DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

G506657183

FACILITY: ST JOSEPH MERCY HOSPITAL		**SRN / ID:** G5066
LOCATION: 44405 WOODWARD AVE, PONTIAC		**DISTRICT:** Warren
CITY: PONTIAC		**COUNTY:** OAKLAND
CONTACT: Rocky Alazazi , Director		**ACTIVITY DATE:** 02/25/2021
STAFF: Robert Joseph	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Scheduled on-site inspection of opt-out boiler facility.		
RESOLVED COMPLAINTS:		

On Thursday, February 25, 2021, I, Michigan Department Environment, Great Lakes, and Energy - Air Quality (EGLE-AQD) staff member Robert Joseph, conducted a scheduled inspection of St. Joseph Mercy Hospital-Oakland located at 44405 Woodward Avenue, Pontiac, MI 48341. The purpose of the inspection was to determine the facility's compliance with the requirements of the Federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department Environment, Great Lakes, and Energy - Air Quality (EGLE-AQD) Administrative Rules, and conditions of the facility's Opt-Out Permit to Install (PTI), 216-07A.

Introduction

I arrived at the facility at approximately 11:30 a.m. and met with Mr. Rocky Alazazi, Facility Director. I presented my identification and credentials and stated the purpose of my visit. I asked Mr. Alazazi to provide me some background information about the facility. He indicated the facility employs over 3,000 employees and operates 24 hours a day. The hospital has over 400 hospital beds and is a community teaching facility, a level II trauma center, and emergency room provider in Oakland County. The facility features a surgical pavilion, south patient tower with over 200 private rooms, and a recently renovated infant care unit.

Facility Tour

Mr. Alazazi indicated he recently became director of the facility and has been trying to update the facility's MAERS submittal as well as familiarize himself with the facility's air quality permit.

He provided me a brief tour of the facility on the way to the facility's three permitted emission units, the Cleaver Brooks boilers. Also known as Package Boilers, they require a fuel supply, electrical connections, steam, and a network of water pipes. These package boilers are classified as fire-tube boilers, which contain tubes constructed within the vessel where hot steam (gases) is passed through them transferring this heat to the surrounding vessel via conduction or radiation, thus heating the liquid. These boilers are equipped to run on natural gas or distillate oil and have a maximum rated heat input capacity of 25 MMBtu/hr. The facility has only been operating the boilers via natural gas. These boilers vent upwards to a stack without any obstructions.

The facility also maintains nine certified emergency generators on-site (all equal to or less than 1 MW) which are exempt from the State of Michigan Air Pollution Control Rules, Rule 201 Permit to Install, since they are all under 10 million BTU/hr maximum heat input per Rule 285(2)(g) for all internal combustion engines. In addition, the generators are subject to

40 CFR Part 63 Subpart ZZZZ, however, they do not fall under EGLE-AQD regulation authority since the facility is a minor source and not a major source for hazardous air pollutants (HAPs). The facility maintains they are per operated per manufacture specifications and are subject to 40 CFR 60 Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines) limiting their operation to 50 hours each per calendar year for non-emergency usage (no time limit for usage in emergency situations).

I also inquired about the facility's use of Ethylene Oxide for the sterlization of moisture and heat sensitive equipment given its carcinogenic effects which has come under U.S. EPA investigation. The facility indicated they do not use this compound but rather use Steris equipment which is a manufacturer that specializes in UV irradiaton, filters, their trademark S40 sterilant concentrate, as well as other products they offer. I inquired if the facility uses the S40 sterilant concentrate and what chemical compounds are present in the solution and they indicated they do not use this concentrate. They indicated they use Rapicide PA which is composed or trisodium phosphate, peracetic acid, hydrogen peroxide, and inert ingredients with water. These compounds are not emission concerns relating to the Clean Air Act.

The facility's records are maintained by their consultant, Arch Environmental Group, Inc. After completion of the tour, Mr. Alazazi contacted Ms. Jenna Sendra, Senior Consultant, and we spoke about the corrections needed regarding the facility's fuel reporting for their MAERS submittal as well the recordkeeping requirements of the PTI. The facility receives their fuel usage records via the Consumers Energy portal which details the boilers' fuel usage. The facility is a synthetic minor source with a legally enforceable NO_x limit for all emission units facility-wide and they are below the major source threshold. The boilers have not undergone any reconstruction or modification since their installation.

Environmental Compliance per Opt-Out Permit To Install : 216-07A

FG-Boilers

There are three Cleaver Brooks fire-tubed boilers that are in the facility's permit. They were installed approximately in 1995 and have an input capacity of 25 MMBtu/hr with a maximum pressure of 150 lb/in^2. They are natural gas boilers with oil-firing backup capabilities.

II. Material Limits

The facility indicates that only natural gas is used in these boilers, therefore, there are no sulfur usage records. The facility does however conduct 0.5 hr tests each month on six of the facility's generators.

VI. Monitoring/Recordkeeping

The input capacity of each boiler is 25 MMBtu/hr and each is labeled with natural gas as the fuel source. The facility does not burn coal in the boilers in reference to the annual capacity factor for any fuel or mixture of fuels under 40 CFR Part 60 Subpart Dc, either 60.42c or 60.43c. The facility has not provided a notification for any emerging technology used for controlling SO_2 emissions. In addition, according to the facility, #2 fuel oil has not been used in the boilers.

The facility provided records for the natural gas combusted during each calendar month, with usage ranging between 8 to 21 MMcf the last two years. The heat content of the natural gas is 1,012 BTU/ft^3.

FG-Facility

I. Emission Limits

The facility is permitted a NO_x limit of 89.9 tons/yr per 12-month rolling time period as determined at the end of each calendar month.

II. Material Limits

The natural gas usage by the facility shall not exceed 933.6 MMcf per 12-month rolling time period as determined at the end of each calendar month.

III. Process/Operational Restrictions

The facility indicates that #2 fuel oil usage did not exceed 500 hours. Records indicate that 36 total hours of fuel oil usage occurred (for testing purposes only) in six of the generators per 12-month rolling time-period as determined at the end of each calendar month.

VI. Monitoring/Recordkeeping

The monthly natural gas usage in MMcf varied between 8 MMcf and 21 MMcf the last two years, and between 148 MMcf and 156 MMcf on a 12-month rolling time-period basis. The monthly NO_x mass emissions varied between 0.4 tons/month to 1 tons/month, and between 7 tons to 8 tons on a 12-month rolling time-period basis. Lastly, 0.5 hours of fuel oil usage occurred each month in each of the facilty's six exempt generators totaling 36 hours per 12-month rolling time period. An uncontrolled NO_x emission factor of 100 lb/MMcf for boilers under 100 MMBtu/hr was used per EPA AP-42, section 1.4, natural gas combustion.

Conclusion

It appears St. Joseph Mercy-Oakland is in-compliance with the aforementioned requirements and the remaining conditions of the facility's Opt-Out permit, 216-07A.

NAME Robert Joseph DATE 06-17-21 SUPERVISOR K. Kelly