

J4912
MANILA

**DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection**

J491248579

FACILITY: Beaumont Hospital - Dearborn		SRN / ID: J4912
LOCATION: 18101 OAKWOOD BLVD, DEARBORN		DISTRICT: Detroit
CITY: DEARBORN		COUNTY: WAYNE
CONTACT: Luke Sandzik , Supervisor, Facilities Management		ACTIVITY DATE: 04/16/2019
STAFF: Todd Zynda	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: April 16, 2019 Inspection and Visual Emissions Testing		
RESOLVED COMPLAINTS:		

PURPOSE OF INSPECTION: Targeted

INSPECTED BY: Todd Zynda (AQD)

PERSONNEL PRESENT: Luke Sandzik, Facilities Management Supervisor; Rick Krohn, Chief Engineer; Timothy T. Turner, Senior Engineer; Tom Andrews, Impact Compliance and Testing

FACILITY PHONE NUMBER: (313) 313-593-7360

FACILITY WEBSITE: <https://www.beaumont.org/locations/beauumont-hospital-dearborn>

FACILITY BACKGROUND

Beaumont Hospital – Dearborn (BHD), formerly Oakwood Hospital and Medical Center (OHMC), has been serving Dearborn and the surrounding communities since 1953. BHD offers services ranging from 24-hour emergency care, orthopedics, neurosciences, women’s health, heart and vascular treatment, and cancer care. Property surrounding BHD is primarily residential, with some industrial (Ford Motor Company testing and engineering facilities) to the northwest.

COMPLAINT/COMPLIANCE HISTORY

There are no records of complaints for this facility on file.

During inspections of 2010, 2000, 1999, and 1998, the facility was determined to be in compliance with applicable Federal and State air quality regulations. During 2004 and 2006, the OHMC was identified as not operating in compliance, due to their failure to submit their annual emission inventory to the Michigan Air Emissions Reporting System (MAERS). The facility corrected the violations and currently submits MAERS.

During the 2013 inspection the facility was cited for noncompliance with Rule 201 and Rule 210, following the installation of two 2,000 KW emergency generators. The violations were resolved through issuance of Permit to Install No. 57-13.

During the 2016 inspection the facility was cited for noncompliance with conditions of PTI 57-13, 40 CFR Part 60, Subpart Dc, and R 336.1210(1). The violations were resolved through Administrative Consent Order (ACO) AQD No. 2018-04 (effective May 7, 2018) and the issuance of PTI 57-13A (issued December 19, 2017).

OUTSTANDING VIOLATION NOTICES

None

INSPECTION NARRATIVE

On April 16, 2019 the Air Quality Division (AQD) inspector Mr. Todd Zynda conducted an inspection of BHD located at 18101 Oakwood Boulevard, Dearborn, Michigan. The inspection was conducted in conjunction with visible emissions testing at EU-00007 (Boiler 3). During the inspection Mr. Luke Sandzik, Facilities Management Supervisor, Mr. Rick Krohn, Chief Engineer, and Mr. Tim Turner, Senior Engineer, provided information and tour of facility operations.

The inspection was conducted to determine the facility's compliance with the Natural Resources and Environmental Protection Act (NREPA), Act 451, Part 55, and PTI No. 57-13A. BHD operates three boilers and four emergency generators. During the inspection, no visible emissions were observed.

Boilers

At BHD, three boilers provide space heating and/or process steam. All three boilers have the ability to burn both natural gas and No. 2 fuel oil. All three boilers are primarily operated using natural gas. Natural gas usage for all three boilers is recorded through one natural gas meter. The boilers also have the capability to fire diesel.

Boiler 1 and Boiler 2 were installed in 1989 under Wayne County Permit C-8401. Boiler 1 and Boiler 2 are Cleaver-Brooks boilers with a rated heat input capacity of 33.476 million British thermal units per hour (MMBtu/hour). Boiler 3 was installed in 2004 and is also Cleaver-Brooks boiler. Boiler 3 is rated at 32.659 MMBtu/hr. Emissions from all three boilers are discharged through the same stack. During the inspection, the boilers appeared to be operating in good condition. The three boilers are now permitted under PTI 57-13A.

During the inspection Boiler 1 was operating on natural gas (36.10 cfm instantaneous reading at approximately 9:30 AM), Boiler 2 was offline, and Boiler 3 was operating on diesel (approximately 2 gallons/minute).

During the inspection, visible emission testing was conducted on Boiler 3 while firing diesel fuel. Testing was conducted to satisfy requirements of PTI 57-13A, FG-NSPDC and 40 CFR Part 60, Subpart Dc, §60.45c(a) (8). Testing was conducted from 9:30 AM to 10:30 AM. The AQD accompanied Mr. Tom Andrews, Impact Compliance and Testing, from approximately 9:40 AM to 10:00 AM. During that time, opacity was not observed from the boiler(s) stack.

Emergency Generators

The facility has four emergency generators that were observed during the inspection. The generator identification, the rated kilowatts (KW), manufacturer, and model are outlined below in Table 1.

ID	Manufacturer	Model	KW	Installation Date	Hour Meter Reading
500KW-A	Cummins	680FDR5058FF	500	Unknown - Pre 2000	1770.5
500KW-B	Cummins	5000DEFD	500	Early 2004	525.0
2MEG1	Caterpillar	3516	2,000	2004	464
2MEG2	Caterpillar	3516	2,000	2004	508

All emergency generators operate using ultra-low sulfur No. 2 fuel oil and have non-resettable hour meters. During the inspection, none of the generators were in operation, but appeared to be in good condition.

Based on the installation dates, the generators are not subject to 40 Code of Federal Regulations (CFR), Part 60, Subpart IIII "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines".

During the inspection, Beaumont indicated that they are currently evaluating the installation of the two additional emergency generators (1 Megawatt each). Beaumont was advised that a PTI would likely be required for generators of that size and a PTI should be obtained prior to installation.

APPLICABLE RULES/PERMIT CONDITIONS

ACO AQD No. 2018-04 requires the facility to comply with the conditions specified in PTI 57-13A.

Permit to Install 57-13A

FG-EMGRICE1-2

SC I. 1 and SC VI.4 **COMPLIANCE**. NO_x emissions shall not exceed 31.6 tpy on a 12-month rolling basis. Records to be maintained. The facility reports the highest 12-monthly NO_x emission occurred at the end of February 2019 at 1.1 tons.

SC II. 1 and SC VI. 3. **COMPLIANCE.** Shall only burn diesel fuel with maximum sulfur content of 15 ppm (0.0015 percent) by weight. The generators use diesel fuel. The bill of lading provided indicates “#2 dyed ultra-low sulfur diesel” and is 15 ppm sulfur (maximum).

SC III. 1 and SC VI 2. **COMPLIANCE.** Shall not operate each engine for more than 500 hours per year on a 12-month rolling basis. Facility records indicate that all generators are operating well below 500 hours with the highest number of hours occurring at the end of February 2019 at Gen#1 (CAT) at 19 hours.

SC III. 2. **COMPLIANCE.** Shall install, maintain, and operate each engine according to manufacturer instructions, procedures, over the entire life of the engine. The facility appears to be meeting this requirement.

SC IV. 1 and 2. **COMPLIANCE.** Shall equip and maintain each engine with a non-resettable hours meter. The name plate capacity of each engine shall not exceed 2,885 bhp. The facility appears to meet both of these requirements.

SC VI. 1. **COMPLIANCE.** Required calculations shall be kept in an acceptable format. Records provided appear to meet this requirement.

SC VIII. **COMPLIANCE.** During the inspection, the stacks appeared to meet permit requirements. Measurements were not collected.

FG-BOILER5-7

SC I. 1 and 2, SC VI. 4 and 5. **COMPLIANCE.** NOx emissions not to exceed 21.6 tons per year on a 12-month rolling basis. CO emissions not to exceed 18.14 tons per year on a 12-month rolling basis. Records to be maintained in an acceptable format. The facility maintains records as required. The maximum NOx 12-month rolling emissions occurred during January 2018 (8.3 tons). The maximum CO 12-monthly emissions occurred during January 2018 (6.9 tons).

SC II. 1 and SC VI. 2. **COMPLIANCE.** Natural gas usage not to exceed 432 million cubic feet (MMCF) per year on a 12-month rolling basis. The highest 12-month rolling natural gas usage occurred during January 2018 at 165.3 MMCF.

SC II. 2. and SC VI.3. **COMPLIANCE.** Diesel fuel usage not to exceed 623,100 gallons per year on a 12-month rolling basis. The highest 12-month rolling diesel fuel usage occurred November 2018 through March 2019 at 1,770 gallons.

SC II. 3. **COMPLIANCE.** Shall burn only pipeline quality natural gas (maximum sulfur content 2,000 grains per million scf) or diesel fuel (maximum sulfur content of 15 ppm). The facility provided sulfur documentation for both the diesel (15 ppm maximum). The facility burns pipeline natural gas as documented by the DTE Energy Gas laboratory report.

SC III. 1 and SC IV. 3. **COMPLIANCE.** Shall operate boilers in accordance with manufacturer’s recommendations for safe and proper operation to minimize emissions. Shall operate low NOx boilers in a satisfactory manner. The facility appears to meet this requirement.

SC III. 2. **COMPLIANCE.** Shall only use diesel fuel in boilers during periods of gas curtailment, gas supply interruption, startups, or periodic testing. Periodic testing shall not exceed a combined total of 48 hours per calendar year. The facility tracks hours of diesel usage. During 2018, Boiler #1 operated 7 hours, Boiler #2 - 4 hours, and Boiler #3 – 4 hours.

SC IV. 1. **COMPLIANCE.** The heat input capacity of each boiler shall not exceed 33.5 MMBTU per hour for EU-0005 (Boiler #1) and EU-00006 (Boiler #2), and 32.7 MMBTU per hour for EU-00007 (Boiler #3). According to the boiler plates observed during the inspection, the boilers have a heat input capacity as follows.

Boiler #1 and #2 – 33,476,000 BTU/hr
Boiler #3 – 32,659,000 BTU/hr

SC IV. 2. **COMPLIANCE.** Shall install, calibrate, maintain, and operate in a satisfactory manner a device to monitor and record fuel use. The facility is meeting this requirement.

SC V. 1. **COMPLIANCE.** Upon request from the AQD District Supervisor, the facility shall verify NOx and CO emission rates. At this time verification of the NOx and CO emission rates has not been requested.

SC VI. 1. **COMPLIANCE.** Shall complete all required calculations in a format acceptable to the AQD. Records appear to meet this requirement.

SC VI. 6. **COMPLIANCE.** Shall keep in a satisfactory manner, fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used in FG-BOILER5-7, demonstrating that the fuel sulfur content meets the requirement if SC II.3. The AQD accepts the documentation provided for both diesel and natural gas.

SC VIII. 1. **COMPLIANCE.** During the inspection, the stack appeared to meet permit requirements. Measurements were not collected.

FG-NSPSDc

SC I.1. SC V.1 and 2, and SC VII.1. **COMPLIANCE.** Visible emissions not to exceed 20 percent opacity for a 6-minute average, except for one 6-minute period per hour or not more than 27 percent opacity except as specified by the NSPS. Following issuance of the PTI, the facility shall conduct the initial opacity monitoring during the first scheduled fuel oil operation. The frequency of subsequent Method 9 tests will be determined by the opacity of the most recent test. The permittee shall submit performance test data from initial and subsequent performance tests.

On May 2, 2019, the AQD received the visible emission test report for Beaumont Hospital Dearborn, dated April 26, 2019. Testing was conducted on April 16, 2019 (the same day as AQD inspection). During the 1 hour performance test no visible emissions were observed.

Per §60.47c(a)(2), the facility may, as an alternative to performing subsequent Method 9 performance tests, elect to perform subsequent monitoring using Method 22. The facility has elected to using this option going forward. Records are required per §60.48c(c)(2). Please see attached email correspondence regarding this issue.

It appears the fuel oil was used at Boiler #3 on November 21, 2018 and visible emission testing was not conducted at that time as required under SC V.1. Due the compliance testing being done quickly and successfully in April 2019, the AQD has determined the facility to be in compliance with SC V. 1 despite being late by 5 months.

SC II. 1 and SC VI.3. **COMPLIANCE.** Shall not burn diesel fuel with a sulfur content greater than 0.5 percent by weight. The facility provided documentation indicating a 15 ppm sulfur (maximum) dyed ultra-low diesel fuel is used.

SC VI.1. **COMPLIANCE.** Shall monitor and record, in a satisfactory manner, the natural gas usage and diesel fuel usage on a monthly and 12-month rolling basis. The facility maintains this information.

SC IX.1. **COMPLIANCE.** Shall comply with all provisions of NSPS Subparts A and Dc. At this time the facility appears to be meeting this requirement.

Federal Requirements

40 CFR Part 60, Subpart III – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

The diesel fired emergency generators are not subject to Subpart III as they were installed (constructed) prior to July 11, 2005 (§60.4200(a)(2)).

40 CFR Part 60, Subpart Dc - Standards of Performance for Small Industrial, Commercial, Institutional Steam Generating Units

The applicable conditions are evaluated above under FG-NSPSDc.

40 CFR Part 63, Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

The generators at the facility are not subject to Subpart ZZZZ per 40 CFR 63.6585(f)(3).

40 CFR Part 63, Subpart JJJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boiler Area Sources

Subpart JJJJJJ applies to boilers not classified at “gas-fired boilers” at area sources. The boilers at the facility are permitted as natural gas boilers. Fuel oil backup does not reclassify the boilers from “gas-fired boilers” and, therefore, Subpart JJJJJJ is not applicable. Should fuel oil usage in the boilers exceed Subpart JJJJJJ thresholds, Subpart JJJJJJ would be applicable. The AQD is not the delegated authority for Subpart JJJJJJ.

PERMIT TO INSTALL EXEMPT EQUIPMENT

Emergency Generators

Generators 500KW-A and 500KW-B operate at 500KW per hour (KW/hr). Based on calculations, the 500 KW/hr power output rating is equivalent to 1.7 MMBTU rated input. At a 25% efficiency conversion, the maximum converted rating is approximately 6.8 MMBTU/hr. Based on the calculated rating, the emergency generators 500KW-A and 500KW-B are exempt from PTI under the following Rules.

R336.1285(g): “Permit to install does not apply to...Internal combustion engines that have less than 10,000,000 Btu/hour maximum heat input.”

Sterilizers

The sterilizers present at the facility are steam (autoclave) units and are exempt from PTI requirements under the following Rule.

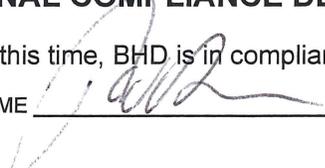
R336.1281(i): “Sterilization equipment at medical and pharmaceutical facilities using steam, hydrogen peroxide, peracetic acid, or a combination thereof.”

APPLICABLE FUGITIVE DUST CONTROL PLAN CONDITIONS

Not Applicable. All lots are paved.

FINAL COMPLIANCE DETERMINATION:

At this time, BHD is in compliance PTI 57-13A and applicable State and Federal air quality regulations.

NAME  DATE 6/5/19 SUPERVISOR JK