DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection 5

M365324035

FACILITY: V A MEDICAL CENTER		SRN / ID: M3653
LOCATION: 2215 FULLER RD, ANN ARBOR		DISTRICT: Jackson
CITY: ANN ARBOR		COUNTY: WASHTENAW
CONTACT:		ACTIVITY DATE: 12/20/2013
STAFF: Glen Erickson	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Scheduled inspection of VA hospital which has an opt-out permit for their boilers limiting the SO2 emissions to the equivalent of less than 90 tons/yr.		
RESOLVED COMPLAINTS:		

Scheduled inspection of VA Ann Arbor Healthcare System with Joe Jurasek, Industrial Hygienist and Gerald McNett, Environmental Engineer. Before conducting the inspection we first went to meet with the Director in his office.

Met with Robert McDivitt, Director, VA Ann Arbor Healthcare System, Department of Veterans Affairs. It is his policy to meet with any inspectors of the facility prior to any inspections in order to get a better understanding of what the inspection may entail and to offer any assistance he can to meet the needs of the inspector. I told him I was interested in inspecting the latest diesel emergency generator which was installed with a permit to install No. 36-11; the four (4) ethylene oxide sterilizers covered under PTI No. 182-98; and the four (4) natural gas/fuel oil-fired boilers installed under PTI No. 315-98; and to discuss the area MACT standards that may apply to various elements of their facility such as the older generators, and the oil fired boilers. I told him I had no reason to expect any compliance issues.

We went to Building 1 West to where the newest diesel emergency generator, a CAT 1500 KW unit covered under PTI No. 36-11 is located, alongside five (5) smaller CAT diesel emergency generators of 750 KW capacity installed in 1999. The 1500 KW unit is subject to the NSPS, Part 60, Subpart IIII, which most significantly requires fuel oil to contain no more than 15 ppm S.

The older, 1999 emergency generators are not subject to Part 60, Subpart IIII, but are subject to the MACT standard, Part 63, Subpart ZZZZ. Likewise, the existing 315 KW diesel emergency generator installed in the 1980's in Building 28, the 500 KW diesel generator installed in the 1990's in Building 32, and the 90 KW diesel generator installed in 1998 in Building 31 are all subject to Part 63, Subpart ZZZZ. The requirements for ZZZZ listed in Table 2d of the subpart are that emergency stationary compression ignition (CI) reciprocating internal combustion engines (RICE) :

a. Change oil and filter every 500 hours of operation or annually, whichever comes first;

b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first;

c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

It appears that all of the existing generators are complying with the requirements of Subpart ZZZZ.

The most recent letter to AQD of 10-24-13 from McDivitt confirms that during the last calendar quarter all No. 2 fuel oil combusted at the facility had a maximum sulfur content of 0.0015%, or 15 ppm. This letter also confirms that the 0.5% S content limit for the Subpart Dc-subject boilers (4) covered under PTI No. 315-98 is met with the ultra low sulfur fuel oil which is currently delivered by Atlas Oil Co.

Went to the powerhouse, named the Energy Center to meet with Robin Bulmon, Powerhouse Supervisor, who only very recently assumed this position. She was not able to locate at that mement the boiler records for the amounts of fuel oil combusted in the four (4) boilers compiled by her predecessor, but knew it was not much different from previous years. They only operate the boilers on fuel oil a maximum of about 3 hrs./mo. for keeping them in proper operational condition, and to train operators. They do not operate the boilers on fuel oil for any extended time for cost reasons, as the price of natural gas remains significantly below the price of fuel oil. As long as they operate less than 48 hours per year per boiler on fuel oil for periods of gas curtailment, gas supply interruption and periodic testing these

dual fuel boilers will meet the definition of gas-fired boilers under Part 63, Subpart JJJJJJ (6J), and therefore, not be subject to the area source boiler MACT regulation.

For the reporting year 2012 they combusted 4150 gals. in the four (4) boilers in aggregate. At a maximum fuel consumption rate of 209 gals.hr. that would translate to 19.85 hrs./yr. in aggregate, or about 5 hrs./boiler.

PTI No. 314-98 has an SO2 emission limit/ month of 7.09 tons, which equates to 85 tons per year. The basis for the permit limit of 7.09 tons/month is not entirely clear in the permit application documents or in the permit evaluation documents. It appears that the SO2 emission rate assumes an in-fuel S level of between 0.3% and 0.5 % S, and an annual amount of hours of operation for 1-700 HP boiler of 730 hrs. /yr. In any case, the actual SO2 emissions from the boilers derive from the actual S content in the ultra low diesel fuel delivered to the facility in the past several years, which is a maximum S content of 0.0015 % (15 ppm). This level translates to an annual emission rate of SO2 of 0.27 tons/yr. based on 209 gals./hr. consumption rate for 1-700 hp boiler for 730 hours/yr.

At the powerhouse we observed a new gas-fired microturbine using natural gas that is in the process of being installed. They expect initial operation within a month or so. This unit was described in a permit scoping memo developed by Dave Yanochko of FTC&H. 4-19-12 for the VA. This scoping analysis concludes that this unit is PTI-exempt via Rule 282(b)(i). Further, the analysis concludes that this microturbine project is not subject to Part 60, Subpart GG since it is actually five(5) individually operated gas-fired turbines of 2.28 MMBtu/hr. heat input capacity. Subpart GG applies to gas-fired turbines of 10 MBtu/hr. heat input or greater. During our inspection of the powerhouse I discussed my need to have further information about the individual nature of these turbines to decide whether I agree with the conclusion of FTC&H. Jurasek indicated that we would try to connect with a project engineer back at his department.

Went next to the Sterilization Process Services department where we met with Assistant Chief Sheila Griffin. Briefly observed the four (4) small ethylene oxide (EtO) sterilizers covered under PTI No. 182-98. These units are quite small; 4.8 cu. ft. Utilize 100% EtO. One load per day for each unit, with a single 100 gram EtO cannister charge per load. They have been transitioning away from sterilizing with EtO to sterilizing with hydrogen peroxide. They have installed a Johnson & Johnson hydrogren peroxide sterilizer for which they have switched individual pieces of equipment to this form of sterilizing after they have received manufacturer's approval. They anticipate that for 2014 they will have reduced the amount of materials needing to be sterilized with EtO by 45 %.

Sterilizers utilizing hydrogen peroxide at medical and pharmaceutical facilitiies are exempt from PTI's via Rule 282(i).

Back at the Engineering Dept. we met with Rod Ipakchian, Energy Manager VA, and project engineer for the microturbine project. Ipakchain was able to provide cut sheet diagrams and design documents which clearly show that the project consists of coupling five(5) separate turbines into 1 combined energy production project. These microturbines are designed to be increased or decreased in overall project size by adding or subtracting individual modules. The total heat input of the combined project is 11.4 MMBtu/hr, with a combined power output of 1000 KW, from this Capstone Model C1000. I agree that this project consists of 5 individually operated turbines, each of which is exempt from Rule 201, and each of which is also not subject to Subpart GG.

Facility appears at this time to be in full compliance with all applicable air permits and air regulations.

NAME GLEN ERICKSON DATE 1-14-14 SUPERVISOR