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

M181233265

FACILITY: ST JOHN HOSPITAL & MEDICAL CENTER		SRN / ID: M1812
LOCATION: 22101 MOROSS RD, DETROIT		DISTRICT: Detroit
CITY: DETROIT		COUNTY: WAYNE
CONTACT: Jim Wild , Administrator, Engineering		ACTIVITY DATE: 02/04/2016
STAFF: Jorge Acevedo	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled Inspection		
RESOLVED COMPLAINTS:		

COMPANY NAME :St. John Hospital & Medical Center
FACILITY ADDRESS :22101 Moross, Detroit, MI 48236
STATE REGISTRAT. NUMBER : M1812
SIC CODE : 8062
EPA SOURCE CLASS : B
EPA POLLUTANT CLASS : O
LEVEL OF INSPECTION : PCE
DATE OF INSPECTION : 2/4/16
TIME OF INSPECTION : 12:25 PM
DATE OF REPORT : 2/4/16
REASON FOR INSPECTION : Scheduled
INSPECTED BY : Jorge Acevedo
PERSONNEL PRESENT : Jim Wild and Mike Pruss
FACILITY PHONE NUMBER :313-343-3881
FACILITY FAX NUMBER :313-343-7656

FACILITY BACKGROUND

St. John Hospital & Medical Center is a general hospital providing medical and emergency care. The facilities houses boilers, which are of an interest to the Air Quality Division.

INSPECTION NARRATIVE:

On February 4, 2016, I conducted a self-initiated inspection of St. John Hospital & Medical Center. I arrived at the hospital at 1:00 PM. I met with Jim Wild, Director of Engineering and Maintenance. Mike Pruss, Supervisor Maintenance, Engineering and Maintenance, was also present. The purpose of my visit was to conduct an inspection of the facility to determine the facility's compliance with the Clean Air Act, the Natural Resources and Environmental Protection Act (NREPA), Act 451, Part 55, and Permit to Install 313-06. St. John Hospital operates boilers and generators, which are permitted by the State of Michigan.

We sat down in a conference room and I explained why I was there. In the previous inspection in 2006, there was a question whether the hospital was required to pay an annual fee and submit their emission data to the Michigan Air Emission Reporting System (MAERS) and whether the hospital was required to pay back fees. It was resolved that St. John Hospital should report to MAERS and pay emissions fees going forward. St. John subsequently installed two generators and applied for Permit to Install 313-06 prior to installing the generators. St. John Hospital previously operated Ethylene Oxide Sterilizers. These pieces of equipment were replaced with Sterilizers using hydrogen peroxide. Also, the Hospital once operated a Medical Waste Incinerator, but removed the piece of equipment.

After our conversation, we proceeded to the room where the boilers were housed. There were four Clayton Model EOG-604 boilers. Each one had a maximum heat input capacity of 25 million BTU/hr. The boilers are run on natural gas, however, they have the ability to burn # 2 fuel oil. 99% of the time, as explained by Mr. Wild, the boilers are run on natural gas. They typically run the boilers a couple hours a year on # 2 fuel oil. Mr. Wild explained that they only need to run two out of the four boilers to provide enough steam and hot water to the hospital. Mr. Wild explained that the typical load required for the boilers were 7000 lbs steam/hour in the summer and 35000 lbs steam/hour in the winter. At the time of my inspection, three boilers were in operation.

Mr. Wild explained that where the boilers now operated, was the location of the medical waste incinerator. After

inspecting the boilers, we went to several locations observing emergency generators. St. John Hospital applied in 2006 for an opt-out permit because it planned on installing two new emergency generators. One was installed and is known as CCB3 /#8.

Many of the generators were installed in the 1970s and 1980s. The newest one was installed in 2007. After viewing the generators, Mr. Wild showed me the location for the three underground storage tanks. Tank 4 stores Fuel Oil and has a capacity of 20000 gallons. Tanks 5 and 6 store diesel and have a capacity of 15000 and 8000 gallons, respectively.

Next, we went to the part of the hospital where the sterilizers were located. I observed the sterilizers which were manufactured by Sterrad. The model was 100S and uses hydrogen peroxide to sterilize medical equipment. This replaced the ethylene oxide sterilizers.

I concluded my inspection at 2:00 PM.

COMPLAINT/COMPLIANCE HISTORY:
There has not been any citizen complaints registered nor violations issued against St. John Hospital & Medical Center.

OUTSTANDING CONSENT ORDERS:
None
OUTSTANDING LOVs
None

OPERATING SCHEDULE/PRODUCTION RATE:

This facility operates 24 hours a day, 365 days a year.

PROCESS DESCRIPTION

St. John Hospital & Medical Center has four boilers on its premises which provide space heating and process steam. The boilers were installed in 1999. The boilers have the ability to burn both natural gas and #2 fuel oil. Natural gas is mainly used. The hospital also has eight diesel emergency generators throughout the hospital campus.

APPLICABLE RULES/PERMIT CONDITIONS:

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

The fact that St. John Hospital uses natural gas as its primary fuel limits their requirements under this subpart. The main requirement is to keep track of fuel usage and if the source uses fuel oil, they will comply with the requirement by having the fuel certified by the supplier. I got natural gas usage records and copies of fuel oil shipments.

40 CFR 60, Subpart III- Standards of Performance for Stationary Compression Ignition (CI) Internal Combustion Engines.

Only one emergency generator(CCB3 / #8) was installed after 2006. EPA Certification was received on April 12, 2016 . Based on records kept on the generator, it qualifies under the definition of emergency generator. A non-resettable hour log was observed during the inspection.

Permit C-10368 is still in effect. Staff was advised that the medical waste incinerator was removed in 1998. Staff will void out the permit.

Permit 313-06.
Issued November 30, 2006.

The following conditions apply to: FGENGINES

Emission Limits

	Pollutant	Equipment	Limit	Time Period	Compliance Determination
1.1	NOx	FGENGINES	21.8 tpy	12-month rolling time period as determined at the end of each calendar month	Compliance- Records provided show emissions have not exceed 21.8 TpY limit.
	The NOx limit is based on an emission factor of 6.9 grams NOx per brake horsepower-hour and 2881 brake horsepower per engine.				

Material Usage Limits

1.2 The sulfur content of the fuel oil shall not exceed 0.03 percent by weight. [R336.1205, 45 FR 29720, 55 FR 11029, Michigan State Implementation Plan]

Compliance- Fuel Shipment records show that fuel oil is less than 0.03 percent by weight Sulfur.

Process/Operational Limits

1.3 The permittee shall not operate FGENGINES for more than 500 hours per engine per 12-month rolling time period as determined at the end of each calendar month. [R336.1205, R336.1225, R336.1702(a), 40 CFR 52.21 (c) & (d)]

Compliance- Records provided show that hours have not exceeded 500 hours per engine.

Monitoring

1.4 The permittee shall monitor in a satisfactory manner the hours of operation for FGENGINES on a monthly basis. [R336.1205, R336.1225, R336.1702(a), 40 CFR 52.21 (c) & (d)]

Compliance- Records are kept on a monthly basis.

Recordkeeping/Reporting/Notification

1.5 The permittee shall keep, in a satisfactory manner, monthly and previous 12-month NOx emission calculation records for FGENGINES, as required by SC 1.1. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. [R336.1205, 40 CFR 52.21 (c) & (d)]

Compliance- monthly and 12 month NOx emission records are kept.

1.6 The permittee shall keep records of the sulfur content, in percent by weight, for each fuel shipment. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. [R336.1205, 45 FR 29720, 55 FR 11029, Michigan State Implementation Plan]

Compliance- Records of fuel shipments are kept.

1.7 The permittee shall keep, in a satisfactory manner, a written log of the monthly hours of operation of FGENGINES. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. [R336.1205, R336.1225, R336.1702(a), 40 CFR 52.21 (c) & (d)]

Compliance- Records are kept of hours.

Stack/Vent Restrictions

	Stack & Vent ID	Maximum Diameter (inches)	Minimum Height Above Ground Level (feet)	Compliance- Stack height and diameter were not measured, but appeared to be correct. Engine 10 was not installed.
1.8a	SVENGINE9	18	45	

1.8b	SVENGINE10	18	45	
	The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.			

The following conditions apply to: FGBOILERS

Emission Limits

	Pollutant	Equipment	Limit	Time Period	Compliance Determination
2.1	NOx	FGBOILERS	43.3 tpy	12-month rolling time period as determined at the end of each calendar month	Compliance- Emissions over the past several years have not exceeded 43.3 TPY.

Process/Operational Limits

2.2 The permittee shall not operate more than three of FGBOILERS at any one time. [R336.1205, R336.1225, R336.17(a), 40 CFR 52.21 (c) & (d)]

Compliance- Records show no more than 3 boilers operating at same time.

2.3 The permittee shall fire only natural gas and No. 2 fuel oil FGBOILERS. Oil firing shall be limited to maximum 5(hours per boiler per year. Monthly records of natural gas and No. 2 fuel oil consumption per boiler shall be ke on file for a period of at least two years and made available to the Air Quality Division upon request. [R336.120 R336.1225, R336.1702(a), 40 CFR 52.21 (c) & (d)]

Compliance- Fuel Oil and Natural gas are only fuels used. Fuel Oil has not been used since 2013.

2.4 The permittee shall comply with all provisions of the federal Standards of Performance for New Stationa Sources as specified in 40 CFR Part 60 Subparts A and Dc, as they apply to FGBOILERS. [40 CFR Part 60 Subparts A & Dc]

Compliance- Records of natural gas usage are kept.

Stack/Vent Restrictions

	Stack & Vent ID	Maximum Diameter (inches)	Minimum Height Above Ground Level (feet)	Compliance- Stack height was not measured but appeared appropriate height.
2.5	SVBOILERS	74	104	
	The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.			

The following conditions apply to: FGFACILITY

Emission Limits

	Pollutant	Equipment	Limit	Time Period	Compliance Determination
3.1	NOx	FGFACILITY	89.5 tpy	12-month rolling time period as determined at the end of each calendar month	Compliance- Emissions were recorded and below emission limit.

The permittee shall calculate NOx emissions for all boilers in FGFACILITY based on fuel usage data per special condition 2.3, and the worst-case emission factor from testing per GC 13, if required by the Department, and the emission factors below. The permittee shall calculate NOx emissions for all emergency generators in FGFACILITY based operating data per special condition 2.4, and the worst-case emission factor from testing per GC 13, if required by the Department, and the engine-specific emission factors listed in Appendix 1.

Natural Gas Emission Factor for Boilers	Fuel Oil Emission Factor for Boilers
NOx = 0.100 lb/MMBtu	NOx = 0.020 lb/gallon fuel oil

Recordkeeping / Reporting / Notification

3.2 The permittee shall keep, in a satisfactory manner, monthly and previous 12-month NOx emission records, as required by SC 2.1, for FGFACILITY. All records shall be kept on file for a period of at least five years and made available to the Department upon request. [R336.1205(1)(a) & (3)]

Compliance- Records are kept on monthly and 12 month rolling basis.

3.3 The permittee shall keep monthly and previous 12-month natural gas and fuel oil usage records for FGFACILITY, in a format acceptable to the AQD District Supervisor, indicating the total amount of natural gas used, in cubic feet, and fuel oil used, in gallons, on a 12-month rolling time period basis. All records shall be kept on file for a period of at least five years and made available to the Department upon request. [R336.1205(1)(a) & (3)]

Compliance- Records are kept of natural gas and fuel oil usage on a monthly and 12 month rolling basis.

3.4 The permittee shall keep, in a satisfactory manner, a written log of the monthly hours of operation of each emergency generator at FGFACILITY. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. [R336.1205(1)(a) & (3)]

Compliance- Records are kept of hours of operation.

APPLICABLE FUGITIVE DUST CONTROL PLAN CONDITIONS:
N/A

MAERS REPORT REVIEW:

Pollutant	2015 Emissions(TPY)
CO	4.37
NOx	6.4

FINAL COMPLIANCE DETERMINATION:

The facility is in compliance with applicable regulations at the time of the inspection.

NAME _____ DATE 4-25-16 SUPERVISOR W.M.