



STEVEN A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

BRAD HENRY
Governor

September 22, 2010

Ata Y. Elauf, Facility Manager
HP Enterprise Services, LLC
4000 N. Mingo Road
Tulsa, OK 74116

Re: Operating Permit No. 2001-002-O (M-1)
Cherokee Data Center
7400 North Lakewood Ave., Tulsa County, Tulsa, OK

Dear Mr. Elauf:

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

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

Thank you for your cooperation in this matter. If we may be of further service, please contact our office at (918) 293-1600. Air Quality personnel are located in the DEQ Regional Office at Tulsa, 3105 E. Skelly Drive, Suite 200, Tulsa, OK, 74105.

Sincerely,

Herb Neumann
AIR QUALITY DIVISION

Encl.





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. 2001-002-o (M-1)

HP Enterprise Services, LLC,

having complied with the requirements of the law, is hereby granted permission to operate
ten emergency power generators and auxiliary sources at the Cherokee Data Center,
located at 7400 North Lakewood, Tulsa, Tulsa County, Oklahoma,

subject to standard conditions dated April 8, 2010, and specific conditions, both attached.

Phillip Fielder

Phillip Fielder, P.E.

Permits & Engineering Group Manager

9/8/10

Date

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

**HP Enterprise Services, LLC
Cherokee Data Center**

Permit No. 2001-002-O (M-1)

The permittee is authorized to operate in conformity with the specifications submitted to Air Quality on August 27, 2010. The Evaluation Memorandum dated September 8, 2010, 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. The following emission units are permitted for operation at the facility.

EMERGENCY POWER GENERATOR UNITS

Engine Manufacturer/Model/Serial No.
Caterpillar/3612 DI TA CCAC/9RC00322
Caterpillar/3612 DI TA CCAC/9RC00324
Caterpillar/3612 DI TA CCAC/9RC00325
Caterpillar/3612 DI TA CCAC/9RC00323
Caterpillar/3612 DI TA CCAC/9RC00326
Caterpillar/3612 DI TA CCAC/9RC00327
Caterpillar C280-12/TSJ00112
Caterpillar C280-12/TSJ00115
Caterpillar C280-12/TSJ00116
Caterpillar C280-12/TSJ00117

STEAM BOILER

Burner Input Rating	Manufacturer	Model	Serial No.
2.06 MMBtu/hr	Burnham/American Boiler Co.	PV911WOC	64229481

2. The permittee shall be authorized to operate any combination of the six Caterpillar 3612 engines for a cumulative total of 716 hours per year, including monthly test runs. The permittee shall be authorized to operate the four Caterpillar C280-12 engines for a cumulative total of 544 hours per year, including monthly test runs. The permittee shall be authorized to operate the boiler continuously, 24 hours per day, every day of the year. The emission limitations follow

CATERPILLAR 3612 EMISSIONS (6 ENGINES)

Total Emissions	NO_x	SO₂	CO	TOC	PM₁₀
lbs/hr/engine	139	22.7	30.8	6.48	2.10
TPY @ 716 total hrs/yr	49.7	8.12	11.0	2.32	0.75

CATERPILLAR C280-12 EMISSIONS (4 ENGINES)

Total Emissions	NO_x	SO₂	CO	TOC	PM₁₀
lbs/hr/engine	112	22.7	7.94	7.42	3.62
TPY @ 544 total hrs/yr	30.5	6.17	2.16	2.02	0.98

BOILER EMISSIONS

Pollutant	Emissions	
	Lbs/hr	TPY
SO ₂	1.05	4.6
NO _x	0.30	1.3
CO	0.07	0.3
PM	0.05	0.21
VOC	0.01	0.04

3. The generator engines and the boiler shall be fueled only with No. 2 grade diesel fuel with a maximum sulfur content of 0.5%. Also see Specific Condition 5 a.
4. A serial number or other acceptable form of permanent (non-removable), readily accessible identification shall be on the engines and the boiler.
5. The four Caterpillar C280-12 engines are subject to the applicable requirements of NSPS Subpart IIII, including but not limited to:
 - a. Fuel requirements: §60.4207(a), until October 1, 2010, thereafter §4207(b).
 - b. Certification of emission standards in 40 CFR 94.8, per §4202(c): §4205(b).
 - c. A non-resettable hour meter on each engine: §4211(a).
6. Each of the permitted emergency power generator units listed in Specific Condition 1 shall be equipped with a non-resettable hour meter.
7. All emergency generator engines are subject to the applicable requirements of NESHAP (MACT) Subpart ZZZZ, including but not limited to:
 - a. Caterpillar 3612 engines: No further requirements.
 - b. Caterpillar C280-12 engines: Compliance with Specific Conditions 3 and 5.
8. The permittee shall keep the following records. These records shall be retained on site for a period of at least five years following dates of recording, and shall be made available to regulatory personnel upon request.
 - a. Monthly and 12-month rolling totals of the operating hours separately from each power generator engine.
 - b. Records required by Specific Condition No. 5.

9. This permit supersedes all other Air Quality permits for this facility, and they are now null and void.

**MINOR SOURCE PERMIT TO OPERATE / CONSTRUCT
AIR POLLUTION CONTROL FACILITY
STANDARD CONDITIONS
(April 8, 2010)**

A. The issuing Authority for the permit is the Air Quality Division (AQD) of the Oklahoma Department of Environmental Quality (DEQ) in accordance with and under the authority of the Oklahoma Clean Air Act. The permit does not relieve the holder of the obligation to comply with other applicable federal, state, or local statutes, regulations, rules, or ordinances. This specifically includes compliance with the rules of the other Divisions of DEQ: Land Protection Division and Water Quality Division.

B. A duly issued construction permit or authorization to construct or modify will terminate and become null and void (unless extended as provided in OAC 252:100-7-15(g)) 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 252:100-7-15(f)]

C. The recipient of a construction permit shall apply for a permit to operate (or modified operating permit) within 60 days following the first day of operation. [OAC 252:100-7-18(a)]

D. Unless specified otherwise, the term of an operating permit shall be unlimited.

E. Notification to the Air Quality Division of DEQ of the sale or transfer of ownership of this facility is required and shall be made in writing by the transferor within 10 days after such date. A new permit is not required. [OAC 252:100-7-2(f)]

F. The following limitations apply to the facility unless covered in the Specific Conditions:

1. No person shall cause or permit the discharge of emissions such that National Ambient Air Quality Standards (NAAQS) are exceeded on land outside the permitted facility. [OAC 252:100-3]
2. All facilities that emit air contaminants are required to file an emission inventory and pay annual operating fees based on the inventory. Instructions and forms are available on the Air Quality section of the DEQ web page. www.deq.state.ok.us [OAC 252:100-5]
3. 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 252:100-9]
4. 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]
5. No particulate emissions from new fuel-burning equipment with a rated heat input of 10 MMBTUH or less shall exceed 0.6 lbs/MMBTU. [OAC 252:100-19]
6. 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. [OAC 252:100-25]
7. 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]

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

9. 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 an organic material vapor-recovery system. [OAC 252:100-37-15(b)]

10. 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]

G. Any owner or operator subject to provisions of NSPS shall provide written notification as follows: [40 CFR 60.7 (a)]

1. A notification of the date construction (or reconstruction as defined under §60.15) of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.
2. A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in §60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice.
3. A notification of the actual date of initial start-up of an affected facility postmarked within 15 days after such date.
4. If a continuous emission monitoring system is included in the construction, a notification of the date upon which the test demonstrating the system performance will commence, along with a pretest plan, postmarked no less than 30 days prior to such a date.

H. Any owner or operator subject to provisions of NSPS shall maintain records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of an affected facility or any malfunction of the air pollution control equipment. [40 CFR 60.7 (b)]

I. Any owner or operator subject to the provisions of NSPS shall maintain a file of all measurements and other information required by this subpart recorded in a permanent file suitable for inspection. This file shall be retained for at least five years following the date of such measurements, maintenance, and records. [40 CFR 60.7 (f)]

J. Any owner or operator subject to the provisions of NSPS shall conduct performance test(s) and furnish to AQD a written report of the results of such test(s). Test(s) shall be conducted within 60 days after achieving the maximum production rate at which the facility will be operated, but not later than 180 days after initial start-up. [40 CFR 60.8]

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

MEMORANDUM

September 8, 2010

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

THROUGH: *RK* Richard Kienlen, P.E., Engr. Mgr. II, New Source Permits Section

THROUGH: Peer Review, Tony Maxwell, ROAT

FROM: Herb Neumann, Regional Office at Tulsa (ROAT)

SUBJECT: Evaluation of Permit Application No. **2001-002-O (M-1)**
Emergency Electric Power Generator Units
HP Enterprise Services, LLC - Cherokee Data Center
7400 N. Lakewood Ave., Tulsa County, Tulsa, OK (36.262°N, 95.907°W)

INTRODUCTION

Applicant operates a data processing facility (SIC 7374) under Permit No. 2001-002-O, issued March 27, 2001. Four emergency generators were authorized by Permit No. 2001-002-C (M-1), issued March 12, 2009. The facility now contains ten 4,000-KW emergency electric power generators and auxiliary equipment, including four 30,000-gallon diesel fuel storage tanks and a 2.06 MMBtu/hr, diesel-fired steam boiler. The facility remains a synthetic minor with run-hour limits established for each engine type at the facility.

PROCESS DESCRIPTION

There are ten 4,000-KW rated generator packages, six with 3612 DI TA CCAC Caterpillar engines and four with C280-12 Caterpillar engines. Each of the ten units has a G855Z1RT-527 Baylor generator. The units do not have fuel tanks on them. Serial numbers on the 3612 engines are sequential, from 9RC00322 to 9RC00327. Serial numbers on the C280-12 engines are TSJ00112, 115, 116, and 117. Generators are not treated as emissions units, so their serial numbers are not listed here. There are four 30,000 gallon, underground, fiberglass, diesel fuel storage tanks at the facility, that supply fuel to the generators and to the boiler. All tanks have submerged fill pipes. The steam boiler is a Burnham American Boiler Co. model PV911WOC with serial number 6422948, rated at 14.8 gallons per hour of diesel.

EMISSIONS

The permit is structured to allow the engines to be operated in multiple configurations of the operator's choice without exceeding emission thresholds that would cause the facility to become subject to Part 70 permitting. This is accomplished by assigning a maximum number of hours of

run-time to each type of engine, accumulating the run-hours for all engines in the group. The original operating permit and the construction permit authorizing the additional four engines both showed that allowing each emergency unit to operate at the normally accepted level of 500 hours per year would cause total emissions of at least one criteria pollutant to exceed the major source threshold. Emission factors for the six 3612 Caterpillar engines were taken from Tables 3.4-1 and 3.4-2 of AP-42 (10/96), except for NO_x and TOC, which are manufacturer's data. Each engine consumes 262 gallons per hour (gph) when operating at full capacity. Diesel was assumed to have a worst-case 0.5%_w sulfur content.

TABLE 1 – Cat 3612 EMISSION FACTORS

4,000-KW Unit (5,606 HP)	NO _x	SO ₂	CO	TOC	PM ₁₀ ⁽¹⁾
Emission Factor (lbs/hp-hr)	0.02476	0.004045	0.0055	0.00115	0.0573

(1) PM₁₀ factor in units of lbs/MMBtu fuel input. Emissions (lb/hr) = 0.0573 lb/MMBtu × 262 gal/hr × 140,000 Btu/gallon ÷ 1,000,000 Btu/MMBtu.

The original operating permit assumed that no more than five engines would need to be operated at 100 hours each per year to satisfy facility demand. Each engine (all six) would require three hours of testing per month. Thus,

$$(5 \text{ engines} \times 100 \text{ hr/yr}) + (6 \text{ engines} \times 3 \text{ hr/mo} \times 12 \text{ mo/yr}) = 716 \text{ hrs/yr}$$

for the group of all Cat 3612 engines. Table 2 shows resulting emissions.

TABLE 2 – TOTAL EMISSIONS FOR 3612 ENGINES

Total Emissions	NO _x	SO ₂	CO	THC	PM ₁₀
lbs/hr	139	22.7	30.8	6.45	2.10
TPY @ 716 hrs	49.7	8.12	11.0	2.31	0.75

Emission factors for the C280-12 Caterpillar engines are taken from manufacturer's guarantees of both nominal and maximum ("not to exceed") emissions at 110% load. Worst-case resulting emissions include the lb/hr figure for SO₂ shown for the 3612 Cat engines, which is conservatively high, because these engines are more fuel-efficient.

TABLE 3 – Cat C280-12 EMISSION FACTORS IN G/KWH

Pollutant	NO _x + THC	NO _x	CO	THC	Particulates
Nominal	11.65	11.00	0.69	0.65	0.29
Not to Exceed	13.49	12.65	0.90	0.84	0.41

The construction permit further assumed each of the four engines would need to be operated at 100 hours each per year to satisfy facility demand. Each engine (all four) would require three hours of testing per month. Thus,

$$(4 \text{ engines} \times 100 \text{ hr/yr}) + (4 \text{ engines} \times 3 \text{ hr/mo} \times 12 \text{ mo/yr}) = 544 \text{ hrs/yr}$$

for the group of all Cat C280-12 engines. Table 4 shows resulting worst-case emissions.

TABLE 4 – TOTAL EMISSIONS FOR C280-12 ENGINES

Total Emissions	NO_x	SO₂	CO	THC	PM₁₀
lbs/hr (each)	112	22.7	7.94	7.41	3.62
TPY @ 544 hrs	30.3	6.17	2.16	2.02	0.98

The permit writer responsible for the original operating permit assumed an annual throughput of 120,000 gallons for the underground storage tanks, resulting in emissions from the diesel fuel tanks less than 3 pounds per year, per EPA's Tanks 4.0. Potential throughput, assuming maximum use of all generators and boilers authorized by this permit yields less than ½ million gallons per year. Even if the model were linear with respect to throughput, this would result in only 12 lbs/year of VOC emissions (<0.01 TPY). Further discussion of the storage tanks is not necessary.

The boiler is rated by the manufacturer at a maximum heat input of 2.06 MMBtu/hr based on firing the boiler with No. 2 fuel oil having a heating value of 140,000 Btu/gallon, at a fuel input rate of 14.8 gallons per hour. The emissions calculations were based on the fuel input rate, 8,760 annual operating hours, and emission factors listed in AP-42, Fifth Ed. (rev. 9/98), Volume 1, Tables 1.3-1, 1.3-2, and 1.3-3. For purposes of this evaluation, emission factors for boilers rated at less than 100 MMBtu/hr and fired with distillate oil were used. A sulfur content of 0.5% was assumed for the calculation of the emission factor for SO₂ from the equations in Table 1.3-1.

TABLE 5 - BOILER EMISSIONS

POLLUTANT	Emissions Factor (lb/10³ gal)	Emissions (lb/hr)	Emissions (TPY)
SO ₂	71	1.05	4.6
NO _x	20	0.30	1.3
CO	5	0.07	0.3
PM ⁽¹⁾	3.3	0.049	0.21
VOC ⁽²⁾	0.556	0.008	0.04

(1) PM is the sum of Filterable PM and Condensable PM from Tables 1.3-1 and 1.3-2.

(2) TOC used for VOC.

TABLE 6 – TOTAL EMISSIONS FACILITY-WIDE (TPY)

Total Emissions	NO_x	SO₂	CO	THC	PM₁₀
3612 engines	49.7	8.12	11.0	2.31	0.75
C280-12 engines	30.3	6.17	2.16	2.02	0.98
Boiler	1.3	4.6	0.3	0.04	0.21
Totals	81.3	18.9	13.5	4.37	1.94

HAP Emissions

Using Table 1.3-9 of AP-42 (5/10) for fuel oil organic emissions from the boiler yields roughly four pounds of emissions per year. Because the formaldehyde emission factor is nearly an order of magnitude larger than any other HAP, it can be taken as representing all boiler HAP emissions. Aggregating all HAP emission factors from Table 3.4-3 of AP-42 (10/96) yields

roughly 63 pounds per year for all engine HAP emissions. No further discussion of HAP emissions is necessary.

FEDERAL REGULATIONS

PSD, 40 CFR Part 52

[Not Applicable]

Final total emissions are less than the threshold of 250 TPY of any single regulated pollutant and the facility is not one of the listed stationary sources with a threshold of 100 TPY.

NSPS, 40 CFR Part 60

[Subparts Kb and IIII Applicable]

Subpart Kb applies to volatile organic liquid storage vessels that have a capacity greater than 75 m³ (19,798 gallons). Subpart Kb affects organic liquids storage vessels that commenced construction, reconstruction, or modification after July 23, 1984. Those vessels that are larger than 75 m³ but less than 151 m³ (39,890 gallons) and that store organic liquids with a maximum true vapor pressure less than 15 kPa (2.2 psi) are required only to keep records of the tank dimensions and capacity per § 60.110b(c). The four 30,000-gallon diesel fuel tanks were installed in December 2000, and are therefore subject to this requirement.

Subpart IIII, Stationary Compression Ignition (CI) Internal Combustion Engines (ICE). Existing engines at the facility were all constructed before the earliest date of any applicable section of this subpart and are not affected. The proposed engines are 2008 models to be used for emergency purposes and are affected under 40 CFR 60.4200(a)(2)(i). Fuel requirements are found in §60.4207. The new engines are currently subject to §4207(a), which states that the diesel fuel must meet the requirements of 40 CFR 80.510(a). According to §4207(b), beginning October 1, 2010, these engines must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel. Certification that the engines meet the emission standards for new marine CI engines in 40 CFR 94.8, per §4202(c), is required by §4205(b). This certification has been provided. Monitoring requirements of §4209(a) require the installation of a non-resettable hour meter prior to startup of the engines. An initial notification is not needed for emergency stationary internal combustion engines, per §4214(b).

NESHAP, 40 CFR Part 61

[Not Applicable]

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

NESHAP, 40 CFR Part 63

[Subpart ZZZZ Applicable]

Subpart ZZZZ, Reciprocating Internal Combustion Engines (RICE). This subpart previously affected only RICE with a site-rating greater than 500 brake horsepower that are located at a major source of HAP emissions. On January 18, 2008, the EPA published a final rule that promulgates standards for new and reconstructed engines (after June 12, 2006) with a site rating less than or equal to 500 HP located at major sources, and for new and reconstructed engines (after June 12, 2006) located at area sources. The six 3612 Cat engines are "existing" facilities per 40 CFR 63.6590(a)(1)(iii) and are not subject to any requirements of Subpart ZZZZ or Subpart A of Part 63 per §63.6590(b)(3) and do not require initial notification. The four C280-12 Cat engines are "new" facilities per §63.6590(a)(2)(iii) and satisfy the requirements of MACT ZZZZ by complying with the requirements of NSPS Subpart IIII, per §63.6590(c).

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

OKLAHOMA AIR POLLUTION CONTROL RULES

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

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

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

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

OAC 252:100-7 (Permits For Minor Facilities) [Applicable]
Subchapter 7 sets forth the permit application fees and the basic substantive requirements of permits for minor facilities. Since criteria pollutant emissions are less than 100 TPY for each pollutant, and emissions of Hazardous Air Pollutants (HAP) do not exceed 10 TPY for any individual HAP or 25 TPY for any aggregate of HAP, the facility is defined as a minor source. As such, BACT is not required.

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

OAC 252:100-13 (Open Burning)

[Applicable]

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

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

[Applicable]

Section 19-4 regulates emissions of PM from new and existing fuel-burning equipment, with emission limits based on maximum design heat input rating. Fuel-burning equipment is defined in OAC 252:100-19 as any internal combustion engine or gas turbine, or other combustion device used to convert the combustion of fuel into usable energy. Thus, the genset engines are subject to the requirements of this subchapter. At 262 gph and 0.14 MMBtu/gallon, heat input to each engine is approximately 36.7 MMBtu/hr. Appendix C specifies a PM emission limitation of 0.60 lb/MMBtu for all equipment at this facility with a heat input rating of 10 MMBtu/hr or less, which includes only the 2.06 MMBtu/hr boiler.

Equipment	Maximum Heat Input, MMBtu/hr	Emissions in lbs/MMBtu	
		Appendix C Limit	Potential Rate
Each engine	36.7	0.44	0.057
Steam boiler	2.06	0.60	0.082

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

[Applicable]

No discharge of greater than 20% opacity is allowed except for short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity.

OAC 252:100-29 (Fugitive Dust)

[Applicable]

No person shall cause or permit the discharge of any visible fugitive dust emissions beyond the property line on which the emissions originated in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or to interfere with the maintenance of air quality standards. Based on the information submitted by the applicant, 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 5 limits sulfur dioxide emissions from new fuel-burning equipment (constructed after July 1, 1972). For liquid fuels the limit is 0.8 lb/MMBtu heat input averaged over 3 hours. Based on the selected emission factors from AP-42 and a sulfur content of 0.5%, emissions of sulfur dioxide from the engines and boiler would not exceed 0.51 lb/MMBtu.

OAC 252:100-33 (Nitrogen Oxides)

[Not Applicable]

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

OAC 252:100-35 (Carbon Monoxide)

[Not Applicable]

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

OAC 252:100-37 (Volatile Organic Compounds)

[Applicable]

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

Section 37-15(b) requires existing storage tanks in Tulsa or Oklahoma Counties, with a capacity of 400 gallons or more to be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. Section 37-4(a) exempts VOCs with vapor pressures less than 1.5 psia under actual storage conditions. The four 30,000-gallon fuel tanks store diesel, which has a vapor pressure less than 1.5 psia at storage conditions, and are therefore exempt from this requirement.

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

OAC 252:100-39 (Organic Materials, Nonattainment Areas)

[Not Applicable]

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

Part 7 concerns Specific Operations.

Section 39-41(b) affects gasoline or VOC storage vessel having a capacity of greater than 400 gallons but less than 40,000 gallons. Section 39-41(e) contains additional requirements for the control of vapors from storage vessels located in Tulsa County having a storage capacity of greater than 2,000 gallons but less than 40,000 gallons and having an average annual throughput of 120,000 gallons or greater of gasoline or other VOCs. Section 39-4 exempts VOCs with vapor pressures less than 1.5 psia under actual storage conditions. The four 30,000-gallon fuel tanks store diesel, which has a vapor pressure less than 1.5 psia at storage conditions, and are therefore exempt from these requirements.

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

[Applicable]

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

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

[Applicable]

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

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

COMPLIANCE

Inspection

DEQ Regional Office at Tulsa permit writer Herb Neumann visited the facility on September 7, 2010. Ata Elauf of HP and Building Operations Manager Phillip Johnston of CBRE provided a walk-through of the facility, demonstrating the various equipment and necessary redundancies. All permitted equipment was installed as described in the permit application and construction permit.

Tier Classification and Public Review

The application has been determined to be **Tier I** based on the request for an operating permit for a synthetic minor source. Information on all permit actions is available for review by the public in the Air Quality section of the DEQ web page: www.deq.state.ok.us. 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 landowner has been notified by certified mail, restricted delivery, for which the operator has a receipt.

Fees Paid

Minor source operating permit modification fee of \$200. Because \$500 was submitted, the \$300 excess will be refunded upon issuance of this permit.

SUMMARY

This facility was constructed as described in the application. There are no active Air Quality compliance or enforcement issues that would affect the issuance of this permit. Issuance of the operating permit is recommended.