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OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

MEMORANDUM **May 19, 2022**

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

THROUGH: Rick Groshong, Envir. Prog. Mgr. III, Compliance and Enforcement Group

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

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

FROM: Eric L. Milligan, Engineering Manager, Engineering Section

SUBJECT: Evaluation of Permit Application No. **2019-0538-TVR3**
Oklahoma State University
OSU Stillwater (SIC 8221)
Facility ID: 2330
Latitude 36.12595° N, and Longitude 97.06975° W
Section 15, Township 19N, Range 2E, Payne County, OK
Directions: Located on the southwest corner of Hall of Fame and Washington Streets in Stillwater, Oklahoma.

SECTION I. INTRODUCTION

Oklahoma State University (OSU or applicant) has requested a renewal of the Part 70 operating permit for the OSU Stillwater (facility). The facility is currently operating under Permit No. 2011-102-TVR2 (M-2), issued on September 2, 2020. The facility is a Prevention of Significant Deterioration (PSD) major source and an area source of Hazardous Air Pollutants (HAPs).

SECTION II. FACILITY DESCRIPTION

OSU operates four boilers (EUG 2) to generate hot water and steam for the comfort heating system along with diesel fuel storage tanks for their central power plant. The primary operating scenario (Scenario I) is based on usage of commercial-grade natural gas as fuel for the boilers. The secondary operating scenario (Scenario II) is based on usage of diesel fuel (i.e., Fuel Oil No. 2) for the boilers. The usage of diesel fuel for the boilers is limited to emergencies only.

The "Small Boiler" (EUG 5) located at the Fractional Research Complex (Building No. 0215) and is used for research purposes.

OSU also operates emergency generators (EUG 3, 6, & 7).

SECTION III. REQUESTED CHANGES

OSU has submitted an application for a minor modification to add three emergency generator engines and to remove one emergency generator engine (Permit Application No. 2011-102-TVR2 (M-3). In this application, the facility also requested some corrections to the rated horsepower and emissions of the existing emergency generators located at the facility. A list of the extensive changes is contained in the application. As these changes were not changes in allowable emissions or due to physical changes, they were not reviewed in context of the construction permit requirements. However, the emission increases related to the added emergency generators were reviewed for PSD applicability and major source construction permitting as documented in Section VIII. These changes have been incorporated into this permit.

SECTION IV. PERMIT HISTORY

Permits	Date Issued	Description
2000-110-TV	4/29/2001	Initial Title V operating permit.
2000-110-TV (M-1)	1/23/2002	Minor modification to add three natural gas-fired boilers (EU 10, 11, & 12) and add the requirements of OAC 252:100-17 for EU 6.
2006-138-TVR	9/6/2006	First renewal of Title V operating permit. No modifications or changes requested.
2011-102-TVR2	12/17/2014	Second Renewal of Title V operating permit. The following changes were requested: • Remove an animal incinerator (EU 6); • Remove two Kewanee boilers (EU 11 & 12); • Add an emergency generator engine (EU 13); • List 58 emergency generator engines as ISA; and • Add gasoline dispensing facilities requirements.
2011-102-TVR2 (M-1)	7/10/2018	Minor modification to add four boilers, one emergency generator, and three diesel storage tanks and to decommission the existing grandfathered boilers (EU 1, 2, 3, 4 & 5) and associated fuel oil tanks (EU 8 & 9).
2011-102-TVR2 (M-2)	9/2/2020	Minor modification to add twelve emergency generator engines and to remove one emergency generator engine.
2011-102-TVR2 (M-3)	7/2/2021 [1]	Minor modification to add three emergency generator engines, remove one emergency generator engine, and to correct the horsepower ratings and emissions of existing engines.

[1] - This is the application submittal date because this minor modification was incorporated into this permit.

SECTION V. EQUIPMENT

EUG 2 Central Plant Boilers

EU	Point	Manufacturer	MMBtu/hr [1]	Serial #	Const. Date
11	11	English Boiler 60 DR 250	72.19	529 35-060-1	3/1/2018
12	12	English Boiler 60 DR 250	72.19	531 35-060-2	3/1/2018
13	13	English Boiler 60 DR 250	72.19	533 35-060-3	3/1/2018
14	14	English Boiler 40 DR 250	48.14	535 35-060-4	3/1/2018

[1] – Natural gas rating. These boilers are rated at 68.59 and 45.75 MMBTUH when fired with fuel oil.

EUG 3 Compression Ignition Engines

EU	Point	Alternator/Engine Make & Model	HP (kW)	Engine Serial #	Const. Date
Building # 0670	Water Treatment Plant	Generac / Doosan SD500 / Unknown	752 (561)	2103051	9/29/2008
Building # 0282	Central Plant	Kohler / PSI KD 1000 / Unknown	1,494 (1,114)	3336GGDJ0003	12/13/2017
Building # 0107	Vet. Med. Teaching Hospital 1	Cummins / Cummins DOOAC-1490807	348 (300)	G140707903	7/9/2014

EUG 4 Fuel Storage Tanks

EU	Point	Contents	Barrels	Gallons	Const. Date
16	16	Diesel	835	35,000	2017
17	17	Diesel	835	35,000	2017
18	18	Diesel	43	1,800	2017

EUG 5 Small Boiler

EU	Point	Manufacturer	MMBtu/hr	Serial #	Const. Date
10	10	Cleaver-Brooks CB700-600	25.106	L89078	11/12/1990

EUG 6 Spark Ignition Engines

EU	Alternator/Engine Make & Model	HP (kW)	Engine Serial #	Manufacture Date
McKnight Center for the Performing Arts	Onan / Cummins GFGB / GTA28	770 (500)	25428798	11/2017
Advanced Technology Research Center	Blue Star PSI / PSI 150-01 / 431CSL6202	261 (150)	MT-0061654-0618	6/2018
Power Distribution Center	Kohler / PSI 150REZGC / 263213.17	259 (150)	337DGMAP0008	12/19/2019

EU	Alternator/Engine Make & Model	HP (kW)	Engine Serial #	Manufacture Date
Long Term Housing Annex II	Onan / Cummins UNK / GTA28	770 (450)	25420169	11/2016
CEAT Endeavor Lab	Kohler / PSI 150REZGC / 8.8L	261 (150)	8.8L0009049	9/21/2017
Nancy Randolph Davis	Kohler / PSI 180REZXB / D111L	302 (225)	EEIOH405049	1/27/2015
Fire Protection Publications Office (Outside)	Generac / PSI 60REGZB / 5.7L	133 (100)	5.7L0001931	7/25/2017
Student Union 1	Generac / Generac 12773300100	393 (250)	2110580	6/6/2011
Student Union 2	Generac /Generac 12773300100	393 (250)	2110581	6/6/2011
Library Auxiliary	Marathon / PSI MTU / D111L	351 (235)	EEIOH303052	1/21/2014
University Commons (North)	Cummins/ PSI 150 GFPA / 8.8L CAC	218 (162)	8.8L033353	9/1/2014
Bert Cooper Engineering Laboratory	Onan / Ford 60RZ282 / 3.0L 71452	72 (60)	D140675567	4/1/2014
Henry Bellmon Research Center	Cummins / Cummins 750GFLA / GTA50G1	1,150 (750)	25336171	10/27/2008
Central Dining Services (2)	Generac / Ford 12340150100	174	RF-1C2E-6090-A20A	09/24/2010
Animal Nutrition and Physiology	Generac / Generac 3005541067	228	3005541067	01/21/2020
New Frontier Ag Hall	Cummins / Cummins KTA 19G SLB	470	TBD	12/2021
Engineering South	Cummins /Cummins KTA 19G SLB	470	TBD	12/2021
Business	Kohler / PSI 200REZXB / D111L	302	EEIOH405044	1/23/2015
North Classroom	Generac / Generac QT04554KNNNA	175.3	RF-2L1E-6090-620C	2/13/2008
Life Sciences West	Generac / Generac SGB150GGLB 18202300100	270	9415881	12/22/2014
Oklahoma Animal Disease Diagnostic Laboratory	Cummins / Cummins 350GFEB / GTA 1902	502	25337444	12/8/2008

EUG 7 Insignificant Existing Emergency Generators

Building No.	Engine Location	Engine Make	HP	Manufacture Date	Engine Type
107	Vet. Med. Teaching Hospital 2	John Deere	115	12/2/1995	Compression Ignition
79	Facilities Management Services Portable Generator	Kohler	465	1/1/1990	Compression Ignition
505	Career Tech Perky	Cummins	350	4/16/2003	Compression Ignition
635	SERC (Swine Barn)	Isuzu	88	Pre-2006	Compression Ignition
2	Seretean Center for Performing Arts	Onan	20	9/1/2002	Spark Ignition
3	Bartlett Center for Visual Arts	White	20	1/15/1982	Spark Ignition
4	Morrill	Ford	54	Pre-2006	Spark Ignition
9	Donald W. Reynolds School of Architecture	Teledyne Wisconsin	37	Pre-2006	Spark Ignition
12	Paul Miller Journalism & Broadcasting	Ford	107	4/24/2000	Spark Ignition
21	Boone Pickens Stadium (BPS) Southeast	Waukesha	790	6/1/1999	Spark Ignition
21	BPS North	Waukesha	615	11/1/2005	Spark Ignition
21	BPS Southwest	Cummins	965	9/1/2007	Spark Ignition
24	Social Sciences & Humanities	Kohler	54	6/1/2002	Spark Ignition
28	Life Science East	Ford	121	6/1/2004	Spark Ignition
30	Nancy Randolph Davis West	Ford	40	7/3/1982	Spark Ignition
31	Willard Hall	Generac	40	12/15/1994	Spark Ignition
34	Stout Hall	Ford	47	5/23/2002	Spark Ignition
38	Bennett Hall	Ford	162	1/1/1990	Spark Ignition
39	McElroy Hall	Caterpillar	321	1/1/2003	Spark Ignition
40	Edmon Low Library 2	Ford	75	10/1/1984	Spark Ignition
40	Edmon Low Library 1	Onan	20	Pre-2006	Spark Ignition
44	Classroom	Ford	27	Pre-2006	Spark Ignition
46	Advanced Technology Research Center	Cummins	670	5/1/1996	Spark Ignition
47	Robert M. Kerr Food & Agricultural Products Center	Cummins	690	12/1/1995	Spark Ignition
50	U.S. Department of Agriculture	Ford	82	11/1/1997	Spark Ignition

Building No.	Engine Location	Engine Make	HP	Manufacture Date	Engine Type
51	Physical Sciences	Kohler	86	Pre-2006	Spark Ignition
54	Scott Hall	Ford	67	Pre-2006	Spark Ignition
57	Agriculture	Fairbanks Morse	20	Pre-2006	Spark Ignition
64	Veterinary Medicine Annex	Ford	80	Pre-2006	Spark Ignition
66	Kerr-Drummond Cafeteria	Ford	75	Pre-2006	Spark Ignition
68	General Academic	Waukesha	28	Pre-2006	Spark Ignition
69	Noble Research Center 1	Caterpillar	700	9/1/2000	Spark Ignition
69	Noble Research Center 2	Caterpillar	641	9/1/2000	Spark Ignition
70	Wes Watkins Center for International Trade Development	Ford	135	5/1/1989	Spark Ignition
73	Institute for Teaching and Learning Excellence	Onan	15	3/1/1982	Spark Ignition
79	Facilities Management Services 2	Generac	40	Pre-2006	Spark Ignition
82	Iba Hall	Onan	20	Pre-2006	Spark Ignition
89	Math Sciences	Onan	20	Pre-2006	Spark Ignition
92	Colvin Recreation Center	Kohler	150	5/1/2003	Spark Ignition
110	Oklahoma Animal Disease Diagnostic Lab 2	Kohler	75	9/1/2003	Spark Ignition
111	University Health Services 1	Ford	40	Pre-2006	Spark Ignition
111	University Health Services 2	Generac	55	10/1/2002	Spark Ignition
111	University Health Services 3	GM	88	11/1/2007	Spark Ignition
197	Seretean Wellness Center	Onan	20	1/5/1990	Spark Ignition
216	Fire Protection Publications Office	Onan	14	4/1/1989	Spark Ignition
285	Multimodal Transportation Terminal	Generac	454	12/21/2007	Spark Ignition
300	CareerTech Print Plant and Warehouse	Onan	50	7/1/1981	Spark Ignition
639	Totusek Animal Science Arena	Ford	82	Pre-2006	Spark Ignition
656	Central Dining Services 1	Ford	134	6/5/2003	Spark Ignition

SECTION VI. EMISSIONS

EUG 2 – Central Plant Boilers

For Scenario I, the boilers are fired with natural gas and estimated emissions are based on emission factors taken from AP-42 Tables 1.4-1 and 1.4-2 (7/98), the maximum fuel usage listed, and continuous operation.

For Scenario II, the boilers are fired with No. 2 distillate fuel oil with a maximum sulfur content of 0.01 percent by weight and estimated emissions are based on AP-42 (5/10), Section 1.3, the maximum fuel usage listed, and continuous operation.

Boiler Fuel Usage [1]

EU	Point	Manufacturer	Natural Gas (SCFH)	No. 2 Fuel Oil (GPH)
11, 12 & 13	11, 12 & 13	English Boiler 60 DR 250	70,775	490.0
14	14	English Boiler 40 DR 250	47,200	326.8

[1] - Based on rated heat input and 1,020 BTU/SCF for natural gas and 140,000 BTU/10^3 gal for fuel oil.

Boilers Emissions Scenario I (Natural Gas)

EU	NO_X		CO		VOC		PM_{10}		SO_2	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
11	7.08	31.00	5.95	26.04	0.40	1.74	0.54	2.36	0.04	0.19
12	7.08	31.00	5.95	26.04	0.40	1.74	0.54	2.36	0.04	0.19
13	7.08	31.00	5.95	26.04	0.40	1.74	0.54	2.36	0.04	0.19
14	4.72	20.67	3.96	17.36	0.26	1.16	0.36	1.57	0.03	0.12
Totals	**25.95**	**113.67**	**21.80**	**95.48**	**1.45**	**6.37**	**1.97**	**8.64**	**0.16**	**0.68**

Boilers Emissions Scenario II (Fuel Oil No. 2; 0.01 % S by Weight)

EU	NO_X		CO		VOC		PM_{10}		SO_2	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
11	9.80	42.92	2.45	10.73	0.17	0.73	1.62	7.08	0.70	3.05
12	9.80	42.92	2.45	10.73	0.17	0.73	1.62	7.08	0.70	3.05
13	9.80	42.92	2.45	10.73	0.17	0.73	1.62	7.08	0.70	3.05
14	6.54	28.63	1.63	7.16	0.11	0.49	1.08	4.72	0.46	2.03
Totals	**35.93**	**157.38**	**8.98**	**39.34**	**0.61**	**2.68**	**5.93**	**25.97**	**2.55**	**11.17**

EUG 3 – Compression Ignition Engines

NOx, CO, VOC, and PM emissions were estimated based on emission factors from 40 CFR Part 1039 Table 2 to Appendix I - Tier 2 Emission Standards >560 kW, the rated horsepower, and 500 hours per year of operation. SO_2 emissions were based on AP-42 (10/96) Section 3.4, the rated horsepower, a fuel sulfur content of 0.1%, and 500 hours per year of operation.

EUG 3 Emission Factors

NO_X * (g/kW-hr)	CO (g/kW-hr)	VOC* (g/kW-hr)	PM (g/kW-hr)	SO_2 (lb/hp-hr)
5.76	3.5	0.64	0.2	0.0008

* 40 CFR Part 1039 Appendix I Summary of Previous Emission Standards, Table 2, lists 6.4 g/kW-hr for NOx and VOC together. Applicant requested a 90/10 split for NOx/VOC.

EUG 3 Engines Emissions

EU	NO_X		CO		VOC		PM		SO_2	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Bldg. # 0670	7.12	1.78	4.33	1.08	0.79	0.20	0.25	0.06	0.001	0.000
Bldg. # 0282	14.15	3.54	8.60	2.15	1.57	0.39	0.49	0.12	0.002	0.000
Bldg. # 0107	3.30	0.82	2.00	0.50	0.37	0.09	0.11	0.03	0.000	0.000
Totals	**24.56**	**6.14**	**14.93**	**3.73**	**2.73**	**0.68**	**0.85**	**0.21**	**0.003**	**0.001**

EUG 5 – Small Boiler

Estimated emissions are based on are based on emission factors taken from AP-42 Tables 1.4-1 and 1.4-2 (7/98), the maximum fuel usage listed, and continuous operation. Note that EU 10 does not have the capability to burn No. 2 fuel oil.

EUG 5 Small Boiler Fuel Usage [1]

EU	Point	Manufacturer	Natural Gas (SCFH)
10	10	Cleaver-Brooks CB700-600	24,613

[1] - Based on rated heat input and 1,020 BTU/SCF for natural gas

EUG 5 Small Boiler Emissions

EU	NO_X		CO		VOC		PM_{10}		SO_2	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
10	2.46	10.78	2.07	9.06	0.14	0.60	0.19	0.82	0.01	0.06

EUG 6 – Spark Ignition Engines

NOx, CO, and VOC emissions from the EUG 6 engines were based on New Source Performance Standards (NSPS) Subpart JJJJ Table 1 Emergency Engines, the engine rating, and 500 hours per year operation. PM and SO_2 emission factors were based on AP-42 (7/00) Table 3.2-2, the engine rating, and 500 hours per year operation. PM and SO_2 emissions are negligible.

EUG 6 Engines Emission Factors

hp	NO_X (g/hp-hr)	CO (g/hp-hr)	VOC (g/hp-hr)	PM (lb/MMBtu)	SO_2 (lb/MMBtu)
≥130	2	4	1	7.71E-05	5.88E-04
>25; <130	9	387	1	7.71E-05	5.88E-04

EU	NO_X		CO		VOC		PM		SO_2	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
MCPA	3.40	0.85	6.79	1.70	1.70	0.42	0.12	0.03	0.004	0.001
ATRC	1.15	0.29	2.30	0.58	0.58	0.14	0.04	0.01	0.001	0.000
PDC	1.14	0.29	2.28	0.57	0.57	0.14	0.04	0.01	0.001	0.000
LTHA II	3.40	0.85	6.79	1.70	1.70	0.42	0.12	0.03	0.004	0.001
CEL	1.15	0.29	2.30	0.58	0.58	0.14	0.04	0.01	0.001	0.000
NRD	1.33	0.33	2.66	0.67	0.67	0.17	0.05	0.01	0.001	0.000
FPPO	0.59	0.15	1.17	0.29	0.29	0.07	0.02	0.01	0.001	0.000
SU 1	1.73	0.43	3.47	0.87	0.87	0.22	0.06	0.02	0.002	0.000
SU 2	1.73	0.43	3.47	0.87	0.87	0.22	0.06	0.02	0.002	0.000
LA	1.55	0.39	3.10	0.77	0.77	0.19	0.05	0.01	0.002	0.000
UCN	0.96	0.24	1.92	0.48	0.48	0.12	0.03	0.01	0.001	0.000
BCEL	1.43	0.36	61.43	15.36	0.16	0.04	0.01	0.00	0.000	0.000
HBRC	5.07	1.27	10.14	2.54	2.54	0.63	0.18	0.04	0.005	0.001
CDS2	0.77	0.19	1.53	0.38	0.38	0.10	0.03	0.01	0.001	0.000
ANP	1.01	0.25	2.01	0.50	0.50	0.13	0.04	0.01	0.001	0.000
NFAH	2.07	0.52	4.14	1.04	1.04	0.26	0.07	0.02	0.002	0.001
ES	2.07	0.52	4.14	1.04	1.04	0.26	0.07	0.02	0.002	0.001
B	1.33	0.33	2.66	0.67	0.67	0.17	0.05	0.01	0.001	0.000
NC	0.77	0.19	1.55	0.39	0.39	0.10	0.03	0.01	0.001	0.000
LSW	1.19	0.30	2.38	0.60	0.60	0.15	0.04	0.01	0.001	0.000
OADDL	2.21	0.55	4.43	1.11	1.11	0.28	0.08	0.02	0.002	0.001
Totals	**36.05**	**9.01**	**130.68**	**32.67**	**17.47**	**4.37**	**1.04**	**0.31**	**0.037**	**0.009**

EUG 7 – Insignificant Existing Engines

Emissions were estimated based on emission factors from AP-42 (7/00) Section 3.2 for the natural gas-fired engines (using the highest factor from the factors for 2SLB, 4SLB, or 4SRB and 8,000 BTU/hp-hr) and AP-42 (10/96) Section 3.3 or AP-42 (10/96) Section 3.4 for the diesel-fired engines, the total rated horsepower, and 500 hours per year operation. The total horsepower of the SI engines is 8,046 and the total horsepower for the CI engines is 1,018.

EUG 7 SI Engine Emission Factors

Engine Type	NO_X (lb/MMBtu)	CO (lb/MMBtu)	VOC (lb/MMBtu)	PM (lb/MMBtu)	SO_2 (lb/MMBtu)
SI Engines	4.08	3.72	0.120	0.0483	5.88E-04

EUG 7 CI Engine Emission Factors

Engine Type	NO_X (lb/hp-hr)	CO (lb/hp-hr)	VOC (lb/hp-hr)	PM (lb/hp-hr)	SO_2 (lb/hp-hr)
CI Engines	0.031	0.00668	0.00247	0.0022	0.00205

EUG 7 Emissions

Point	NO_X		CO		VOC		PM		SO_2	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
SI Engines	262.62	65.66	239.45	59.86	7.72	1.93	3.11	0.78	0.04	0.01
CI Engines	25.05	6.26	5.70	1.43	0.87	0.22	0.84	0.21	0.82	0.21
Totals	**287.67**	**71.92**	**245.15**	**61.29**	**8.60**	**2.15**	**3.95**	**0.99**	**0.86**	**0.22**

TANKS

Working and breathing emissions from the fuel oil tanks were estimated using the methods of AP-42 (4/20), Section 7.1. The fuel oil tanks are considered an insignificant activity.

Facility-wide Potential Emissions Scenario I
(EUG 2 Using Natural Gas)

EUG	NO_X		CO		VOC		PM_{10}		SO_2	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
2	25.95	113.67	21.80	95.48	1.45	6.37	1.97	8.64	0.16	0.68
3	24.56	6.14	14.93	3.73	2.73	0.68	0.85	0.21	0.00	0.00
5	2.46	10.78	2.07	9.06	0.14	0.60	0.19	0.82	0.01	0.06
6	36.05	9.01	130.68	32.67	17.47	4.37	1.04	0.31	0.04	0.01
7	287.67	71.92	245.15	61.29	8.60	2.15	3.95	0.99	0.86	0.22
Totals	**376.69**	**211.52**	**414.63**	**202.23**	**30.39**	**14.17**	**8.00**	**10.97**	**1.07**	**0.97**

Facility-wide Potential Emissions Scenario II
(EUG 2 Using No. 2 Fuel Oil; 0.01 % wt S)

EUG	NO_X		CO		VOC		PM_{10}		SO_2	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
2	35.93	157.38	8.98	39.34	0.61	2.68	5.93	25.97	2.55	11.17
3	24.56	6.14	14.93	3.73	2.73	0.68	0.85	0.21	0.00	0.00
5	2.46	10.78	2.07	9.06	0.14	0.60	0.19	0.82	0.01	0.06
6	36.05	9.01	130.68	32.67	17.47	4.37	1.04	0.31	0.04	0.01
7	287.67	71.92	245.15	61.29	8.60	2.15	3.95	0.99	0.86	0.22
Totals	**386.67**	**255.23**	**401.81**	**146.09**	**29.55**	**10.48**	**11.96**	**28.30**	**3.46**	**11.46**

Changes in Emissions From Permit No. 2011-102-TVR2 (M-2) Scenario I

Limits	NO_X		CO [1]		VOC		PM_{10}		SO_2	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Old	460.67	259.71	114.69	127.40	28.35	13.54	9.06	11.21	9.84	3.19
New	376.69	211.52	414.63	202.23	30.39	14.17	8.00	10.97	1.07	0.97
Changes	**-83.98**	**-48.19**	**299.94**	**74.83**	**2.04**	**0.63**	**-1.06**	**-0.24**	**-8.77**	**-2.22**

[1] - Increases in CO emission due to change in emission factors for EUG 6 and 7 to worse case emission factors.

Changes in Emissions From Permit No. 2011-102-TVR2 (M-2) Scenario II

Limits	NO_X		CO [1]		VOC		PM_{10}		SO_2	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Old	469.91	273.22	101.68	70.45	27.44	9.61	10.6	17.96	12.15	13.28
New	386.67	255.23	401.81	146.09	29.55	10.48	11.96	28.30	3.46	11.46
Changes	**-83.24**	**-17.99**	**300.13**	**75.64**	**2.11**	**0.87**	**1.36**	**10.34**	**-8.69**	**-1.82**

[1] - Increases in CO emission due to change in emission factors for EUG 6 and 7 to worse case emission factors.

SECTION VII. INSIGNIFICANT ACTIVITIES (ISA)

The insignificant activities identified and justified in the application and listed in OAC 252:100-8, Appendix I, are listed below. Recordkeeping for activities indicated with "*" is required in the Specific Conditions. Any activity to which a state or federal applicable requirement applies is not insignificant, even if it is on the list.

1. *Stationary reciprocating engines burning natural gas, gasoline, aircraft fuels, or diesel fuel which are either used exclusively for emergency power generation or for peaking power service not exceeding 500 hours/year. The emergency engines qualifying as ISA are listed in EUG 7. These engines are not subject to NESHAP Subpart ZZZZ because this facility meets the definition of institution.
2. Space heaters, boilers, process heaters, and emergency flares less than or equal to 5 MMBTU/hr heat input (commercial natural gas). An insignificant boiler is located in the Food and Agricultural Process Center (FAPC).
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 distillate fuel oil and have an average throughput of 284 gallons/day.
4. * Surface coating operations which do not exceed a combined total usage of more than 60 gallons/month of coatings, thinners, and clean-up solvents at any one emission unit. Surface coating is conducted at the facility and approximately 53 gallons per month is used at the paint booth.
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.

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.

All applicable requirements have been incorporated into the permit. Emissions limits and standards have been based on applicable standards or requested limits in the previous permits or applications.

Review of the changes requested in the application for Permit No. 2011-102-TVR2 (M-3) determined it qualified as a minor modification to the Title V operating permit. The physical changes did not meet any of the criteria under OAC 252:100-8-7.2(b)(2)(A) for "significance" as contained in Subchapter 8 rules prior to the changes of September 15, 2021.

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

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

OAC 252:100-19 (Particulate Matter) [Applicable]
Section 19-4 regulates emissions of PM from new and existing fuel-burning equipment, with emission limits based on maximum design heat input rating. Fuel-burning equipment is defined in OAC 252:100-19 as any internal combustion engine or gas turbine, or other combustion device used to convert the combustion of fuel into usable energy. Thus, the engines and boilers are subject to the requirements of this subchapter. OAC 252:100, Appendix C specifies a PM emission limitation of 0.60-lbs/MMBtu for all equipment with a heat input rating of 10-MMBtu/hr or less. OAC 252:100, Appendix C specifies a PM emission limitation for all equipment at this facility with a heat input rating of greater than 10-MMBtu/hr but less than 1,000-MMBtu/hr based on the following calculation: $E = 1.0428080X^{-0.238561}$, where E is the allowable emission rate and X is the maximum heat input. AP-42 (7/98), Table 1.4-2, lists the PM emissions from natural gas combustion to be 7.6 lb/MMft^3 or 0.00745 lb/MMBtu. AP-42 (10/96), Table 1.3-2, lists the total PM emissions for industrial boilers burning fuel oil to be 2 lb/1,000 gallons or about 0.014 lb/MMBtu. AP-42 (10/96), Table 3.3-1, list the PM_{10} emissions from uncontrolled diesel engines at 0.31 lb/MMBtu. AP-42 (7/00), Section 3.2 lists the total PM emissions for engines burning natural gas, as 0.02 lb/MMBtu. The permit will require the use of natural gas or distillate fuel (No. 2 fuel oil) for all fuel-burning equipment to ensure compliance with Subchapter 19.

Point	Equipment	Maximum Heat Input (MMBtu/hr)	Emissions (lb/MMBtu)	
			Appendix C	Potential
10	Cleaver-Brooks CB700-600 Boiler	25.106	0.483	0.0076 for natural gas; 0.014 for No. 2 fuel oil
11	English Boiler 60 DR 250 Boiler	72.19	0.376	
12	English Boiler 60 DR 250 Boiler	72.19	0.376	
13	English Boiler 60 DR 250 Boiler	72.19	0.376	
14	English Boiler 40 DR 250 Boiler	48.14	0.414	

This subchapter also limits emissions of PM from industrial processes. There are no significant PM emissions from any industrial activities at this facility.

OAC 252:100-25 (Visible Emissions and Particulates 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 concentration of hydrogen sulfide (H_2S) emissions from any facility to 0.2 ppmv (24-hour average) at standard conditions which is equivalent to 283 $\mu g/m^3$. Fuel-burning equipment fired with pipeline natural gas or fuel oil will not have the potential to exceed the H_2S ambient air concentration limit.
Part 5 limits sulfur dioxide emissions from new fuel-burning equipment (constructed after July 1, 1972). The boilers are subject to the new equipment standard which limits sulfur dioxide emissions from gaseous fuels to 0.2 lb/MMBtu. 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 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. Liquid fuels are limited to 0.8 lb/MMBtu. AP-42 (5/10), Table 1.3-1, lists the SO_2 emissions for distillate fuel oil to be 142*S lb/10^3 gallons where S is the weight percent of sulfur in the fuel oil. At a fuel oil sulfur concentration of 0.01 weight percent and a heat content of 140 MMBTU/10^3 gallons, this equates to 0.01 lb/MMBtu which is in compliance with this limit. AP-42 (10/96), Table 3.4-1, lists the SO_2 emissions for diesel fired engines to be 1.01*S lb/MMBtu where S is the weight percent of sulfur in the fuel oil. At a fuel oil sulfur concentration of 0.01 weight percent, this equates to 0.01 lb/MMBtu which is in compliance with this limit. To ensure compliance with Subchapter 31, the permit will require the use of pipeline natural gas and low sulfur fuel oil (diesel) (with a sulfur content of 100 ppm or less) for equipment subject to OAC 252:100-31 limitations.

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 MMBtu/hr or greater. The following boilers were constructed after the effective date of this rule and are rated greater than 50 MMBtu/hr.

Point	Equipment	Maximum Heat Input (MMBtu/hr)	Emissions (lbs/MMBtu)	
			SC 33	Potential
11	English Boiler 60 DR 250 Boiler	72.19	0.2	0.1
12	English Boiler 60 DR 250 Boiler	72.19	0.2	
13	English Boiler 60 DR 250 Boiler	72.19	0.2	

All other fuel-burning equipment have a rated heat input of 50 MMBtu/hr or less.

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 have the physical equipment (loading arm and pump) to conduct this type of loading and is not subject to this requirement.

Part 5 limits the VOC content of coatings from any coating line or other coating operation. This facility 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 so as to minimize VOC emissions. 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.

OAC 252:100-42 (Toxic Air Contaminants (TAC)) [Applicable]
This subchapter regulates TAC that are emitted into the ambient air in areas of concern (AOC). Any work practice, material substitution, or control equipment required by the Department prior to June 11, 2004, to control a TAC, shall be retained unless a modification is approved by the Director. Since no AOC has been designated anywhere in the state, 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 boilers will be subject to testing as required by NSPS Subpart Dc and NESHAP Subpart JJJJJJ.

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 to This Modification]
Total potential emissions for NO_X are greater than the major source threshold of 250 TPY. Any future emission increases must be evaluated for PSD if they exceed a significance level (100 TPY CO, 40 TPY NO_X, 40 TPY VOC, 40 TPY SO_2, 25 TPY PM, 15 TPY PM_{10}, 15 TPY PM_{10}).

The modifications requested in the application for Permit No. 2011-102-TVR2 (M-3) (addition of the emergency generator engines) do not trigger PSD review as indicated in the table below.

Project Emission Increases

Sources	NO_X	CO	VOC
	TPY	**TPY**	**TPY**
Generac Model SG0150KG	0.25	0.50	0.13
Cummins Model KTA 19G SLB	0.52	1.04	0.26
Cummins Model KTA 19G	0.52	1.04	0.26
Project Totals	**1.29**	**2.58**	**0.65**
SER	**40.0**	**100.0**	**40.0**
Trigger PSD or not	**No**	**No**	**No**

NSPS, 40 CFR Part 60 [Subparts Dc, IIII and JJJJ Applicable]
Subpart Db, Industrial-Commercial-Institutional Steam Generating Units. This subpart affects steam generating units that have a heat input capacity greater than 100 MMBtu/hr which are constructed, modified, or reconstructed after June 19, 1984. All of the boilers are below the threshold size of 100 MMBtu/hr.

Subpart Dc, Small Industrial-Commercial-Institutional Steam Generating Units. This subpart affects steam generating units with a maximum design heat input capacity between 10 and 100 MMBtu/hr which are constructed, modified, or reconstructed after June 9, 1989. The boilers in EUG 2 and EUG 5 are subject to this subpart. EU 10 burns natural gas exclusively and is only subject to the fuel usage recordkeeping requirements of this subpart. The other boilers in EUG 2 combust low sulfur oil (<0.01 weight percent sulfur) in emergencies and are subject to the fuel oil sulfur content limits, opacity, and reporting requirements. Otherwise, they are fueled with natural gas and are also subject to the fuels usage recordkeeping requirements of this subpart.

The owner or operator of an affected facility that combusts oil shall not cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of 0.50 lb/MMBtu or as an alternative, the owner or operator of an affected facility that combusts oil shall not combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements of §60.42c are not applicable to affected facilities combusting oil that contains less than or equal to 0.5% by weight sulfur. For distillate oil-fired affected facilities with heat input capacities between 10 and 100 MMBtu/hr, compliance with the fuel oil sulfur limits under §60.42c(d) may be determined based on a certification from the fuel supplier, as described under § 60.48c(f).

When combusting oil, the owner or operator of an affected facility that combusts oil and has a heat input capacity of 30 MMBtu/hr or greater shall not cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. The opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction.

An owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.50 weight percent sulfur and not using a post-combustion technology to reduce PM or SO_2 emissions is not subject to the PM limit in §60.43c.

The owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day. As an alternative the owner or operator of an affected facility that combusts only natural gas or fuels using fuel certification in § 60.48c(f) to demonstrate compliance with the SO_2 standard may elect to record and maintain records of the amount of each fuel combusted during each calendar month. The owner or operator of multiple affected facilities located on a contiguous property may elect to record and maintain records of the total amount of fuel delivered to that property during each calendar month.

Per §60.48c(f)(1), the distillate fuel oil supplier certification shall include the following information:

(i) The name of the oil supplier;
(ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in § 60.41c; and
(iii) The sulfur content or maximum sulfur content of the oil.

The owner or operator of each affected facility subject to the fuel oil sulfur limits under § 60.42c shall submit reports to the Administrator. The reporting period for the reports required is each six-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period. All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record. All applicable requirements have been incorporated into the permit.

Subpart Kb, VOL Storage Vessels. This subpart affects VOL storage vessels greater than or equal to 19,813-gallons but less than 39,890-gallons that store VOL with a vapor pressure greater than 1.5 psia and which are constructed, modified, or reconstructed after July 23, 1984. The fuel oil (diesel) storage vessels are not subject to this subpart since the vapor pressure is less than 1.5 psia and EU 18 is less than 19,813-gallons.

Subpart GG, Stationary Gas Turbines. There are no stationary gas turbines at this facility.

Subpart IIII, Stationary Compression Ignition Internal Combustion Engines. This subpart affects compression ignition (CI) internal combustion engines (ICE) based on power and displacement ratings, depending on date of construction, beginning with those constructed, modified, or

reconstructed after July 11, 2005. This subpart affects engines that were manufactured after April 1, 2006 that are not fire pump engines. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

OSU currently has eight emergency generators that are classified as CI (diesel-fired) ICE, two in EUG 3 and six existing emergency generators. The two CI-ICE in EUG 3 commenced constructed after July 11, 2005 and are subject to this subpart.

EU	Point	Alternator/Engine Make & Model	HP (kW)	Const. Date
Bldg. # 0670	Water Treatment Plant	Generac / Doosan SD500 / Unknown	752 (561)	9/29/2008
Bldg. # 0282	Central Plant	Kohler / PSI KD 1000 / Unknown	1,494 (1,114)	12/13/2017
Bldg. # 0107	Vet. Med. Teaching Hospital 1	Cummins / Cummins DOOAC-1490807	348 (300)	7/9/2014

2007 model year and later emergency CI ICE with a maximum engine power less than or equal to 3,000-hp with a displacement of less than 10 liters per cylinder that are not fire pump engines must comply with the Tier 2 or Tier 3 emission standards for new nonroad CI engines as described in 40 CFR Part 1039, Appendix I, for all pollutants, and the smoke standards as specified in §1039.105. These two engines are subject to the following standards:

Table 2 to Appendix I - Tier 2 Emission Standards (g/kW-hr)

Rated power (kW)	Model year	NO_X+NMHC	CO	PM
kW > 560	2006	6.4	3.5	0.20

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.

Beginning October 1, 2010, owners and operators of CI ICE subject to this subpart 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 (i.e., a maximum sulfur content of 15 ppmw).

The owner or operator of an emergency CI-ICE, that does not meet the standards applicable to non-emergency engines for the applicable model year, must install a non-resettable hour meter prior to startup of the engine. The owner or operator must keep records of the operation of the emergency CI-ICE in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

OSU purchased manufacturer certified CI-ICE and must operate and maintain the CI-ICE and control devices according to the manufacturer's emission-related written instructions and change only those emission-related settings that are permitted by the manufacturer. OSU must also meet the requirements of 40 CFR Part 1068, as they apply. If the owner operator does not install, configure, operate, and maintain the CI-ICE and control device according to the manufacturer's emission-related written instructions, or if they change emission-related settings in a way that is not permitted by the manufacturer, for engines greater than 500-hp compliance with the standards must be demonstrated as specified in § 60.4211(g):

1) keep a maintenance plan and records of conducted maintenance;
2) to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions;
3) for ICE > 100-hp, conduct an initial performance test within 1 year of startup, or after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or after the emission-related settings are changed in a way that is not permitted by the manufacturer; and
4) for ICE > 500-hp, conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first.

If a CI-ICE is equipped with a diesel particulate filter, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached. The owner or operator must keep records of any corrective action taken after the backpressure monitor indicates that the high backpressure limit of the engine was approached.

Emergency ICE, must operate according to the following requirements, in order for the engine to be considered an emergency ICE:

(f)(2) Operation is limited to a maximum of 100 hours per calendar year for any combination of the purposes specified in § 60.4211(f)(2)(i) through (iii).
(f)(3) Any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for more than 50 hours per year is prohibited.
(f)(1) There is no time limit on the use of emergency ICE in emergency situations.

Initial notification for emergency ICE is not required. If the emergency CI-ICE with a maximum engine power more than 100-hp that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 60.4211(f)(2)(ii) and (iii) or that operates for the purposes specified in § 60.4211(f)(3)(i), the owner or operator must submit an annual report according to the requirements in § 60.4214(d)(1) through (3). All applicable requirements have been incorporated into the permit.

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

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

OSU currently has 68 emergency generators driven by natural gas-fired SI ICE. Twenty one (21) of these emergency generator engines were constructed after June 12, 2006, and eighteen (18) were manufactured after January 1, 2009, and are subject to this subpart.

EU	Alternator/Engine Make & Model	HP (kW)	Manufacture Date
McKnight Center for the Performing Arts	Onan / Cummins GFGB / GTA28	770 (500)	11/2017
Advanced Technology Research Center	Blue Star PSI / PSI 150-01 / 431CSL6202	261 (150)	6/2018
Power Distribution Center	Kohler / PSI 150REZGC / 263213.17	259 (150)	12/19/2019
Long Term Housing Annex II	Onan / Cummins UNK / GTA28	770 (450)	11/2016
CEAT Endeavor Lab	Kohler / PSI 150REZGC / 8.8L	261 (150)	9/21/2017
Nancy Randolph Davis	Kohler / PSI 180REZXB / D111L	302 (225)	1/27/2015
Fire Protection Publications Office (Outside)	Generac / PSI 60REGZB / 5.7L	133 (100)	7/25/2017
Student Union 1	Generac / Generac 12773300100	393 (250)	6/6/2011
Student Union 2	Generac /Generac 12773300100	393 (250)	6/6/2011
Library Auxiliary	Marathon / PSI MTU / D111L	351 (235)	1/21/2014
University Commons (North)	Cummins/ PSI 150 GFPA / 8.8L CAC	218 (162)	9/1/2014
Bert Cooper Engineering Laboratory	Onan / Ford 60RZ282 / 3.0L 71452	72 (60)	4/1/2014
Central Dining Services (2)	Generac / Ford 12340150100	174	09/24/2010
Animal Nutrition and Physiology	Generac / Generac 3005541067	228	01/21/2020
New Frontier Ag Hall	Cummins / Cummins KTA 19G SLB	470	12/2021
Engineering South	Cummins /Cummins KTA 19G SLB	470	12/2021
Business	Kohler / PSI 200REZXB / D111L	302	1/23/2015

EU	Alternator/Engine Make & Model	HP (kW)	Manufacture Date
Life Sciences West	Generac / Generac SGB150GGLB 18202300100	270	12/22/2014

Owners and operators of SI ICE with a maximum engine power ≤ 25-hp, manufactured on or after July 1, 2008, or modified or reconstructed after June 12, 2006, must comply with the emission standards in § 60.4231(a). The two engines subject to these standards are subject to the Class I (< 225 cc) Phase 3 emission standards of 40 CFR Part 1054. OSU must also meet the requirements of 40 CFR Part 1068, as they apply.

Table 1 to § 1054.105 - Phase 3 Emission Standards (g/kW-hr)

Engine Class	HC + NOX	CO
Class I	10.0	610
Class II	8.0	610

Owners and operators of emergency SI ICE with a maximum engine power > 25-hp manufactured on or after January 1, 2009, or modified or reconstructed after June 12, 2006, must comply with the emission standards in Table 1 of Subpart JJJJ.

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[d]
Emergency	25<HP<130	1/1/2009	[c] 10	387	N/A
	HP≥130		2.0	4.0	1.0

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

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

For SI ICE with a maximum engine power ≥ 100-hp and manufactured prior to January 1, 2011, that were certified to the CO emission standards in 40 CFR Part 1048 applicable to severe duty engines then those SI ICE may meet the CO certification (not field testing) standard for which the engine was certified.

The owner or operator of an emergency SI-ICE, that does not meet the standards applicable to non-emergency engines, must install a non-resettable hour meter prior to startup of the engine. The owner or operator must keep records of the hours of operation of the emergency SI-ICE that are recorded through the non-resettable hour meter. The owner must document 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.

OSU purchased manufacturer certified SI-ICE and must operate and maintain the SI-ICE and control devices according to the manufacturer's emission-related written instructions, keep records of conducted maintenance to demonstrate compliance, and change only those emission-related settings that are permitted by the manufacturer. If the owner operator does not operate and maintain

the SI-ICE and control device according to the manufacturer's emission-related written instructions, or if they change emission-related settings in a way that is not permitted by the manufacturer, the engine is considered a non-certified engine and must demonstrate compliance as specified in § 60.4243(a)(2):

1) keep a maintenance plan and records of conducted maintenance;
2) to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions;
3) for ICE > 100-hp, conduct an initial performance test within 1 year of startup, or after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or after the emission-related settings are changed in a way that is not permitted by the manufacturer; and
4) for ICE > 500-hp, conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first.

It is expected that air-to-fuel ratio controllers will be used with the operation of three-way catalysts/non-selective catalytic reduction. The AFR controller must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times.

Emergency ICE, must operate according to the following requirements, in order for the engine to be considered an emergency ICE:

(d)(2) Operation is limited to a maximum of 100 hours per calendar year for any combination of the purposes specified in § 60.4243(d)(2)(i) through (iii).
(d)(3) Any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for more than 50 hours per year is prohibited.
(d)(1) There is no time limit on the use of emergency ICE in emergency situations.

Initial notification for manufacturer certified engines ICE is not required. If the emergency SI-ICE with a maximum engine power more than 100-hp that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 60.4243(d)(2)(ii) and (iii) or that operates for the purposes specified in § 60.4243(d)(3)(i), the owner or operator must submit an annual report according to the requirements in § 60.4245(e)(1) through (3). All applicable requirements have been incorporated into the permit.

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

NESHAP, 40 CFR Part 63 [Subparts ZZZZ, CCCCCC, and JJJJJJ 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 HAPs. This facility is not a major source of HAPs.

Subpart ZZZZ, Stationary Reciprocating Internal Combustion Engines. This subpart applies to reciprocating internal combustion engines (RICE) located at major and area sources of HAPs emissions. This facility is currently classified as an area source of HAP emissions.

Existing institutional emergency RICE are not subject to this subpart as long as they 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) [NERC emergency demand response periods] and (iii) [deviation of voltage or frequency] and they do not operate for the purpose specified in § 63.6640(f)(4)(ii) [i.e., financial arrangement for peak shaving]. A RICE at an area source is existing if construction or reconstruction commenced before June 12, 2006. Institutional emergency RICE means an emergency RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations. The emergency generator RICE located at OSU are considered institutional emergency stationary RICE. To be exempt the 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).

Emergency ICE, must operate according to the following requirements, in order for the engine to be considered an emergency ICE:

(f)(2) Operation is limited to a maximum of 100 hours per calendar year for any combination of the purposes specified in § 63.6640(f)(2)(i) through (iii).
(f)(3) Any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for more than 50 hours per year is prohibited.
(f)(1) There is no time limit on the use of emergency ICE in emergency situations.

The emergency generator engines in EUG 3 and 6 are considered new RICE subject to this subpart and comply with this subpart by complying with NSPS Subparts IIII and JJJJ, as applicable. All applicable requirements have been incorporated into the permit.

Subpart CCCCCC, Gasoline Dispensing Facilities (GDF) at Area Sources. This subpart establishes emission limitations and management practices for HAP emitted from the loading of gasoline storage tanks at GDF. OSU is an area source of HAP and dispenses unleaded gasoline to university-owned vehicles; therefore, OSU is subject to the requirements of this subpart.

The gasoline throughput at OSU is less than 10,000-gallons a month based on the annual average. The requirements specified in §63.11116(a) are applicable to facilities with a throughput of less than 10,000-gallons per month. The facility must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time and must take measures including but 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; and

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

All applicable requirements have been incorporated into the permit.

Subpart JJJJJJ, Industrial, 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 and only burns liquid fuels during periods of gas curtailment, gas supply interruption, startup, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year. OSU is currently classified as an area source of HAP emissions. OSU has indicated that they will not operate each boiler when firing liquid fuel for more than 48 hours for the purpose of periodic testing, maintenance, or operator training. Other than periodic testing, maintenance, or operator training, OSU only operates the boilers when firing liquid fuel for emergencies. Therefore, the boilers will not be 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 of 100 TPY

None of the emission units except for possibly the engines use a control device to achieve compliance with an applicable emission limit. The pre-control emissions from the engines are less than the major source thresholds.

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/rmp/*.

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 XI. COMPLIANCE

Inspection

A list of the full compliance evaluations (FCE) and partial compliance evaluations (PCE) performed since issuance of the last Part 70 operating permit (Permit No. 2011-102-TVR2 issued on 12/17/2014) are shown below.

ID	Date	Inspector	Possible Violations	Comments
09345	6/17/2021	Holly Taber	Processing	Offsite FCE
50632	8/28/2019	Jason Ballard	N/A	PCE Testing Protocol
08644	5/9/2019	Chris Laley	Yes	On-site FCE SAR/ACC Late
41487	7/10/17	Chris Laley	N/A	PCE Testing Protocol
07670	12/1/2016	Jon Livermore	None Identified	On-site FCE
07097	6/29/2015	Richard Palmer	None Identified	On-Site FCE

Enforcement case ID #9893 related to FCE on May 9, 2019, was closed on October 13, 2021.

Tier Classification

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

The applicant 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 real property.

Public Review
Information on all permit actions is available for review by the public in the Air Quality Section of DEQ Web Page: https://www.deq.ok.gov/.

The applicant published a "Notice of Filing a Tier II Application" on July 11, 2019, in the Stillwater News Press a daily newspaper in Payne County. The notice stated that a copy of the application was available for public review at the Stillwater Public Library located at 1107 S. Duck Street, Stillwater, OK 74078, and at the Oklahoma City office of the Air Quality Division.

The applicant will publish the "Notice of Tier II Draft Permit" as a legal notice in a newspaper of general circulation in the county where the source is located. The notice will state that a copy of the draft permit will be made available for public review for a period of 30 days at a public location in Payne County, at the AQD main office, and on the Air Quality section of the DEQ website: https://www.deq.ok.gov/.

EPA Review
Upon completion of public review, the proposed permit will be sent to EPA for a 45-day review.

State Review
This facility is not located within 50 miles of the border with a contiguous state.

Tribal Review
Tribal Nations will be notified of the draft permit.

Fees Paid
An application fee of $7,500 has been paid for renewal of a Part 70 operating permit and an application fee of $3,000 has been paid for the minor modification associated with Permit No. 2011-102-TVR2 (M-3).

SECTION XII. SUMMARY

The facility is constructed 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. Issuance of the operating permit is recommended, contingent upon public and EPA review.

PERMIT TO OPERATE
AIR POLLUTION CONTROL FACILITY
SPECIFIC CONDITIONS

Oklahoma State University **Permit No. 2019-0538-TVR3**
OSU Stillwater **Facility ID: 2330**

The permittee is authorized to operate in conformity with the specifications submitted to Air Quality on April 29, 2019, and all supplemental submittals. The Evaluation Memorandum, dated May 19, 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 emissions limitations for each point: [OAC 252:100-8-6 (a)(1)]

EUG 2: Central Plant Boilers

EU	Point	Manufacturer	MMBtu/hr
11	11	English Boiler 60 DR 250	72.19
12	12	English Boiler 60 DR 250	72.19
13	13	English Boiler 60 DR 250	72.19
14	14	English Boiler 40 DR 250	48.14

The emissions from the central plant boilers shall be limited as follows [(1)]:

EU	NO_X		CO		VOC		PM_{10}		SO_2	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
11	9.60	42.05	5.95	26.04	0.39	1.70	0.96	4.20	0.67	2.94
12	9.60	42.05	5.95	26.04	0.39	1.70	0.96	4.20	0.67	2.94
13	9.60	42.05	5.95	26.04	0.39	1.70	0.96	4.20	0.67	2.94
14	6.40	28.03	3.96	17.36	0.26	1.14	0.64	2.80	0.45	1.96

[(1)] Emissions limitations are based on the worst-case PTE for each operating scenario.

a. For Scenario I, EUs 11 through 14 shall only be fired with pipeline natural gas. Compliance can be shown by the following methods: for pipeline natural gas, a current gas company bill; for other gaseous fuel, a current lab analysis, stain-tube analysis, gas contract, tariff sheet, or other approved methods. Compliance shall be demonstrated at least once per calendar year. [OAC 252:100-31]

b. For Scenario II, EUs 11 through 14 shall only be fueled with No. 2 fuel oil with a maximum sulfur content of 0.01% by weight. Compliance can be shown by providing receipts that verify the sulfur content of the fuel oil for each delivery. [OAC 252:100-31]

c. The permittee shall conduct daily visual observations (Method 22) of the exhausts associated with the emission units burning fuel oil 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 owner/operator shall comply with all applicable requirements of 40 CFR Part 60 Subpart Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, for each affected unit including but not limited to:

[40 CFR § 60.40c through § 60.48c]

(1) § 60.40c Applicability and delegation of authority.
(2) § 60.41c Definitions.
(3) § 60.42c Standard for sulfur dioxide (SO_2).
(4) § 60.43c Standard for particulate matter (PM).
(5) § 60.44c Compliance and performance test methods and procedures for sulfur dioxide.
(6) § 60.45c Compliance and performance test methods and procedures for particulate matter.
(7) § 60.46c Emission monitoring for sulfur dioxide.
(8) § 60.47c Emission monitoring for particulate matter.
(9) § 60.48c Reporting and recordkeeping requirements.

e. The owner/operator shall comply with all applicable requirements of 40 CFR Part 63, NESHAP, Subpart JJJJJJ: Industrial, Commercial, and Institutional Boilers at Area Sources, for each affected unit including but not limited to:

[40 CFR § 63.11193 through § 63.11226]

(1) §63.11193 Am I subject to this subpart?
(2) §63.11194 What is the affected source of this subpart?
(3) §63.11195 Are any boilers not subject to this subpart?
(4) §63.11196 What are my compliance dates?
(5) §63.11200 What are the subcategories of boilers?
(6) §63.11201 What standards must I meet?
(7) §63.11205 What are my general requirements for complying with this subpart?
(8) §63.11210 What are my initial compliance requirements and by what date must I meet them?
(9) §63.11211 How do I demonstrate initial compliance with the emission limits?
(10) §63.11212 What stack tests and procedures must I use for the performance tests?
(11) §63.11213 What fuel analyses and procedures must I use for the performance tests?
(12) §63.11214 How do I demonstrate initial compliance with the work practice standard, emission reduction measures, and management practice?
(13) §63.11220 When must I conduct subsequent performance tests or fuel analyses?
(14) §63.11221 Is there a minimum amount of monitoring data I must obtain?
(15) §63.11222 How do I demonstrate continuous compliance with the emission limit?
(16) §63.11223 How do I demonstrate continuous compliance with the work practice and management practice standards?
(17) §63.11224 What are my monitoring, installation, operation, and maintenance requirements?
(18) §63.11225 What are my notification, reporting, and recordkeeping requirements?
(19) §63.11235 What parts of the General Provision apply to me?
(20) §63.11236 Who implements and enforces this subpart?
(21) §63.11237 What are my notification, reporting, and recordkeeping requirements?

EUG 3: Internal Combustion Compression Ignition Engines

EU	Point	Alternator/Engine Make & Model	HP (kW)
Building # 0670	Water Treatment Plant	Generac / Doosan SD500 / Unknown	752 (561)
Building # 0282	Central Plant	Kohler / PSI KD 1000 / Unknown	1,494 (1,114)
Building # 0107	Vet. Med. Teaching Hospital 1	Cummins / Cummins DOOAC-1490807	348 (300)

a. The owner/operator shall comply with all applicable requirements of 40 CFR Part 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, including but not limited to: [40 CFR §60.4200 through §60.4219]
   (1) §60.4200 Am I subject to this subpart?
   (2) §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?
   (3) § 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?
   (4) §60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?
   (5) §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?
   (6) §60.4208 What is the deadline for importing and installing stationary CI ICE produced in the previous model year?
   (7) §60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?
   (8) §60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?
   (9) §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?
   (10) §60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?
   (11) §60.4218 What parts of the General Provisions apply to me?

b. The owner/operator shall comply with all applicable requirements of 40 CFR Part 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, including but not limited to:
[40 CFR § 63.6580 through § 63.6675]
   (1) § 63.6580 What is the purpose of subpart ZZZZ?
   (2) § 63.6585 Am I subject to this subpart?
   (3) § 63.6590 What parts of my plant does this subpart cover?
   (4) § 63.6595 When do I have to comply with this subpart?
   (5) § 63.6603 What emission limitations and operating limitations must I meet?
   (6) § 63.6605 What are my general requirements for complying with this subpart?

(7) § 63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations?
(8) § 63.6615 When must I conduct subsequent performance tests?
(9) § 63.6620 What performance tests and other procedures must I use?
(10) § 63.6625 What are my monitoring, installation, operation, and maintenance requirements?
(11) § 63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?
(12) § 63.6635 How do I monitor and collect data to demonstrate continuous compliance?
(13) § 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?
(14) § 63.6645 What notifications must I submit and when?
(15) § 63.6650 What reports must I submit and when?
(16) § 63.6655 What records must I keep?
(17) § 63.6660 In what form and how long must I keep my records?
(18) § 63.6665 What parts of the General Provisions apply to me?
(19) § 63.6670 Who implements and enforces this subpart?
(20) § 63.6675 What definitions apply to this subpart?

EUG 4: Storage Tanks

Storage tank VOC emissions are estimated based on existing equipment items and are considered insignificant.

Point	Contents	Barrels	Gallons
8	Fuel Oil	560	23,500
9	Fuel Oil	560	23,500
16	Diesel	835	35,000
17	Diesel	835	35,000
18	Diesel	42.86	1,800

EUG 5: Small Boilers

Emission limitations for EU 10 shall be as follows:

Permitted Emissions

EU	Make/Model	Units	NOx	CO
10	Cleaver-Brooks 25.106-MMBtu/hr boiler	**lb/hr**	2.5	2.10
		TPY	10.99	9.23

a. EU 10 shall only be fired with pipeline natural gas. Compliance can be shown by the following methods: for pipeline natural gas, a current gas company bill. Compliance shall be demonstrated at least once per calendar year. [OAC 252:100-31]

b. The owner/operator shall comply with all applicable requirements of 40 CFR Part 60 Subpart Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, for each affected unit including but not limited to:

[40 CFR § 60.40c through § 60.48c]

(1) § 60.40c Applicability and delegation of authority.
(2) § 60.41c Definitions.
(3) § 60.42c Standard for sulfur dioxide (SO_2).
(4) § 60.43c Standard for particulate matter (PM).
(5) § 60.44c Compliance and performance test methods and procedures for sulfur dioxide.
(6) § 60.45c Compliance and performance test methods and procedures for particulate matter.
(7) § 60.46c Emission monitoring for sulfur dioxide.
(8) § 60.47c Emission monitoring for particulate matter.
(9) § 60.48c Reporting and recordkeeping requirements.

EUG 6: Internal Combustion Spark Ignition Engines

EU	Alternator/Engine Make & Model	HP (kW)
McKnight Center for the Performing Arts	Onan / Cummins GFGB / GTA28	770 (500)
Advanced Technology Research Center	Blue Star PSI / PSI 150-01 / 431CSL6202	261 (150)
Power Distribution Center	Kohler / PSI 150REZGC / 263213.17	259 (150)
Long Term Housing Annex II	Onan / Cummins UNK / GTA28	770 (450)
CEAT Endeavor Lab	Kohler / PSI 150REZGC / 8.8L	261 (150)
Nancy Randolph Davis	Kohler / PSI 180REZXB / D111L	302 (225)
Fire Protection Publications Office (Outside)	Generac / PSI 60REGZB / 5.7L	133 (100)
Student Union 1	Generac / Generac 12773300100	393 (250)
Student Union 2	Generac /Generac 12773300100	393 (250)
Library Auxiliary	Marathon / PSI MTU / D111L	351 (235)
University Commons (North)	Cummins/ PSI 150 GFPA / 8.8L CAC	218 (162)
Bert Cooper Engineering Laboratory	Onan / Ford 60RZ282 / 3.0L 71452	72 (60)

EU	Alternator/Engine Make & Model	HP (kW)
Henry Bellmon Research Center	Cummins / Cummins 750GFLA / GTA50G1	1,150 (750)
Central Dining Services (2)	Generac / Ford 12340150100	174
Animal Nutrition and Physiology	Generac / Generac 3005541067	228
New Frontier Ag Hall	Cummins / Cummins KTA 19G SLB	470
Engineering South	Cummins /Cummins KTA 19G SLB	470
Business	Kohler / PSI 200REZXB / D111L	302
North Classroom	Generac / Generac QT04554KNNNA	175.3
Life Sciences West	Generac / Generac SGB150GGLB 18202300100	270
Oklahoma Animal Disease Diagnostic Laboratory	Cummins / Cummins 350GFEB / GTA 1902	502

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]
   (1) §60.4230 Am I subject to this subpart?
   (2) The emission standards of §60.4233 and §60.4234.
   (3) The fuel requirements of §60.4235.
   (4) The deadlines for importing or installing SI ICE produced in the previous model year in accordance with §60.4236.
   (5) The monitoring requirements of §60.4237.
   (6) The compliance requirements of §60.4243.
   (7) The performance test methods and other procedures of §60.4244.
   (8) The notification, reporting, and recordkeeping requirements of §60.4245.
   (9) §60.4246 What parts of the General Provisions apply to me?
   (10) §60.4248 What definitions apply to this subpart?

b. The permittee shall comply with all applicable requirements in 40 CFR Part 63, Subpart ZZZZ, for any existing, new, or reconstructed reciprocating internal combustion engines (RICE) including, but not limited to, the following. [40 CFR §§ 63.6580 to 63.6675]
   (1) §63.6580 What is the purpose of subpart ZZZZ?
   (2) §63.6585 Am I subject to this subpart?
   (3) §63.6590 What parts of my plant does this subpart cover?
   (4) §63.6595 When do I have to comply with this subpart?
   (5) §63.6600 What emission limitations and operating limitations must I meet?

(6) §63.6603 What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?
(7) §63.6604 What fuel requirements must I meet if I own or operate a stationary CI RICE?
(8) §63.6605 What are my general requirements for complying with this subpart?
(9) §63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake horsepower located at a major source of HAPs emissions?
(10) §63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake horsepower located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?
(11) §63.6615 When must I conduct subsequent performance tests?
(12) §63.6620 What performance tests and other procedures must I use?
(13) §63.6625 What are my monitoring, installation, collection operation, and maintenance requirements?
(14) §63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations and other requirements?
(15) §63.6635 How do I monitor and collect data to demonstrate continuous compliance?
(16) §63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations and other requirements?
(17) §63.6645 What notifications must I submit and when?
(18) §63.6650 What reports must I submit and when?
(19) §63.6655 What records must I keep?
(20) §63.6660 In what form and how long must I keep my records?
(21) §63.6665 What parts of the General Provisions apply to me?
(22) §63.6670 Who implements and enforces this subpart?
(23) §63.6675 What definitions apply to this subpart?

EUG 7 Insignificant Existing Source Emergency Generators

Building No.	Engine Location	Engine Make	HP	Engine Type
107	Vet. Med. Teaching Hospital 2	John Deere	115	Compression Ignition
79	Facilities Management Services Portable Generator	Kohler	465	Compression Ignition
505	Career Tech Perky	Cummins	350	Compression Ignition
635	SERC (Swine Barn)	Isuzu	88	Compression Ignition

Building No.	Engine Location	Engine Make	HP	Engine Type
2	Seretean Center for Performing Arts	Onan	20	Spark Ignition
3	Bartlett Center for Visual Arts	White	20	Spark Ignition
4	Morrill	Ford	54	Spark Ignition
9	Donald W. Reynolds School of Architecture	Teledyne Wisconsin	37	Spark Ignition
12	Paul Miller Journalism & Broadcasting	Ford	107	Spark Ignition
21	Boone Pickens Stadium (BPS) Southeast	Waukesha	790	Spark Ignition
21	BPS North	Waukesha	615	Spark Ignition
21	BPS Southwest	Cummins	965	Spark Ignition
24	Social Sciences & Humanities	Kohler	54	Spark Ignition
28	Life Science East	Ford	121	Spark Ignition
30	Nancy Randolph Davis West	Ford	40	Spark Ignition
31	Willard Hall	Generac	40	Spark Ignition
34	Stout Hall	Ford	47	Spark Ignition
38	Bennett Hall	Ford	162	Spark Ignition
39	McElroy Hall	Caterpillar	321	Spark Ignition
40	Edmon Low Library 2	Ford	75	Spark Ignition
40	Edmon Low Library 1	Onan	20	Spark Ignition
44	Classroom	Ford	27	Spark Ignition
46	Advanced Technology Research Center	Cummins	670	Spark Ignition
47	Robert M. Kerr Food & Agricultural Products Center	Cummins	690	Spark Ignition
50	U.S. Department of Agriculture	Ford	82	Spark Ignition
51	Physical Sciences	Kohler	86	Spark Ignition
54	Scott Hall	Ford	67	Spark Ignition
57	Agriculture	Fairbanks Morse	20	Spark Ignition
64	Veterinary Medicine Annex	Ford	80	Spark Ignition
66	Kerr-Drummond Cafeteria	Ford	75	Spark Ignition
68	General Academic	Waukesha	28	Spark Ignition
69	Noble Research Center 1	Caterpillar	700	Spark Ignition
69	Noble Research Center 2	Caterpillar	641	Spark Ignition

Building No.	Engine Location	Engine Make	HP	Engine Type
70	Wes Watkins Center for International Trade Development	Ford	135	Spark Ignition
73	Institute for Teaching and Learning Excellence	Onan	15	Spark Ignition
79	Facilities Management Services 2	Generac	40	Spark Ignition
82	Iba Hall	Onan	20	Spark Ignition
89	Math Sciences	Onan	20	Spark Ignition
92	Colvin Recreation Center	Kohler	150	Spark Ignition
110	Oklahoma Animal Disease Diagnostic Lab 2	Kohler	75	Spark Ignition
111	University Health Services 1	Ford	40	Spark Ignition
111	University Health Services 2	Generac	55	Spark Ignition
111	University Health Services 3	GM	88	Spark Ignition
197	Seretean Wellness Center	Onan	20	Spark Ignition
216	Fire Protection Publications Office	Onan	14	Spark Ignition
285	Multimodal Transportation Terminal	Generac	454	Spark Ignition
300	CareerTech Print Plant and Warehouse	Onan	50	Spark Ignition
639	Totusek Animal Science Arena	Ford	82	Spark Ignition
656	Central Dining Services 1	Ford	134	Spark Ignition

a. The emergency generator engines 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. 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.

c. The emergency generator engines shall only be fired with ultra-low sulfur diesel fuel with a sulfur content less than 15 ppm by weight. The permittee shall keep records of fuel purchase records or fuel supplier certifications that the fuel meets the ultra-low sulfur diesel standards.

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 emission unit at the facility shall have a permanent identification plate attached which shows the make, model number, and serial number. [OAC 252:100-43]

4. The facility is subject to the NSPS for Gasoline Dispensing Facilities at Area Sources 40 CFR Part 63, Subpart CCCCCC, and shall comply with all applicable requirements including but not limited to: [40 CFR § 63.11110 through § 63.11132]

a. §63.11110 What is the purpose of this subpart?
b. §63.11111 Am I subject to the requirements in this subpart?
c. §63.11112 What parts of my affected source does this subpart cover?
d. §63.11113 When do I have to comply with this subpart?
e. §63.11115 What are my general duties to minimize emissions?
f. §63.11116 Requirements for facilities with monthly throughput of less than 10,000 gallons of gasoline.
g. §63.11120 What testing and monitoring requirements must I meet?
h. §63.11124 What notifications must I submit and when?
i. §63.11125 What are my recordkeeping requirements?
j. §63.11126 What are my reporting requirements?
k. §63.11130 What parts of the General Provisions apply to me?
l. §63.11131 Who implements and enforces this subpart?
m. §63.11132 What definitions apply to this subpart?

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

a. For fluid 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.
b. For surface coating operations: records of the amount of coatings, thinners, and clean-up solvents used at each emission unit (monthly and cumulative annual).
c. For activities (except for EUG 6 and 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).

6. 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 EUGs 2, 3, 5, and 6.
c. For the 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 required by NSPS, Subparts Dc, IIII, and JJJJ.
f. Records required by NESHAP, Subparts ZZZZ, CCCCCC, and JJJJJJ.

7. No later than 30 days after each anniversary of the facility's original Title V operating permit issuance date (April 29, 2001), 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), (C), & (D)]

8. This permit shall supersede and replace all previous Air Quality operating permits issued for this facility, which are hereby cancelled. [OAC 252:100-8-6(a)(2)]

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]

DRAFT

PART 70 PERMIT

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

Permit No. 2019-0538-TVR3

Oklahoma State University,

having complied with the requirements of the law, is hereby granted permission to operate the OSU Stillwater, located in Section 15, Township 19N, Range 2E, Payne 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.

Kendal Stegmann, Division Director **Date**

Scott A. Thompson
Executive Director

OKLAHOMA Environmental Quality

Kevin Stitt
Governor

Oklahoma State University
Attn: Ms. Kim Southworth
1218 W. Farm Rd., University Health Services 002
Stillwater, Oklahoma 74078

SUBJECT: Permit No. **2019-0538-TVR3**
OSU Stillwater (Facility ID 2330)
Location: Sec 15, T19N, R2E, Payne County

Dear Ms. Southworth:

Air Quality has received the permit application for the referenced facility and completed initial review. This application has been determined to be a Tier II application. In accordance with 27A O.S. 2-14-301 and 302 and OAC 252:4-7-13(c), the enclosed draft permit is now ready for public review. The requirements for public review of the draft permit include the following steps, which **you** must accomplish:

1. Publish at least one legal notice (one day) in at least one newspaper of general circulation within the county where the facility is located (Instructions enclosed);
2. Submit sample notice and provide date of publication to **AQD 5 days prior to notice publishing;**
3. Provide for public review, for a period of 30 days following the date of the newspaper announcement, a copy of the application and draft permit at a convenient location (preferentially at a public location) within the county of the facility;
4. Send AQD a signed affidavit of publication for the notice(s) from Item #1 above within 20 days of publication of the draft permit. Any additional comments or requested changes you have for the draft permit or the application should be submitted within 30 days of publication.

Thank you for your cooperation. If you have any questions, please refer to the permit number above and contact the permit writer at *eric.milligan@deq.ok.gov* or (405) 702-4100.

Sincerely,

Phillip Fielder, P.E.
Chief Engineer
Air Quality Division

Enclosure

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

APPLICANT RESPONSIBILITIES

Permit applicants are required to give public notice that a Tier II or Tier III draft permit has been prepared by DEQ. The notice must be published in one newspaper local to the site or facility. Note that if either the applicant or the public requests a public meeting, this must be arranged by the DEQ.

1. Complete the public notice using the samples provided by AQD below. Please use the version applicable to the requested permit action;
   Version 1 – Traditional NSR process for a construction permit
   Version 2 – Enhanced NSR process for a construction permit
   Version 3 – initial Title V (Part 70 Source) operating permit, Title V operating permit renewal, Significant Modification to a Title V operating permit, and any Title V operating permit modification incorporating a construction permit that followed Traditional NSR process
2. Determine appropriate newspaper local to facility for publishing;
3. Submit sample notice and provide date of publication to AQD 5 days prior to notice publishing;
4. Upon publication, a signed affidavit of publication must be obtained from the newspaper and sent to AQD.

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

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

SAMPLE NOTICES: **Version 1 on page 2.**
Version 2 on page 3.
Version 3 on page 4.

Version 3 – For initial Title V operating permit, Title V operating permit renewal, Significant Modification to a Title V operating permit, and any Title V operating permit modification incorporating requirements of a construction permit that followed Traditional NSR process

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

A Tier *…II or III…* **application for an air quality** *…type of permit or permit action being sought (e.g., significant modification to a Title V permit or Title V/Title V renewal permit)…* **has been filed with the Oklahoma Department of Environmental Quality (DEQ) by applicant,** *…name and address.*

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

In response to the application, DEQ has prepared a draft operating permit [modification] (Permit Number: *…xxxx-xxxx-x…***), which may be reviewed at** *…locations (one must be in the county where the site/facility is located)…* **or at the Air Quality Division's main office (see address below). The draft permit is also available for review under Permits for Public Review on the DEQ Web Page: http://www.deq.ok.gov/**

This draft permit would authorize the facility to emit the following regulated pollutants: *(list each pollutant and amounts in tons per year (TPY))* [For facility modifications only, either add**: , which represents** (*identify the emissions change involved in the modification),* or add: **. The modification will not result in a change in emissions**]

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

In addition to the public comment opportunity offered under this notice, this draft permit is subject to U.S. Environmental Protection Agency (EPA) review, EPA objection, and petition to EPA, as provided by 40 CFR § 70.8.

If the Administrator (EPA) does not object to the proposed permit, the public has 60 days following the Administrator's 45-day review period to petition the Administrator to make such an objection as provided in 40 CFR 70.8(d) and in OAC 252:100-8-8(j).

Information on all permit actions including draft permits, proposed permits, final issued permits and applicable review timelines are available in the Air Quality section of the DEQ Web page: http://www.deq.ok.gov/.

For additional information, contact *…names, addresses and telephone numbers of contact persons for the applicant,* **or contact DEQ at: Chief Engineer, Air Quality Division, 707 N. Robinson, Suite 4100, P.O. Box 1677, Oklahoma City, OK, 73101-1677. Phone No. (405) 702-4100.**

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

ACFM	
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