on an annual basis;
iv) Emergency or limited use stationary RICE with a site rating of ≤ 500 brake HP; and
v) CI stationary RICE with a site rating of ≤ 500 brake HP.

This facility is a minor source of HAP. The emergency generator engines listed under EUG 8, EUG 10, EUG 11b, and EUG 12 (i.e., 12a, 12b, and 12c) comply with this subpart by complying with the requirements of NSPS, Subpart IIII. No further requirements apply to the emergency generator engines listed under EUG 8, EUG 10, EUG 11b, and EUG 12 under this subpart.

Existing institutional emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §§ 63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in § 63.6640(f)(4)(ii) are not subject to this subpart. The stationary RICE must meet the definition of an emergency stationary RICE in § 63.6675, which includes operating according to the provisions specified in §63.6640(f). The emergency generator engines listed in EUG 5 and EUG 11a are used exclusively for backup power generation and do not operate for the purposes specified in 63.6640(f)(4)(ii), they were constructed before June 12, 2006, and OU is an area source of HAP. Therefore, EUG 5 and EUG 11a emergency generator engines are qualified as "existing institutional emergency stationary RICE" that are located at an area source of HAP, and they are not subject to Subpart ZZZZ per §63.6585(f)(3).

<u>Subpart CCCCCC</u>, Gasoline Dispensing Facilities. This subpart establishes emission limitations and management practices for HAP emitted from the loading of gasoline storage tanks at gasoline dispensing facilities (GDF) located at an area source. GDF means any stationary facility which dispenses gasoline into the fuel tank of a motor vehicle. The affected source includes each gasoline cargo tank during the delivery of product to a GDF and also includes each storage tank.

If the GDF has a monthly throughput of less than 10,000 gallons of gasoline, it must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following:

1) Minimize gasoline spills;
2) Clean up spills as expeditiously as practicable;
3) Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;
4) Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.

This facility has a monthly throughput of less than 10,000 gallons of gasoline. All applicable requirements have been incorporated into the permit.
<u>Subpart JJJJJJ</u>, Commercial and Institutional Boilers. This subpart affects new and existing boilers located at area sources of HAP, except for gas-fired boilers. Gas fired boilers are defined as any boiler that burns gaseous fuel not combined with any solid fuels, liquid fuel only during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel. Periodic testing

under this definition shall not exceed a combined total of 48 hours during any calendar year. The boilers at this facility meet the definition of gas fired boilers and are not subject to this subpart.

CAM, 40 CFR Part 64 [Not Applicable]
Compliance Assurance Monitoring (CAM), as published in the Federal Register on October 22, 1997, applies to any pollutant specific emission unit at a major source that is required to obtain a Title V permit, if it meets all of the following criteria:

* It is subject to an emission limit or standard for an applicable regulated air pollutant;
  * It uses a control device to achieve compliance with the applicable emission limit or standard;
  * It has potential emissions, prior to the control device, of the applicable regulated air pollutant greater than major source thresholds.

None of the emission units use a control device to achieve compliance with an applicable emission limit.

Chemical Accident Prevention Provisions, 40 CFR Part 68 [Not Applicable]
This facility does not store any regulated substance above the applicable threshold limits. More information on this federal program is available at the web site: *http://www.epa.gov/ceppo/*.

Acid Rain, 40 CFR Part 72 (Permit Requirements) [Not Applicable]
The boilers serve generators that do not produce electricity for sale or do not sell more than one third of the electricity generated and are therefore exempt units, which are not subject to this part. The power plant generates electricity mainly for OU and does not sell more than one third of the electricity.

Acid Rain, 40 CFR Part 75 (Monitoring Requirements) [Not Applicable]
The boilers serve generators that do not produce electricity for sale or do not sell more than one third of the electricity generated and are therefore exempt units, which are not subject to this part. The power plant generates electricity mainly for OU and does not sell more than one third of the electricity.

Stratospheric Ozone Protection, 40 CFR Part 82 [Subparts A and F are 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 X. COMPLIANCE

Tier Classification

This application has been determined to be **Tier II** based on the request for renewal of a Part 70 operating permit. Information on all permit actions is available for review by the public on the Air Quality section of DEQ web page at: *https://www.deq.ok.gov*. The permittee has submitted an affidavit that they are not seeking a permit for land use or for any operation upon land owned by others without their knowledge. The affidavit certifies that the applicant owns the land.

Public Review

The applicant published a "Notice of Filing a Tier II Application" in *The Journal Record*, a daily newspaper of general circulation in Cleveland County, on March 14, 2019. The notice stated that the application was available for public review at 350 David L. Boren Blvd., Suite 1800, Norman, Oklahoma and at the Air Quality Division main office in Oklahoma City, Oklahoma.

The applicant published a "Notice of Tier II Draft Permit" in *The Journal Record*, a daily newspaper of general circulation in Cleveland County, on July 20, 2022. The notice stated that the draft permit was available for public review at 350 David L. Boren Blvd., Suite 1800, Norman, Oklahoma and at the Air Quality Division main office in Oklahoma City, Oklahoma. No comments were received from the public.

State Review

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

Tribal Review
Tribal Nations were notified of the draft permit. No comments were received.

EPA Review
A proposed permit was forwarded to EPA Region VI for a 45-day review period. No comments were received.

Fees Paid
A fee of $7,500 has been paid for a Part 70 operating permit renewal application. An additional amount of $15,000 in back fees has been paid for five minor modifications, and another amount of $3,000 was paid for a sixth minor modification.

SECTION XI. SUMMARY

The facility is operating as described in the permit application. Ambient air quality standards are not threatened at this site. There are no active Air Quality compliance or enforcement issues concerning this facility that would prohibit issuance of this permit. Issuance of the operating permit is recommended.

PERMIT TO OPERATE]
AIR POLLUTION CONTROL FACILITY
SPECIFIC CONDITIONS

University of Oklahoma **Permit Number 2019-0102-TVR3**
OU Power Plant, Utility Plant #4, and Printing Plant **Facility ID 4488**

The permittee is authorized to operate in conformity with the specifications submitted to Air Quality on January 15, 2019, and all supplemental materials. The Evaluation Memorandum dated November 4, 2022, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain operating limitations or permit requirements. Continuing operations under this permit constitutes acceptance of, and consent to, the conditions contained herein.

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

EUG 1, Grandfathered Boilers
Emission units (EUs) 1 through 4 are "grandfathered" (constructed prior to May 31, 1972). The equipment is limited to the existing equipment as it is.

EU	Point	Manufacturer	MMBTUH	Serial #
1	1	Erie City Iron Works	156	96558
2	2	Springfield Boiler Co.	78	48155A
3	3	Springfield Boiler Co.	78	48155B
4	4	Clever Brooks Co.	156	WL1216*

* - Unit Number

a. EUs 1 through 4 shall be either fired with commercial-grade natural gas or fired with fuel oil with a maximum sulfur content of 0.2 % by weight. Compliance with the fuel sulfur limits can be shown by the following methods: for commercial-grade natural gas, a current gas company bill; for fuel oil, supplier's latest delivery ticket(s). Compliance shall be demonstrated at least once every calendar year.
[OAC 252:100-31]

b. EUs 1 through 4 shall fire fuel oil 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 for each boiler during any calendar year.
[40 CFR §63.11237 "Gas fired boiler"]

c. The permittee shall conduct daily visual observations of the opacity from the exhausts associated with all emission units while burning fuel oil No. 2 and keep a record of these observations. If visible emissions are detected, then the permittee shall conduct a thirty-minute opacity reading in accordance with EPA Reference Method No. 9.
[OAC 252:100-25]

d. The permittee shall keep operation and maintenance (O&M) records for these "grandfathered" emission units (EUG 1). Such records shall at a minimum include the

dates of operation and maintenance, type of work performed, and the increase, if any, in emissions as a result. [OAC 252:100-8-6 (a)(3)(B)]

EUG 3, Printing Presses
Emission limits for EU 6.

EU	Make/Model	# of Units
6	Sheet Fed Offset Printing Presses	
	11” x 17” Duplicators	3
	12” x 18” Envelope Press	1
	26” x 40” (5 Color) Press	1
	23” x 29” (5 Color) Press	1
	26” x 40” (8 Color) Press	1

a. VOC emissions from the printing presses shall not exceed 99 TPY.
b. Records of material usage and MSD sheets showing maximum VOC contents (monthly).

EUG 4, Tanks
Storage tank VOC emissions are estimated based on existing equipment items and are considered insignificant.

Contents	Barrels	Gallons
Fuel Oil	595	25,000
Fuel Oil	595	25,000
Fuel Oil	595	25,000
Fuel Oil	595	25,000

EUG 5, Existing Institutional Emergency Generator Engine
Emission limits for the emergency generator engine are the following.

EU	Point	Manufacturer	HP	Engine Type
8	8	Cummins QSK60-G6	2,922	Compression Ignition, diesel-fired

EU	NO_X		CO	
	lb/hr	TPY	lb/hr	TPY
8	45.09	11.27	5.80	1.45

a. The emergency generator engine shall be equipped with an hour meter which is either non-resettable or if resettable, equipped with a log book in which the date and hour meter reading shall be recorded each time the meter is reset.
b. The permittee shall record in the log the number of hours the applicable engine operated each month.
c. The emergency generator engine shall be fired with diesel fuel having a sulfur content of 0.05 % by weight or less.

d. The permittee shall operate the emergency generator engine in accordance with §§63.6585(f) and 6585(f)(3) for an existing institutional emergency stationary RICE located at an area source of HAP, which shall meet the definition of an emergency stationary RICE in §63.6675, and which includes operating according to the provisions of §63.6640(f).

EUG 6, Electricity/Steam Generating Units

Emission limits and standards for EU U1 and U2 (Turbines with Duct Burners).

[Permit No. 2006-198-C (M-2)]

Emissions limits for each turbine without duct burners (EU U1a & U2a):

Pollutant	lb/hr	ppmvd[1]	lb/MMBTU[4]
NO_X	4.13[2]	15.0[2]	0.05952[2]
CO	4.56[3]	25.0[3]	0.06053[3]
VOC	2.40[3]	25.0[3]	0.03453[3]

(1) All concentrations are corrected to 15% O_2, per turbine.
(2) One-hour average.
(3) Three-hour average.
(4) Based on LHV.

Emissions limits for each turbine with duct burners (EU U1 & U2):

Pollutant	lb/hr	ppmvd[1]	TPY[4]
NO_X	7.68[2]	17.7[2]	33.63
CO	8.11[3]	29.2[3]	35.53
VOC	4.41[3]	29.0[3]	19.28

(1) All concentrations are corrected to 15% O_2, per turbine.
(2) One-hour average.
(3) Three-hour average.
(4) 12-month rolling total.

a. The turbines and duct burners shall only be fired with commercial natural gas having 0.25 grains or less of total sulfur (as hydrogen sulfide) per 100 standard cubic feet (<4 ppmv). Compliance with the fuel sulfur limits can be shown by the following methods: for commercial-grade natural gas, a current gas company bill. Compliance shall be demonstrated at least once every calendar year. [OAC 252:100-31]

b. The turbines shall be equipped with Solar's SoLoNO_X™ technology (Lean-Premixed, Dry, Low-NO_X Combustors). [OAC 252:100-8-6(a)(1)]

c. Each turbine shall be equipped and operated with NO_X CEM that comply with the requirements of NSPS, Subpart KKKK (40 CFR § 60.4345).

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

d. The turbines are subject to the NSPS for Stationary Combustion Turbines 40 CFR Part 60, Subpart KKKK and shall comply with all applicable requirements including but not limited to: [40 CFR § 60.4300 to § 60.4420]

<u>Introduction</u>

i. §60.4300 What is the purpose of this subpart?

<u>Applicability</u>

ii. § 60.4305 Does this subpart apply to my stationary combustion turbine?
iii. § 60.4310 What types of operations are exempt from these standards of performance?
Emission Limits
iv. § 60.4315 What pollutants are regulated by this subpart?
v. § 60.4320 What emission limits must I meet for nitrogen oxides (NO_X)?
vi. § 60.4325 What emission limits must I meet for NO_X if my turbine burns both natural gas and distillate oil (or some other combination of fuels)?
vii. § 60.4330 What emission limits must I meet for sulfur dioxide (SO_2)?
General Compliance Requirements
viii. §60.4333 What are my general requirements for complying with this subpart?
Monitoring
ix. § 60.4335 How do I demonstrate compliance for NO_X if I use water or steam injection?
x. § 60.4340 How do I demonstrate continuous compliance for NO_X if I do not use water or steam injection?
xi. § 60.4345 What are the requirements for the continuous emission monitoring system equipment, if I choose to use this option?
xii. § 60.4350 How do I use data from the continuous emission monitoring equipment to identify excess emissions?
xiii. § 60.4355 How do I establish and document a proper parameter monitoring plan?
xiv. § 60.4360 How do I determine the total sulfur content of the turbine's combustion fuel?
xv. § 60.4365 How can I be exempted from monitoring the total sulfur content of the fuel?
xvi. § 60.4370 How often must I determine the sulfur content of the fuel?
Reporting
xvii. § 60.4375 What reports must I submit?
xviii. § 60.4380 How are excess emissions and monitor downtime defined for NO_X?
xix. § 60.4385 How are excess emissions and monitoring downtime defined for SO_2?
xx. § 60.4390 What are my reporting requirements if I operate an emergency combustion turbine or a research and development turbine?
xxi. § 60.4395 When must I submit my reports?
Performance Tests
xxii. § 60.4400 How do I conduct the initial and subsequent performance tests, regarding NO_X?
xxiii. § 60.4410 How do I establish a valid parameter range if I have chosen to continuously monitor parameters?
xxiv. § 60.4415 How do I conduct the initial and subsequent performance tests for sulfur?
Definitions
xxv. § 60.4420 What definitions apply to this subpart?

EUG 7, Auxiliary Boiler

Emission limits and standards for EU U3 include but are not limited to the following:

[Permit No. 2006-198-C (M-2)]

EU	NO_X		CO	
	lb/hr	TPY	lb/hr	TPY
U3	2.52	11.04	5.11	22.40

a. The Auxiliary Boiler shall be equipped with low-NO_X burners.

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

b. The Auxiliary Boiler shall only be fired with commercial natural gas having 0.25 grains or less of total sulfur (as hydrogen sulfide) per 100 standard cubic feet (<4 ppmv). Compliance with the fuel sulfur limits can be shown by the following methods: for commercial-grade natural gas, a current gas company bill. Compliance shall be demonstrated at least once every calendar year. [OAC 252:100-31]

c. The permittee shall maintain a record of the amount of natural gas burned in the Auxiliary Boiler for compliance with NSPS, 40 CFR Part 60, Subpart Dc.

[40 CFR § 60.48c(g) & § 60.13(i)]

EUG 8, Emergency Diesel Generator Subject to NSPS, Subpart IIII

EUG 8 shall include the black start, emergency diesel generator. Emission limits and standards include but are not limited to the following.

EU	Point	Manufacturer	HP
U4	12	Caterpillar C18 ATAAC	1,006

a. EU U4 is subject to the federal NSPS for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE), 40 CFR Part 60, Subpart IIII, and shall comply with all applicable requirements: [40 CFR § 60.4200 - § 60.4219]

<u>What This Subpart Covers</u>

i. 60.4200 Am I subject to this subpart?

<u>Emission Standards for Owners and Operators</u>

ii. 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?

iii. 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?

iv. 60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?

<u>Fuel Requirements for Owners and Operators</u>

v. 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?

<u>Other Requirements for Owners and Operators</u>

vi. 60.4208 What is the deadline for importing and installing stationary CI ICE produced in the previous model year?

vii. 60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

Compliance Requirements

viii. 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

Testing Requirements for Owners and Operators

ix. 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?

Notification, Reports, and Records for Owners and Operators

x. 60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

General Provisions

xi. 60.4218 What parts of the General Provisions apply to me?

Definitions

xii. 60.4219 What definitions apply to this subpart?

b. EU U4 shall be fitted with a non-resettable hour-meter. The permittee shall also record in a log the number of hours each engine operated each month and how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.

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

EUG 9. Transportation Operations Center

EU	Point	Description	Const. Date
LR-1	LR-1	Gasoline Loading Rack & Associated Storage Tanks	<1/2008

a. The gasoline dispensing facility (GDF) (LR-1) is subject to the NESHAP for GDF 40 CFR Part 63, Subpart CCCCCC and shall comply with all applicable requirements including but not limited to: [40 CFR § 63.11110 to § 63.11320]

What This Subpart Covers

i. § 63.11110 What is the purpose of this subpart?

ii. § 63.11111 Am I subject to the requirements in this subpart?

A. The affected source to which 40 CFR Part 63, Subpart CCCCCC applies is each GDF that is located at an area source. The affected source includes each gasoline cargo tank during the delivery of product to a GDF and also includes each storage tank. [§ 63.11111(a)]

B. If your GDF has a monthly throughput of less than 10,000 gallons of gasoline, you must comply with the requirements in § 63.11116. [§ 63.11111(b)]

C. An affected source shall, upon request by the Administrator, demonstrate that their average monthly throughput is less than the 10,000-gallon or the 100,000-gallon threshold level, as applicable. [§ 63.11111(e)]

iii. § 63.11112 What parts of my affected source does this subpart cover?

A. The emission sources to which 40 CFR Part 63, Subpart CCCCCC applies are gasoline storage tanks and associated equipment components in vapor or liquid gasoline service at new, reconstructed, or existing GDF that meet the criteria specified in § 63.11111. The equipment used for the refueling of motor vehicles is not covered by 40 CFR Part 63, Subpart CCCCCC.

[§ 63.11112(a)]

B. An affected source is a new affected source if you commenced construction on the affected source after November 9, 2006, and you meet the applicability criteria in § 63.11111 at the time you commenced operation. [§ 63.11112(b)]

C. An affected source is reconstructed if you meet the criteria for reconstruction as defined in § 63.2. [§ 63.11112(c)]

D. An affected source is an existing affected source if it is not new or reconstructed. [§ 63.11112(d)]

iv. § 63.11113 When do I have to comply with this subpart?

A. If you have an existing affected source, you must comply with 40 CFR Part 63, Subpart CCCCCC no later than January 10, 2011. [§ 63.11113(b)]

Emission Limitations and Management Practices

v. § 63.11116 Requirements for facilities with monthly throughput of less than 10,000 gallons of gasoline.

A. You must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following: [§ 63.11116(a)]

1) Minimize gasoline spills; [§ 63.11116(a)(1)]

2) Clean up spills as expeditiously as practicable; [§ 63.11116(a)(2)]

3) Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use; [§ 63.11116(a)(3)]

4) Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators. [§ 63.11116(a)(4)]

B. You are not required to submit notifications or reports, but you must have records available within 24 hours of a request by the Administrator to document your gasoline throughput. [§ 63.11116(b)]

C. You must comply with the requirements of 40 CFR Part 63, Subpart CCCCCC by the applicable dates specified in § 63.11113. [§ 63.11116(c)]

Notifications, Records, and Reports

vi. § 63.11130 What parts of the General Provisions apply to me?

A. 40 CFR Part 63, Subpart CCCCCC, Table 3 shows which parts of the General Provisions apply to you. [§ 63.11130]

vii. § 63.11131 Who implements and enforces this subpart?

viii. § 63.11132 What definitions apply to this subpart?

EUG 10, JJJJ Spark Ignition Emergency Engines

EUG 10 shall include emergency generator engines that are subject to NSPS Subpart JJJJ.

EU	Point	Manufacturer	Engine HP
13	13	Cummins GTA19G2	495
23	23	WSG-1068	194
24	24	Cummins GTA855E	383
25	25	Generac 30R82	82
26	26	Cummins GTA28	769
27	27	PSI/Doosan D111TIC	302
32	32	PSI 3.0L	51

a. The permittee shall comply with all applicable requirements in 40 CFR Part 60, Subpart JJJJ, for all stationary spark ignition (SI) internal combustion engines (ICE) that commenced construction, modification, or reconstruction after June 12, 2006, including, but not limited to, the following. [40 CFR §§ 60.4230 to 60.4248]

i §60.4230 Am I subject to this subpart?
ii The emission standards of §60.4233 and §60.4234.
iii The fuel requirements of §60.4235.
iv The deadlines for importing or installing SI ICE produced in the previous model year in accordance with §60.4236.
v The monitoring requirements of §60.4237.
vi The compliance requirements of §60.4243.
vii The performance test methods and other procedures of §60.4244.
viii The notification, reporting, and recordkeeping requirements of §60.4245.
ix §60.4246 What parts of the General Provisions apply to me?
x §60.4248 What definitions apply to this subpart?

EUG 11, Insignificant Emergency Generators
EUG 11 shall include all emergency generator engines that are insignificant sources of emissions which are listed in EUG 11a and EUG 11b.

EUG 11a, ISA Existing Institutional Emergency RICE
(Emergency Generator Engines manufactured prior to June 12, 2006)

Engine Location	Make/Model	HP	Engine Type
Animal Holding Facility	Generac 4090-2	< 25	Spark Ignition, Natural Gas fired

a. The emergency generator engine shall not be operated more than 100-hours in any 12-month period, based on a 12-month rolling total, for maintenance checks, readiness testing, and other non-emergency situations. There is no time limit on the use of emergency engines in emergency situations.
b. Each engine/generator shall be equipped with an hour meter which is either non-resettable or if resettable, equipped with a log book in which the date and hour meter reading shall be recorded each time the meter is reset.
c. The permittee shall record in a log the number of hours each engine operated each month and how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.
d. The natural gas-fired emergency generator engine shall be fired with pipeline natural gas as defined in Part 72 having 0.5 grains/100 scf or less total sulfur.
e. The permittee shall operate the emergency generator engine in accordance with §§63.6585(f) and 6585(f)(3) for an existing institutional emergency stationary RICE located at an area source of HAP, which shall meet the definition of an emergency stationary RICE in §63.6675, and which includes operating according to the provisions of §63.6640(f).

EUG 11b, ISA GAP Emergency SI ICE
(Spark Ignition Emergency Generator Engine manufacture prior to 2009)

Engine Location	Point	Make/Model	HP	Engine Type
Rawls/Devon Hall	13	Cummins GTA19G2	495	Spark Ignition, natural gas-fired

a. The emergency generator engine shall not be operated more than 100-hours in any 12-month period, based on a 12-month rolling total, for maintenance checks, readiness testing, and other non-emergency situations. There is no time limit on the use of emergency engines in emergency situations.
b. Each engine/generator shall be equipped with an hour meter which is either non-resettable or if resettable, equipped with a log book in which the date and hour meter reading shall be recorded each time the meter is reset.
c. The permittee shall record in a log the number of hours each engine operated each month and how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.
d. The natural gas-fired emergency generator engine shall be fired with pipeline natural gas as defined in Part 72 having 0.5 grains/100 scf or less total sulfur.

EUG 12, Emergency Diesel Generator Subject to NSPS, Subpart IIII
EUG 12 shall include emergency generator engines that are subject to NSPS Subpart IIII which are listed in EUG 12a, EUG 12b, and EUG 12c.

EUG 12a, IIII Emergency CI ICE
(EPA Certified Emergency Engines, ≥50 HP)

EU	Point	Engine Location	Make/Model	HP
15	15	Boomer Outreach	John Deere 5030HF285G	96
16	16	Stephenson Research	Caterpillar C27	1,141
17	17	Three Partners Place	Cummins QSM11-G4	470
19	19	Four Partners Place 1	Caterpillar 3512	2,208
20	20	Four Partners Place 2	Caterpillar 3512	2,208
21	21	Four Partners Place 3	Caterpillar 3512	2,208
22	22	Four Partners Place Tenant 4	Caterpillar Model D125-6 C6.6	217
28	28	Lin Hall/New Physics Bldg.	John Deere 60REOZJD	757
29	29	Gallogly Hall	John Deere 400REOZJB	617
30	30	Stephenson Life Sciences	Cummins Model QST30-G5	1,490
31	31	OU Physical Plant Admin. Bldg.	KDI 3404TM	67

EUG 12b, IIII Compression Ignition Emergency Generator Engines
(EPA Certified, <50 HP)

EU	Point	Engine Location	Make/Model	HP
18	18	OU Law Center	Kubota V3300	49

EUG 12c, IIII Compression Ignition Emergency Generator Engines
(Pre-2007 model year, <10 liters per cylinder displacement)

EU	Point	Engine Location	Make/Model	HP
14	14	OU Police Department	Cummins 6BTA5.9-G3	207

a. The diesel-fired emergency generator engines of EUG 12 (i.e., EUG 12a, 12b, and 12c) shall be subject to the federal NSPS for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE), 40 CFR Part 60, Subpart IIII, and the permittee shall comply with all applicable requirements. [40 CFR § 60.4200 - § 60.4219]

<u>What This Subpart Covers</u>

i. 60.4200 Am I subject to this subpart?

<u>Emission Standards for Owners and Operators</u>

ii. 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?

iii. 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?

iv. 60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?

<u>Fuel Requirements for Owners and Operators</u>

v. 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?

<u>Other Requirements for Owners and Operators</u>

vi. 60.4208 What is the deadline for importing and installing stationary CI ICE produced in the previous model year?

vii. 60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

<u>Compliance Requirements</u>

viii. 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

<u>Testing Requirements for Owners and Operators</u>

ix. 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?

<u>Notification, Reports, and Records for Owners and Operators</u>

x. 60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

<u>General Provisions</u>

xi. 60.4218 What parts of the General Provisions apply to me?

<u>Definitions</u>

xii. 60.4219 What definitions apply to this subpart?

b. Each emergency generator engine shall be fitted with a non-resettable hour-meter. [OAC 252:100-8-6(a)(3)]

2. The permittee shall be authorized to operate this facility continuously (24 hours per day, every day of the year) except as provided above. [OAC 252:100-8-6(a)]

3. Each engine/turbine and EUs 1 through 4 shall have a permanent identification plate attached that shows the make, model number, and serial number. [OAC 252:100-43]

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

a. For stationary reciprocating engines used exclusively for emergency power generation; type of fuel used and the number of hours operated (annual).
b. For fuel storage/dispensing equipment operated solely for facility owned vehicles; records of the type and amount of fuel dispensed (annual).
c. For VOC storage tanks with a capacity of less than 39,894 gallons and a true vapor pressure less than 1.5 psia; records of the capacity of the tanks and the contents.
d. For activities (except for trivial activities) that have the potential to emit less than 5 TPY (actual) of any criteria pollutant; the type of activity and the amount of emissions or a surrogate measure of the activity (annual).

5. The permittee shall maintain records of operations as listed below. These records shall be maintained on-site for at least five years after the date of recording and shall be provided to regulatory personnel upon request. [OAC 252:100-8-6 (a)(3)(B)]

a. Total natural gas and/or distillate fuel oil usage for each boiler (annual).
b. Operation, maintenance, and inspection log for EU 1 through 4.
c. For fuel(s) burned, the appropriate document(s) as described in Specific Condition No. 1.
d. Records of the date and time of visual emission observations, stack or emission point observed, operational status of the emission unit, observed results and conclusions, and Reference Method No. 9 results, if required.
e. Records of the amount of natural gas combusted (monthly & 12-month rolling totals) in the duct burners (EUG 6) and auxiliary boiler (EUG 7) and the heat content of the natural gas combusted.
f. Material usage at the printing plant, including amounts mixed and disposed (monthly).
g. Technical Data Sheets for all raw materials showing the percentage by weight VOC.
h. Records of operating hours of each emergency generator (EUGs 5, 8, 10, 11, and 12) (monthly and 12-month rolling totals).
i. Records of pollutant calculations as required in Specific Condition No. 1 for EUG 3 and EUG 6 (monthly and 12-month rolling totals).
j. Records required by NSPS, Subparts A, Dc, IIII, and KKKK.
k. Records required by NESHAP, Subpart ZZZZ and CCCCCC.

6. No later than 30 days after each anniversary date of the issuance of the original Title V operating permit (January 3, 2002), 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)]

7. The permittee shall submit a report of required monitoring conducted under this permit every six months from the date of issuance of the permit according to Section III.C of the Standard

Conditions. The report shall identify any exceedences from permit requirements that have been identified in required monitoring under this permit during the six months prior to the month in which the report is submitted, and any exceedences that have been detected from the monitoring, recordkeeping and reporting required under the permit. Each report submitted shall be certified by the responsible official. [OAC 252:100-8-6(a)(3)(C)(i), (ii), & (iv)]

8. This facility is considered an existing Prevention of Significant Deterioration (PSD) facility. As such, the facility is subject to the provisions of OAC 252:100-8-36.2(c) for any project using "projected actual emissions." If the permittee materially fails to comply with these provisions, then emissions are presumed to equal the source's potential to emit.

9. This permit replaces and supersedes all previous Air Quality operating permits for this facility, which are cancelled.

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

SECTION I. DUTY TO COMPLY

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

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

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

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

SECTION II. REPORTING OF DEVIATIONS FROM PERMIT TERMS

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

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

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

SECTION III. MONITORING, TESTING, RECORDKEEPING & REPORTING

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

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

B. Records of required monitoring shall include:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SECTION IV. COMPLIANCE CERTIFICATIONS

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

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

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

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

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

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

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

SECTION V. REQUIREMENTS THAT BECOME APPLICABLE DURING THE PERMIT TERM

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

SECTION VI. PERMIT SHIELD

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

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

SECTION VII. ANNUAL EMISSIONS INVENTORY & FEE PAYMENT

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

SECTION VIII. TERM OF PERMIT

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

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

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

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

SECTION IX. SEVERABILITY

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

SECTION X. PROPERTY RIGHTS

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

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

SECTION XI. DUTY TO PROVIDE INFORMATION

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

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

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

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

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

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

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

SECTION XII. REOPENING, MODIFICATION & REVOCATION

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

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

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

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

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

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

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

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

SECTION XIII. INSPECTION & ENTRY

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

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

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

SECTION XIV. EMERGENCIES

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

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

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

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

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

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

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

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

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

SECTION XV. RISK MANAGEMENT PLAN

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

SECTION XVI. INSIGNIFICANT ACTIVITIES

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

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

SECTION XVII. TRIVIAL ACTIVITIES

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

SECTION XVIII. OPERATIONAL FLEXIBILITY

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

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

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

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

SECTION XIX. OTHER APPLICABLE & STATE-ONLY REQUIREMENTS

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

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

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

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

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

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

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

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

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

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

SECTION XX. STRATOSPHERIC OZONE PROTECTION

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

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

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

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

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

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

SECTION XXI. TITLE V APPROVAL LANGUAGE

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

(1) The construction permit goes out for a 30-day public notice and comment using the procedures set forth in 40 C.F.R. § 70.7(h)(1). This public notice shall include notice to the public that this permit is subject to EPA review, EPA objection, and petition to EPA, as provided by 40 C.F.R. § 70.8; that the requirements of the construction permit will be incorporated into the Title V permit through the administrative amendment process; that the public will not receive another opportunity to provide comments when the requirements are incorporated into the Title V permit; and that EPA review, EPA objection, and petitions to EPA will not be available to the public when requirements from the construction permit are incorporated into the Title V permit.
(2) A copy of the construction permit application is sent to EPA, as provided by 40 CFR § 70.8(a)(1).
(3) A copy of the draft construction permit is sent to any affected State, as provided by 40 C.F.R. § 70.8(b).
(4) A copy of the proposed construction permit is sent to EPA for a 45-day review period as provided by 40 C.F.R.§ 70.8(a) and (c).
(5) The DEQ complies with 40 C.F.R. § 70.8(c) upon the written receipt within the 45-day comment period of any EPA objection to the construction permit. The DEQ shall not issue the permit until EPA's objections are resolved to the satisfaction of EPA.
(6) The DEQ complies with 40 C.F.R. § 70.8(d).
(7) A copy of the final construction permit is sent to EPA as provided by 40 CFR § 70.8(a).
(8) The DEQ shall not issue the proposed construction permit until any affected State and EPA have had an opportunity to review the proposed permit, as provided by these permit conditions.
(9) Any requirements of the construction permit may be reopened for cause after incorporation into the Title V permit by the administrative amendment process, by DEQ as provided in OAC 252:100-8-7.3(a), (b), and (c), and by EPA as provided in 40 C.F.R. § 70.7(f) and (g).

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

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

SECTION XXII. CREDIBLE EVIDENCE

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

[OAC 252:100-43-6]

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

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

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

PART 70 PERMIT

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

Permit No. 2019-0102-TVR3

The University of Oklahoma,

having complied with the requirements of the law, is hereby granted permission to operate in Cleveland County, Oklahoma, subject to the Standard Conditions dated June 21, 2016, and Specific Conditions, both of which are attached.

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

11/07/2022

Kendall Stegmann, Division Director **Date**

Scott A. Thompson
Executive Director

OKLAHOMA Environmental Quality

Kevin Stitt
Governor

The University of Oklahoma
Attn: Mr. Christopher Snider
Environmental Health and Safety Office
350 David L. Boren Blvd, Suite 1800
Norman, OK, 73019

SUBJECT: Permit No. **2019-0102-TVR3**
OU Power Plant, Utility Plant #4, and Printing Plant
Facility ID 4488
160 Felgar Street, Norman, Cleveland County

Dear Mr. Snider:

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

Also note that you are required to submit an emissions inventory for this facility. An emissions inventory must be completed through DEQ's electronic reporting system by April 1st of every year. The reporting schedule thereafter is explained in OAC 252:100-5-2.1.(a)(2). Any questions concerning the reporting schedule or submittal process should be referred to the Emissions Inventory Staff at (405) 702-4100.

Thank you for your cooperation in this matter. If we may be of further service, please contact our office at (918) 293-1600.

Sincerely,

Phillip Fielder

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

Enclosures