

K1276
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DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

K127649341

FACILITY: DMC Sinai Grace Hospital		SRN / ID: K1276
LOCATION: 6071 West Outer Drive, DETROIT		DISTRICT: Detroit
CITY: DETROIT		COUNTY: WAYNE
CONTACT: Aijalon Denham , Facility Services		ACTIVITY DATE: 04/23/2019
STAFF: Jorge Acevedo	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT:		
RESOLVED COMPLAINTS:		

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, and ENERGY
AIR QUALITY DIVISION
INSPECTION REPORT

COMPANY NAME :Detroit Medical Center- Sinai Grace Hospital
 FACILITY ADDRESS :6071 West Outer Drive, Detroit
 STATE REGISTRAT. NUMBER :K1276
 SIC CODE :
 EPA POLLUTANT CLASS :
 LEVEL OF INSPECTION :PCE
 DATE OF INSPECTION :04/23/19
 DATE OF REPORT : 5/23/19
 REASON FOR INSPECTION : Scheduled Inspection.
 INSPECTED BY : Jorge Acevedo
 PERSONNEL PRESENT : Aijalon Denham
 FACILITY PHONE NUMBER :
 FACILITY FAX NUMBER :

INSPECTION NARRATIVE:

On April 23, 2019, I conducted a scheduled inspection of Sinai Grace Hospital. I arrived at 10:02 AM and met with Aijalon Denham, Boiler House staff. I explained the purpose of my visit to Mr. Denham. This was a follow up inspection because the facility was found in noncompliance in the previous fiscal year. Mr. Denham explained a little about the operations and changes that have occurred over the last year. I asked about the sterilizing equipment and Mr. Denham referred me to another staff but said he believed that they did not have ethylene oxide sterilizers anymore. I requested contact information from the staff person so I could follow up about the ethylene oxide sterilizers. Mr. Denham accompanied me on the inspection. I observed four boilers, two larger boilers(28.2 mmBTU/hr heat input capacity) and two smaller boilers (12.1 mmBTU/hr heat input capacity). Mr. Denham explained that during the winter, the two larger boilers are run and in the summer, the two smaller boilers are run. The smaller boilers were running at the time of the inspection. Mr. Denham explained that one of the boilers(#1) was having its burners maintained. Boilers #2 and # 4 were running at the time of the inspection. After observing the boilers we went outside of the Boilerhouse. Mr. Denham showed me where the 25000 gallon underground tank which stores diesel for the boilers. After observing the boilers and tank, Mr. Denham showed me the emergency generators. Generator #1 had 231.2 hours on the hour meter and Generator #2 had 229 hours on the hour meter. After observing the generators, Mr. Denham showed me the 5000 gallon diesel tank used for the generators. After observing the generators, I told Mr. Denham I would email my request for records to him and that he should work on getting them to me in a timely fashion. I left the facility at 11:45AM.

I worked with Mr. Denham to get the records. Mr. Denham provided the necessary records.

FACILITY BACKGROUND

Sinai Grace Hospital is a general hospital providing medical and emergency care. The facilities houses boilers, emergency generators and sterilizing equipment, which are of an interest to the Air Quality

Division.

COMPLAINT/COMPLIANCE HISTORY

A Violation Notice was issued on November 5, 2018 to Sinai Grace for not maintaining records. The violation was resolved in June 2019.

OUTSTANDING CONSENT ORDERS

None

OUTSTANDING LOVs

None

OPERATING SCHEDULE/PRODUCTION RATE

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

PROCESS DESCRIPTION

Sinai Grace hospital has four boilers on its premises which provide space heating and process steam. The boilers were installed in 2015 and 2016. The boilers have the ability to burn both natural gas and #2 fuel oil. Natural gas is mainly used. The hospital also has two diesel emergency generators.

APPLICABLE RULES/PERMIT CONDITIONS:

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

All four boilers are above 10 mmBTU/hr heat input and were installed after June 1989.

40 CFR Part 60 Subpart IIII- NSPS for Stationary Compression Ignition (CI) Internal Combustion Engines

The two generators were installed after 2006.

PTI 176-16 was issued on February 10, 2017. Compliance was evaluated with the following special conditions:

DESCRIPTION: Four (4) natural gas fired steam boilers each have the capability to fire No. 2 fuel oil in the event of natural gas supply curtailment.

Emission Units: EU-BOILER1, EU-BOILER2, EU-BOILER3, and EU-BOILER4

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Compliance Determination
NO _x	24.3 tpy ^A	12 month rolling time period, as determined at the end of each	FG-BOILERS	Compliance- Records were received. NOx emissions were below 24.3 TPY.

month

^AThe NO_x limit is based on an emission factor of 100 pounds of NO_x per MMscf of natural gas used and 24 pounds of NO_x per 1,000 gallons of fuel oil used.

II. MATERIAL LIMITS

The permittee shall burn only pipeline quality natural gas or fuel oil in FG-BOILERS. (R 336.1205(3), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))

Compliance- Specifications for boilers indicate they can burn only natural gas or fuel oil.

2. The sulfur content of the diesel fuel used in FG-BOILERS shall not exceed 15 ppm (0.0015 percent) by weight. (R 336.1205(3), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d), 40 CFR 60.42c(h))

Compliance- Boilers only fire ultra low diesel fuel which by definition is 15ppm or lower. AQD was provided fuel specification sheet which showed that ultra low sulfur diesel is being purchased and burned in boilers.

3. The natural gas usage for FG-BOILERS shall not exceed 480 MMscf per 12-month rolling time period. (R 336.1205(3), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))

Compliance. Records were received and gas usage was less than 480 MMscf per 12 month rolling timer period.

III. PROCESS/OPERATIONAL RESTRICTIONS

Fuel oil shall only be burned in FG-BOILERS during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year. (40 CFR Part 63 Subpart JJJJJJ)

Compliance- Generators are used for power disruptions. Boilers are tested per Joint Commission on Accreditation of Healthcare Organizations (JCAHO) provisions.

2. The permittee shall not operate more than two boilers of FG-BOILERS simultaneously while burning natural gas. (R 336.1205(3), 40 CFR 52.21(c) & (d))

Compliance- During the inspection, only two boilers were operating.

IV. DESIGN/EQUIPMENT PARAMETERS

1. The design capacity of FG-BOILERS shall not exceed 28.2 MMBtu/hr for EU-BOILER1 and EU-BOILER2, or 12.1 MMBtu/hr for EU-BOILER3 and EU-BOILER4. (R 336.1205(1)(a) & (3))

Compliance- Boilers were installed according to permit application and heat input capacities were observed during inspection.

The permittee shall equip and maintain, a device to monitor and record the natural gas and fuel oil usage in FG-BOILERS. (R 336.1205(1)(a), R 336.1225, 40 CFR 52.21(c) & (d), 40 CFR 60.48c(g))

Compliance- Boilers have a device to monitor and record natural gas and fuel oil usage.

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee may be required to verify and quantify NOx emission rates from FG-BOILERS by testing at owner's expense, in accordance with Department requirements. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. (R 336.1205(3), 40 CFR 52.21(c) & (d))
Undetermined- Facility has not tested and AQD has not requested testing from the permittee.

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

The permittee shall monitor and record, in a satisfactory manner, the natural gas and fuel oil usage for FG-BOILERS per month, as determined at the end of each calendar month. (R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 52.21(c) & (d), 40 CFR 60.48c(g))

COMPLIANCE- Records are kept and were provided upon request.

The permittee 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-BOILERS, demonstrating that the fuel sulfur content meets the requirement of SC II.2. The certification or test data shall include the name of the oil supplier or laboratory, and the sulfur content of the fuel oil. (R 336.1201(3), R 336.1401, 40 CFR 60.48c(f))

COMPLIANCE- Records were provided regarding the sulfur specifications of the diesel fuel

3. The permittee shall record in a satisfactory manner the hours of operation while burning fuel oil in FG-BOILERS to demonstrate compliance with SC III.1. (40 CFR Part 63 Subpart JJJJJJ)

COMPLIANCE. Records were received.

4. The permittee shall calculate and record, in a satisfactory manner, the NOx emissions in tons per year from FG-BOILERS on a monthly and 12-month rolling time period basis. (R 336.1205(3))

COMPLIANCE. Records were received.

VII. REPORTING

1. The permittee shall submit written notification of the date of construction of FG-BOILERS, to comply with the federal Standards of Performance for New Stationary Sources, 40 CFR 60.7. The permittee shall submit this notification to the AQD District Supervisor within 30 days after construction commences, as specified in 40 CFR 60.7. (40 CFR 60.7)

Compliance- Notification was submitted in response to Violation Notice issued on September 1, 2016.

2. The permittee shall submit written notification of the actual date of initial startup of FG-BOILERS, as provided by the federal Standards of Performance for New Stationary Sources, 40 CFR 60.7. Each notification shall include:

- a. The design heat input capacity of FG-BOILERS and identification of fuels to be combusted.
- b. The annual capacity factor at which the permittee anticipates operating FG-BOILERS based on all fuels fired and based on each individual fuel fired.

The permittee shall submit these notifications to the AQD District Supervisor within 15 days after initial startup occurs. (40 CFR 60.7, 40 CFR 60.48c(a))

Compliance- Notification was submitted in response to Violation Notice issued on September 1, 2016.

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Compliance Determination
1. SV-BOILER1	30	44	Compliance assumed- Measurements were not taken but stack height appeared correct.
2. SV-BOILER2	30	44	Compliance assumed- Measurements were not taken but stack height appeared correct.
3. SV-BOILER3	30	44	Compliance assumed- Measurements were not taken but stack height appeared correct.
4. SV-BOILER4	30	44	Compliance assumed- Measurements were not taken but stack height appeared correct.

IX. OTHER REQUIREMENTS

1. The permittee shall comply with the provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subpart A and Subpart Dc, as they apply to FG-BOILERS. (40 CFR Part 60 Subparts A & Dc)
COMPLIANCE- Records were received.

The following conditions apply to: FG-GENSETS

DESCRIPTION: Two (2) diesel fuel fired emergency gensets with the maximum rated electrical output of 2,000 kW (2,922 bhp-hr).

Emission Units: EU-GENSET1, EU-GENSET2

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Compliance Determination
1. NO _x	15.5 tpy	12-month rolling time period as determined at the end of each calendar month	FG-GENSETS	COMPLIANCE- Records were received. Emissions were slightly under 15.5 TPY and AQD explained to the facility that another extended power outage would put the facility out of compliance.
2. NMHC+NO _x	6.4 g/kW-hr for each genset	Test Protocol*	FG-GENSETS	Compliance assumed- Generators are certified by Manufacturer to meet EPA specifications.
3. CO	3.5 g/kW-hr for each genset	Test Protocol*	FG-GENSETS	Compliance assumed- Generators are certified by Manufacturer to meet EPA specifications.
4. PM	0.20 g/kW-hr for each genset	Test Protocol*	FG-GENSETS	Compliance assumed- Generators are certified by Manufacturer to meet EPA specifications.
*Test Protocol shall determine averaging time.				

II. MATERIAL LIMITS

1. The permittee shall burn only diesel fuel, in FG-GENSETS with the maximum sulfur content of 15 ppm (0.0015 percent) by weight and a minimum Cetane index of 40 or a maximum aromatic content of 35 volume percent. (R 336.1205(1)(a) & (3), 40 CFR 60.4207, 40 CFR 80.510(b))
 Compliance- Generators use ultra low diesel fuel, which is defined to be fuel with a sulfur content of 15 ppm or lower.

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate each engine in FG-GENSETS for more than 500 hours per 12-month rolling time period as determined at the end of each calendar month. (R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d))

Compliance- Generators have been operational for just over two years and have just over 100 hours of operation.

The permittee may operate each engine in FG-GENSETS for no more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing. A petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per calendar year.

(40 CFR 60.4211(f)(2))

COMPLIANCE. Records were received. Each engine in FG-GENSETS may operate up to 50 hours per calendar year in non-emergency situations, but those 50 hours are counted towards the 100 hours per calendar year provided for maintenance and testing as provided in §60.4211(f)(2). Except as provided in §60.4211(f)(3)(i), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for the permittee to supply non-emergency power as part of a financial arrangement with another entity. (40 CFR 60.4211(f)(3))

4. If the permittee purchased a certified engine, according to procedures specified in 40 CFR Part 60

Subpart IIII, for the same model year, the permittee shall meet the following requirements for each engine of

FG-GENSETS:

- a. Operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions,
- b. Change only those emission related settings that are permitted by the manufacturer, and
- c. Meet the requirements as specified in 40 CFR 89, 94, and/or 1068, as it applies to you.

If you do not operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine.

(40 CFR 60.4211(a))

Compliance- Generators were purchased as certified engines.

5. If the permittee purchased a non-certified engine or a certified engine operating in a non-certified manner, the permittee shall keep a maintenance plan for each engine of FG-GENSETS and shall, to the extent practicable, maintain and operate each engine in a manner consistent with good air pollution control practice for minimizing emissions. (40 CFR 60.4211(g)(3))

Compliance- Generators are certified engines.

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall install a non-resettable hour meter prior to operation of each engine of FG-GENSETS. (R 336.1205, R 336.1224, R 336.1225, R 336.1702, R 336.1910, 40 CFR 52.21(c) & (d))

Compliance- Both generators have non-resettable hour meters.

2. The permittee shall install, maintain, and operate each engine of FG-GENSETS certified to the emission standards in §60.4205(b), as described in SC I.2-4, for the same model year and NFPA nameplate engine power for FG-GENSETS. The engine must be installed and configured according to the manufacturer's emission-related specifications. (40 CFR 60.4205, 40 CFR 60.4211)

Compliance- Generators appeared to be maintained and operated properly.

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. If the permittee does not install, configure, operate, and maintain each engine of FG-GENSETS according to the manufacturer's emission-related written instructions, or changes the emission-related

settings in a way that is not permitted by the manufacturer, the permittee must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year 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 within 1 year after the permittee changes emission-related settings in a way that is not permitted by the manufacturer. The permittee must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards. No less than 45 days prior to any testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. (40 CFR Part 60 Subpart III)

Compliance- Generators appear to be operated and maintained properly.

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. (R 336.1205(1)(a) & (3), 40 CFR 52.21 (c) & (d))

COMPLIANCE- Records were maintained and received.

2. The permittee shall keep, in a satisfactory manner, monthly and previous 12-month NO_x emission calculation records for FG-GENSETS, as required by SC I.1. The permittee shall keep all records on file and make them available to the Department upon request. (R 336.1205(1)(a) & (3), 40 CFR 52.21 (c) & (d))

COMPLIANCE- Records were maintained and received.

3. For FG-GENSETS, the permittee shall keep, in a satisfactory manner, records of testing or manufacturer certification documentation indicating each engine meets the applicable emission limitations contained in the federal Standards of Performance for New Stationary Sources 40 CFR Part 60 Subpart IIII. If any engine becomes uncertified then the permittee must also keep records of a maintenance plan and maintenance activities. The permittee shall keep all records on file and make them available to the Department upon request. (R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a), 40 CFR 52.21 (c) & (d), 40 CFR 60.4211(g))

Compliance- Certification documentation was presented in response to Violation Notice dated September 1, 2016.

4. For FG-GENSETS, the permittee shall keep records of the operation of each engine in emergency and non-emergency service, that are recorded through a non-resettable hour meter, on a monthly basis, in a manner acceptable to the District Supervisor, Air Quality Division. The permittee shall record the time of operation of the engine and the reason the engine was in operation during that time.

(40 CFR 60.4214(b))

COMPLIANCE- Records were maintained. Notes are made regarding the type of use but generally the generators are only run in emergency service except for monthly tests.

5. The permittee shall keep, in a satisfactory manner, fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel used in FG-GENSETS, demonstrating that the fuel meets the requirement of 40 CFR 80.510(b), and as described in SC II.1. The certification or test data shall include the name of the oil supplier or laboratory, the sulfur content, and cetane index or aromatic content of the fuel oil. (R 336.1205(1)(a) & (3), 40 CFR 60.4211, 40 CFR 80.510(b))

COMPLIANCE- Records were received. A copy of the specification sheet for fuel oil was received. In the future AQD may sample to verify the specification sheet.

VII. REPORTING

1. The permittee shall submit a notification specifying whether FG-GENSETS will be operated in a certified or a non-certified manner to the AQD District Supervisor, in writing, within 30 days following the initial startup of the engine and within 30 days of switching the manner of operation. (40 CFR Part 60 Subpart IIII)

Compliance- Certification for generators was submitted in response to violation dated September 1, 2016.

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/ Dimensions (inches)	Minimum Height Above Ground (feet)	Compliance Determination
1. SV-GENSET1	18	34	Compliance assumed- Measurements were not taken but stack height appeared correct.
2. SV-GENSET2	18	34	Compliance assumed- Measurements were not taken but stack height appeared correct.

IX. OTHER REQUIREMENTS

1. The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and IIII, as they apply to FG-GENSETS. (40 CFR Part 60 Subparts A & IIII)

COMPLIANCE- Records were received.

2. The permittee shall comply with the provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR, Part 63, Subpart A and Subpart ZZZZ, as they apply to FG-GENSETS. (40 CFR Part 63 Subparts A and ZZZZ, 40 CFR 63.6595)

COMPLIANCE- Records were received.

APPLICABLE FUGITIVE DUST CONTROL PLAN CONDITIONS:

N/A

MAERS REPORT REVIEW:

The facility is fee subject and is required to submit MAERS.

Pollutant	2018 Emissions(TPY)
CO	0
NOx	7.3
PM	~0
Sox	~0
VOC	~0

The facility is subject to the NSPS for Small-Industrial- Commercial-Institutional Steam Generating Units, 40 CFR 60 Subpart Dc. As prescribed by Act 451, a facility subject to a New Source Performance Standard, is defined as fee subject.

FINAL COMPLIANCE DETERMINATION

Sinai Grace Hospital appears to be in compliance with PTI 176-16 and NSPS Subpart Dc. Mr. Denham inquired about revising the permit to allow for more than two boilers running at the same time. I put him

in touch with the Permit staff.

NAME

J. A.

DATE

5-23-19

SUPERVISOR

W.M.