

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

G506757194

FACILITY: WILLIAM BEAUMONT HOSPITAL		SRN / ID: G5067
LOCATION: 3601 W. 13 MILE RD., ROYAL OAK		DISTRICT: Warren
CITY: ROYAL OAK		COUNTY: OAKLAND
CONTACT: Andy Rusnak , Technical Manager		ACTIVITY DATE: 03/12/2021
STAFF: Kerry Kelly	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: FY 2021 Scheduled Inspection		
RESOLVED COMPLAINTS:		

On March 12, 2021, I (Kerry Kelly, EGLE, Senior Environmental Quality Analyst) conducted an on-site inspection of William Beaumont Hospital-Royal Oak Campus (Beaumont), State Registry Number (SRN): G5067, located at 3601 W 13 Mile Road, in Royal Oak, Michigan. The purpose of this inspection was to determine Beaumont's compliance with the Federal Clean Air Act, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act of 1994, PA 451, as amended, Michigan's Air Pollution Control Rules; and the conditions established in Renewable Operating Permit (ROP) No. MI-ROP-G5067-2019a.

CONTACTS

The following Beaumont and contract employees assisted me during the inspection by showing me relevant equipment, answering questions, and providing records:

Ms. Amy Blazejewski, Senior Director, Environment and Life Safety, William Beaumont

Mr. Andy Rusnak, Technical Manager, Impact Compliance and Testing

Mr. Jim Gibson, Beaumont, Bio-medical Technician, William Beaumont

Mr. Kevin Paquet, Lead Technician, William Beaumont

Mr. Howard Bosch, Beaumont, Lead Technician Power Plant, William Beaumont

Mr. Matthew George, Director Facilities Management Services, Authorized Representative, William Beaumont

FACILITY OVERVIEW

The Beaumont Royal Oak Campus is located in Southeastern Oakland County which is currently designated by the United States Environmental Protection Agency (USEPA) as a non-attainment area with respect to the 8-hour ozone standard. The Beaumont campus is approximately four million square feet and is immediately surrounded by residential properties to the east, west, and south and a high school to the north. The facility is considered a major source of carbon monoxide (CO) and nitrogen oxides (NOx) and a minor source of Hazardous Air Pollutants (HAP).

MI-ROP-G5067-2019a

Currently, William Beaumont is operating under MI-ROP-G5067-2019a.

Equipment permitted in MI-ROP-G5067-2019a consists of five boilers (EU-BOILER1, FG-BOILERS2&3, FG-BOILERS4&5), 10 stationary internal combustion engines (ICE) (FG-EMERGENCY & FG-ELECGEN1&2R), four ethylene oxide (EtO) sterilizers (FG-ETOSTERILZERS), a paint booth (EU-WOODSHOP), and a cold cleaner (EU-CCGARAGE). A flexible group (FG-FUELOIL) is also included in the ROP and contains sulfur dioxide emission standards and fuel oil certification or analysis requirements.

William Beaumont applied for a permit to install (PTI 95-19) to change the recordkeeping requirements pertaining FG-BOILERS2&3, FG-BOILERS4&5, FG-FUELOIL, and FG-EMERGENCY from daily to monthly. The recordkeeping changes resulted in changes to the emission limits for FG-BOILERS2&3 and FG-BOILERS4&5 as well. Three previously permitted emergency engines (EU-ELECGEN3, EU-ELECGEN4, and EU-ELECGEN5) were removed from the flexible group FG-EMERGENCY in PTI 95-19 because these engines were dismantled and removed from the facility. MI-ROP-G5067-2019 was modified to add PTI 95-19 to the ROP/Source-wide PTI. The modification was approved and MI-ROP-G5067-2019a became effective September 2, 2020.

BOILERS

The five permitted boilers at Beaumont Royal Oak, located in the West Powerhouse, are used to provide steam for equipment sterilization, cooking, and building heating. The primary fuel used in these boilers is natural gas, however, the Michigan Department of Community Health 2007 Minimum Design Standards for Health Care Facilities requires hospitals to have an emergency fuel supply for boilers at hospitals. As a result, the facility's boilers are capable of combusting fuel oil No. 2.

Permit conditions for the boilers are included in the following tables in the ROP: EU-BOILER1, FG-BOILER2&3, FG-BOILER4&5, and FG-FUELOIL. At the time of my inspection, EU-BOILER1 and EU-BOILER 2 were operating.

EU-BOILER 1

EU-BOILER1 nameplate states it is a E. Keeler Co. boiler manufactured in 1977 with a capacity of 39,000 cubic feet per hour natural gas or 1940 lbs per hour of fuel oil number 2. This equates to a maximum heat input between 37.050 MMBtu/hour to 40.095 MMBtu/hour depending on the Btu content of the the natural gas used which typically varies between 950 to 1050 Btu/scf. The ROP description states the boiler's heat input capacity is 39.0 MMBtu/hour. EU-BOILER1 was being operated using natural gas during the inspection.

The Standards of Performance (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units promulgated in 40 CFR Part 60, Subparts A and Dc do not appear to apply to the EU-BOILER1 because EU-BOILER1 was constructed prior to June 9, 1989 and does not appear to have been reconstructed or modified.

EU-BOILER1 is not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers Area Sources promulgated in 40 CFR 63 Subpart JJJJJJ if it operated as a gas-fired boiler as defined in the subpart per 40 CFR 63.11195. A gas-fired boiler is defined as any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year. The ROP limits the number of hours EU-BOILER1 can be operated on liquid fuel for periodic testing to no more than 48 hours. Mr. Rusnak provided records of the number of hours EU-BOILER1 operated on fuel oil during calendar year 2019 and 2020 (Attachment 1). According to these records EU-BOILER1 was operated using fuel oil for 1.25 hours in calendar year 2019 and zero hours in calendar year 2021. This boiler appears to be operating as a gas-fired boiler and therefore is not subject to 40 CFR 63 Subpart JJJJJJ.

SO₂ emissions from EU-BOILER1 are limited to 0.33 lb/MMBtu. Compliance with this condition is demonstrated through EU-BOILER1 SC VI.3 and FG-FUELOIL SC VI.1 according to the ROP. Based on the emission calculation and records provided by Mr. Rusnak (Attachment 2), and required in EU-BOILER1 SC VI. 2 and VI.3 and FG-FUELOIL SC VI.1, the 24-hour average SO₂ emissions are being calculated in accordance with Appendix 7.1, the sulfur content of the fuel is 0.0015 percent by weight, and the highest reported 24-hour average SO₂ emissions for EU-BOILER1 between September 2019 and December 2020 was zero pounds.

Mr. Rusnak provided records of the montly fuel usage and NO_x emissions for EU-BOILER1 (Attachment 2), as required in SC VI. 2 and VI.4 of MI-ROP-G5067-2019a, for September 2019 through December 2020. Beaumont is using NO_x emission factors stated in Appendix 7.2 of the ROP (0.02 lbs per gallon of fuel oil and 0.0001 pounds per cubic foot for natural gas). There are no daily, monthly, or yearly NO_x emission limits in the ROP for Boiler #1.

The ROP requires Beaumont to develop and implement, in accordance with good engineering practices, a routine preventative maintenance plan for EU-BOILER1 and record all completed preventative maintenance events. Beaumont submitted a routine preventative maintenance plan for EU-BOILER1. The routine preventative maintenance events for EU-BOILER1 are recorded in a written log and a computer software program. A list of scheduled preventative maintenance activities for EU-BOILER1 was provided by Mr. Rusnak (Attachment 3). These records show maintenance is scheduled in accordance with the Preventative Maintenance Plan. The records do not show that all scheduled work was completed. Mr. Bosch stated during the on-site inspection, and in an email I received on 4/6/21 (Attachment 4), that all scheduled work was completed and is noted in other documents. Mr. Bosch reviewed and provided a report with the status of the work orders (Attachment 3). Based on this document all inspections and preventative maintenace was completed. The only work not completed was test firing on fuel oil because a combustion setup needs to be done by an outside contractor after the new fuel actuator was installed.

Outside of the West Powerhouse I inspected the stack for EU-BOILER1 and did not observe any visible emissions from the stack.

FG-BOILER2&3

The nameplate for EU-BOILER2 states it is a 48.136 MBtu/hour, Cleaver-Brooks boiler manufactured in 1997 and capable of firing natural gas or fuel oil number 2. EU-BOILER3, per the nameplate, is a Cleaver-Brooks boiler manufactured in 2001. The specification sheets show that EU-BOILER3 has a heat input capacity of 43.078 MMBtu/hour when firing fuel oil number 2 and 44.596 MMBtu/hour when firing natural gas. The ROP states that EU-BOILER2 and EU-BOILER3 each have a heat input capacity of 48.2 MMBtu/hour using natural gas fuel and 46.4 MMBtu/hour using fuel oil No. 2. EU-BOILER2 was being operated using natural gas during the inspection.

EU-BOILER2 and EU-BOILER3 are not subject to the NESHAP for Industrial, Commercial, and Institutional Boilers Area Sources promulgated in 40 CFR 63 Subpart JJJJJJ if they are operated as gas-fired boilers as defined in the subpart per 40 CFR 63.11195. Mr. Rusnak provided records of the number of hours EU-BOILER2 and EU-BOILER3 were operated on fuel oil for calendar years 2019 and 2020 (Attachment 1). According to these records EU-BOILER2 was operated for 4.25 hours in calendar year 2019 and for zero hours in calendar year 2020. EU-BOILER3 was operated for zero hours in calendar year 2019 and 2020. These boilers appear to be operating as gas-fired boilers and therefore are not subject to 40 CFR 63 Subpart JJJJJJ.

EU-BOILER2 and EU-BOILER3 are subject to 40 CFR Part 60 Subpart Dc. FG-BOILERS2&3 in the ROP contains conditions from 40 CFR Part 60 Subparts Dc applicable to EU-BOILER2 and EU-BOILER3.

In MI-ROP-G5067-2019a, each boiler in FG-BOILER2&3 is limited to 1.7 pounds of SO₂ per day based on a calendar month average and 23.0 tons of NO_x per 12-month rolling period. Compliance with the SO₂ and NO_x emission limits are demonstrated through recordkeeping requirements in FGBOILER2&3 SC VI.2 and VI.4 respectively. Daily emission records provided by Mr. Rusnak for September 2019 – December 2020 (Attachment 5) indicate neither EU-BOILER2 nor EU-BOILER3 emitted SO₂ during the time period covered in the records. Mr. Rusnak also provided 12-month rolling NO_x emission records (Attachment 5). The highest recorded 12-month rolling NO_x emissions for EU-BOILER2 was 10.7 tons reported in September 2020 and for EU-BOILER3 was 6.6 tons reported in September 2019.

Visible emissions from each boiler in FG-BOILERS2&3 are limited to a 6-minute average of 20% opacity, except for one 6-minute average per hour of not more than 27% opacity. This opacity limit applies at all times except during periods of startup, shutdown or malfunction. The underlying applicable requirement for this condition (40 CFR 60.43c (c) & (d)) which applies to boilers that combust coal, wood, or oil and that have a heat input capacity of 8.7 MW (30 MMBtu/h) or greater. 40 CFR 60.47c(a) requires the permittee to conduct an initial performance test using Method 9 to demonstrate compliance with the opacity limit in 40 CFR 60.43c for facilities that are not required to use Continuous Opacity Monitoring Systems (COMS) and do not use COMS. Subsequent Method 9 performance tests must be completed within 3, 6, or 12 calendar months from the date that the most recent performance test was conducted based on the opacity observed during the previous test or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later. If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 performance test, Beaumont may, as an alternative to performing subsequent Method 9 performance tests, elect to perform subsequent monitoring using Method 22. Beaumont does not use COMS on EU-BOILER4 or EU-BOILER5. According to records provided, Beaumont combusted fuel oil in EU-BOILER2 for a total of 5.25 hours in a three year period (January 2018 and December 2020), the last time being in September 2019. Beaumont combusted fuel oil in EU-BOILER3 for a total of 1.5 hours between January 2018 and December 2020, the last occurrence was in September 2018. Mr. Bosch provided notes taken while EU-BOILER2 was being operated on fuel oil in September 2019 (Attachment 6). These records indicate EU-BOILER2 was being operated for 4 hours while DJ Conley adjusted combustion following installation of a new servo motor. The records state Method 22 readings were not taken while DJ Conley was setting the combustion and that an exhaust gas analyzer was used during testing.

The ROP establishes a natural gas usage limit of 420 MMscf and a fuel oil No. 2 usage limit of 200,000 gallons per 12-month rolling period for each boiler individually. Compliance with these material limits is demonstrated through recordkeeping requirements per the ROP. Based on the fuel use records provided by Mr. Rusnak for September 2019 – December 2020 (Attachment 5), the highest 12-month rolling natural gas usage for EU-BOILER2 was 213 MMscf reported in September 2020 and for EU-BOILER3 was 131 MMscf reported in September 2019. The highest reported 12-month rolling No.2 fuel oil usage between September 2019 through December 2020 for EU-BOILER2 was 681 gallons reported in September 2019 and for EU-BOILER3 was 47 gallons reported in September 2019.

The ROP requires Beaumont to develop and implement, in accordance with good engineering practices, a routine preventative maintenance plan for EU-BOILER2 and EU-BOILER3 and record all completed

preventative maintenance events. Beaumont submitted a routine preventative maintenance plan for EU-BOILER2 and EUBOILER3. The routine preventative maintenance events for EU-BOILER2 and EUBOILER3 are recorded in a written log and a computer software program. A list of completed preventative maintenance activities for EU-BOILER2 and EUBOILER3 was provided by Mr. Rusnak(Attachment 7). The records do not show that all scheduled work was completed. Mr. Bosch stated during the on-site inspection, and in an email I received on 4/6/21 (Attachment 4), that all scheduled work was completed and is noted in other documents. Mr. Bosch reviewed and provided a report with the status of the work orders (Attachment 7). Based on this document all inspections and preventative maintenance was completed. The only work not completed was test firing on fuel oil.

Outside of the West Powerhouse I inspected the stack for EU-BOILER2 and EUBOILER3 and did not observe any visible emissions from the stack.

FG-BOILER4&5

Information on the nameplate and boiler for EU-BOILER4 indicates it is an Erie City boiler capable of combusting natural gas or fuel oil No. 2 with a heat input capacity of 59,000,000 Btu/hour and manufactured in 1973. The information on the nameplate is consistent with the description in PTI 95-19, however, the description in the PTI was not included in the ROP during modification. The ROP states the heat input capacity for EU-BOILER4 is 48 MMBtu/hour. EU-BOILER4 was not being operated during the inspection.

EU-BOILER5, according the nameplates, is a Keeler boiler manufactured in 1975 with a natural gas throughput capacity of 52,100 cfh (heat input between 49.495 MMBtu/hour and 54.705 MMBtu/hour) and fuel oil capacity of 2,585 pounds per hour (approximately 50.264 MMBtu/hour based on fuel oil density of 7.2 lbs/gallon and 140,000 Btu/gallon). The information on the nameplate is consistent with the description in PTI 95-19 (52.1 MMBtu/hour), however, the description in the PTI was not included in the ROP during modification. The ROP states the heat input capacity for EU-BOILER5 is 48 MMBtu/hour. Boiler #5 was not being operated during the inspection.

EU-BOILER4 and EUBOILER5 are not subject to the NESHAP for Industrial, Commercial, and Institutional Boilers Area Sources promulgated in 40 CFR 63 Subpart JJJJJJ if they are operated as gas-fired boilers as defined in the subpart per 40 CFR 63.11195. Mr. Rusnak provided records of the number of hours EU-BOILER4 and EUBOILER5 were operated on fuel oil for calendar years 2019 and 2020 (Attachment 1). According to these records EU-BOILER4 was operated for zero hours in calendar year 2018 and for 11.5 hours in calendar year 2020. EU-BOILER5 was operated for zero hours in calendar years 2019 and 2020. These boilers appear to be operating as gas-fired boilers and therefore are not subject to 40 CFR 63 Subpart JJJJJJ.

EU-BOILER4 and EU-BOILER5 are subject to 40 CFR Part 60 Subparts Dc. FB-BOILERS4&5 in the ROP and PTI contains conditions from 40 CFR Part 60 Subparts Dc applicable to EU-BOILER4 and EU-BOILER5.

EU-BOILER4 and EU-BOILER5 share a 1.1 pounds per calendar day SO₂ limit based on a calendar month average and a 48.5 tons NO_x emission limit per 12-month rolling period. Compliance with the SO₂ and NO_x emission limits are demonstrated through recordkeeping requirements. Emission records provided by Mr. Rusnak for January 2019– December 2020 (Attachment 8) indicate the highest combined daily SO₂ emissions for EU-BOILER4 and EU-BOILER5 between September 2019 – December 2020 were 0.0123 pounds reported for February 2020 which is below the limit in the ROP. The highest recorded 12-month rolling NO_x emissions between September 2019 – December 2020 for EU-BOILER4 and EU-BOILER5 combined was 6.8 tons reported in December 2020, which is less than the 48.5 ton 12-month rolling NO_x emission limit.

Visible emissions from each boiler in FG-BOILERS4&5 are limited to a 6-minute average of 20% opacity, except for one 6-minute average per hour of not more than 27% opacity. This opacity limit applies at all times except during periods of startup, shutdown or malfunction. The underlying applicable requirement for this condition (40 CFR 60.43c (c) & (d)) which applies to boilers that combust coal, wood, or oil and that have a heat input capacity of 8.7 MW (30 MMBtu/h) or greater. 40 CFR 60.47c(a) requires the permittee to conduct an initial performance test using Method 9 to demonstrate compliance with the opacity limit in 40 CFR 60.43c for facilities that are not required to use Continuous Opacity Monitoring Systems (COMS) and do not use COMS. Subsequent Method 9 performance tests must be completed within 3, 6, or 12 calendar months from the date that the most recent performance test was conducted based on the opacity observed during the previous test or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later. If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 performance test, Beaumont may, as an alternative to performing subsequent Method 9 performance tests, elect to perform subsequent monitoring using

Method 22. Beaumont does not use COMS on EU-BOILER4 or EU-BOILER5. According to records provided, Beaumont combusted fuel oil in EU-BOILER4 for a total of 13.5 hours in a three year period (January 2018 through December 2020), the last time was in February 2020. Beaumont has not combusted in EU-BOILER5 between January 2018 and December 2020. Mr. Bosch provided notes and Method 22 readings conducted while EU-BOILER4 was being operated on fuel oil in 2020 (Attachment 9). These records indicate EU-BOILER4 was operated on fuel oil for 1 hour in January 2020 and 10.5 hours in February 2020 for combustion testing following work performed by DJ Conley on the fuel oil valve. The records state Method 22 readings were taken on February 19 and no smoke was observed.

The ROP establishes natural gas usage limit of 693.8 MM cubic feet and a fuel oil usage limit of 5,250 gallons for EU-BOILER4 or EU-BOILER5 combined per 12-month rolling period. Fuel use records provided by Mr. Rusnak for September 2019– December 2020 (Attachment 8) indicate the highest combined 12-month rolling natural gas usage between September 2019 – December 2020 for EU-BOILER4 and EU-BOILER5 combined was 136.4 MM cubic feet reported in December 2020. The highest fuel oil #2 usage for EU-BOILER4 and EU-BOILER5 combined between September 2019 – December 2020 was 1721 gallons. Both the highest natural gas usage and fuel oil #2 usage between September 2019 – December 2020 were less than the material limits in the ROP.

The ROP requires Beaumont to develop and implement, in accordance with good engineering practices, a routine preventative maintenance plan for EU-BOILER4 and EU-BOILER5 and record all completed preventative maintenance events. Beaumont submitted a routine preventative maintenance plan for EU-BOILER4 and EU-BOILER5. The routine preventative maintenance events for EU-BOILER4 and EU-BOILER5 are recorded in a written log and a computer software program. A list of completed preventative maintenance activities for EU-BOILER4 and EU-BOILER5 were provided by Mr. Bosch (Attachment 10). These records show maintenance is scheduled in accordance with the Preventative Maintenance Plan. The records do not show that all scheduled work was completed. Mr. Bosch stated during the on-site inspection, and in an email I received on 4/6/21 (Attachment 4), that all scheduled work was completed and is noted in other documents. Mr. Bosch reviewed and provided a report with the status of the work orders (Attachment 10). Based on this document all inspections and preventative maintenance was completed. The only work not completed was test firing EU-BOILER5 on fuel oil.

FUEL OIL USAGE

FG-FUELOIL

FG-FUELOIL is comprised of emission units that are subject to sulfur dioxide emission standards and a fuel oil certification; these units include: EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-BOILER4, EU-BOILER5, EU-COGEN1, EU-COGEN2, EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9, EU-RESGEN1, and EU-RESGEN2. Each shipment of fuel oil for these emission units is limited to no more than 15 ppm sulfur by weight.

According to the semi-annual reports submitted by Beaumont on July 30, 2020 and January 15, 2021, no fuel oil was received during the reporting period and the sulfur content of the fuel oil combusted during the reporting period was provided in a previous report. The previous report stated the maximum sulfur content was 0.0015% by weight.

EU-ELECGEN6 and EU-ELECGEN7 are limited to 65,000 gallons combined of fuel oil No. 2 usage per year. EU-ELECGEN8 and EU-ELECGEN9 are also limited to 65,000 gallons fuel oil No. 2 per year combined. Records provided by Mr. Rusnak for September 2019 through December 2020 (Attachment 11) indicate the highest reported 12-month rolling fuel oil No. 2 usage for EU-ELECGEN6 and EU-ELECGEN7 combined between September 2019 and December 2020 was 3,272 gallons reported in September 2019. The highest reported 12-month rolling fuel oil No. 2 usage for EU-ELECGEN8 and EU-ELECGEN9 combined between September 2019 and December 2020 was 3,313 gallons reported in December 2020. The reported fuel oil usage for EU-ELECGEN6 and EU-ELECGEN7 combined and EU-ELECGEN8 and EU-ELECGEN9 combined are less than the limits in SC II.1 and II.2 respectively.

The ROP requires Beaumont to develop and implement, in accordance with good engineering practices, a routine preventative maintenance plan for EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9, EU-RESGEN1 and EU-RESGEN2 and record all completed preventative maintenance events. Beaumont submitted a routine preventative maintenance plan for EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9, EU-RESGEN1 and EU-RESGEN2. The routine preventative maintenance events for EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9, EU-RESGEN1 and EU-RESGEN2 are recorded in a computer software program. A list of completed preventative maintenance

activities for EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9, EU-RESGEN1 and EU-RESGEN2 was provided by Mr. Bosch (S:\Air Quality Division\STAFF\Kerry Kelly\G5067_William Beaumont Royal Oak\FY 2021 Inspection\Generator Maintenance). These records appear to indicate the maintenance is done according to the schedule outlined in the Preventative Maintenance Plan.

Beaumont is required to submit semiannual reports consisting of fuel oil analyses either conducted by the fuel oil supplier or an independent laboratory and a certified statement signed by a responsible official indicating that the analysis submitted represents all of the fuel oil combusted during the reporting period. AQD received the semi-annual fuel oil certification records for January 1, 2020 through June 31, 2020 and July 1, 2020 through December 31, 2020 on time.

EMERGENCY GENERATORS

There are 10 permitted internal combustion engines (ICE) in MI-ROP-G5067-2019a. These ICE are used for emergency power generation. Conditions for the ICE are located in two flexible groups in the ROP: FG-EMERGENCY and FG-ELECGEN1&2R. Conditions pertaining to EU-COGEN1, EU-COGEN2, EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9, EU-RESGEN1, EU-RESGEN2 are contained in FG-EMERGENCY.

The 2007 Minimum Design Standards for Health Care Facilities Hospitals requires hospitals be capable of providing not less than 72 hours of service at full load in emergency situations. Eight of the 10 stationary ICE at Beaumont are emergency generators that fire No. 2 fuel oil. The remaining two ICE are cogeneration engines capable of firing No. 2 fuel oil and natural gas. Cogeneration units generate electricity and useful heat simultaneously. The heat generated in the cogeneration units at Beaumont can be used in a heat recovery boiler capable of producing 2,000 lbs of steam per hour. According to Mr. Bosch and documentation provided by Beaumont, the co-generation units are currently only using No. 2 fuel oil. At this time the co-gen units are classified in the ROP as emergency engines.

The engine locations on the Beaumont Royal Oak Campus are as follows:

West Powerhouse - EU-COGEN1, EU-COGEN2, EU-ELECGEN6, EU-ELECGEN7,
EU-ELECGEN1R, and EU-ELECGEN2R

East Powerhouse - ELECGEN8 and EU-ELECGEN9

Research Building - EU-RESGEN1 and EU-RESGEN2

FG-EMERGENCY

FG-EMERGENCY is comprised of EU-COGEN1, EU-COGEN2, EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9, EU-RESGEN1, EU-RESGEN2.

The engines in FG-EMERGENCY do not appear to be subject to the NESHAP for Stationary Reciprocating Internal Combustion Engines promulgated in 40 CFR, Part 63, Subparts A and ZZZZ per 40 CFR 63.6585(f) (3) because they are existing institutional emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in 40 CFR 63.6640(f)(4)(ii). EGLE-AQD has not accepted delegation to enforce 40 CFR 63 Subpart ZZZZ at area sources of HAP emissions.

To be considered an emergency engine per 40 CFR Part 63, Subpart ZZZZ, the engine shall be operated for no more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing. Each engine in FG-EMERGENCY may be operated 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. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or to generate income. Mr. Rusnak provided records of each engines operating hours for September 2019 through December 2020 (Attachment 12). Based on these records, each engine in FG-EMERGENCY was operated less than 50 hours in calendar year 2019 and 2020.

Each engine in FG-EMERGENCY reportedly commenced construction on or before July 11, 2005 and as such do not appear to be subject to the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines in 40 CFR 60 Subpart IIII.

During the inspection, I observed EU-COGEN1, EU-COGEN2, EU-ELECGEN6, EU-ELECGEN7, EU-RESGEN1, EU-RESGEN2. Records of the engine manufacturer, date engine was manufactured, engine model number, engine horsepower, engine serial number, engine specification sheet, date of initial startup of the engine, and date engine was removed from service at this stationary source was provided by Mr. Rusnak (Attachment 13). The information in this document corresponds with the information I observed on the nameplates for the engines in FG-EMERGENCY.

A NOx emission limit of 82.2 tons for EU-COGEN1&2 is established in this FG-EMERGENCY in both the PTI and ROP. Mr. Rusnak provided records for natural gas and fuel oil usage as well as 12-month rolling NOx emission records as required is SC VI. 2, 3, and 4 (Attachment 14). Beaumont is calculating NOx emissions in accordance with Appendix 7.3 in the PTI. The highest recorded 12-month rolling NOx emissions for EU-COGEN1&2 combined between September 2019 and December 2020 were 0.84 tons, reported in September 2019. This is less than the 12-month rolling NOx emission limit for EU-COGEN1&2.

The ROP mandates that each engine in FG-EMERGENCY not be operated for more than 500 hours per year on a 12-month rolling time period basis and each engine must have non-resettable hours meter to track the operating hours. Each engine in FG-EMERGENCY is equipped with a non-resettable hours meter. Mr. Rusnak provided records of each engines operating hours for September 2019 through December 2020 (Attachment 12). Based on these records, each engine in FG-EMERGENCY was operated less than 130 hours in a 12-month rolling time period between September 2019 and December 2020.

The ROP requires Beaumont to develop and implement, in accordance with good engineering practices, a routine preventative maintenance plan for EU-COGEN1 and EU-COGEN2 and record all completed preventative maintenance events. Beaumont submitted a routine preventative maintenance plan for EU-COGEN1 and EU-COGEN2. The routine preventative maintenance events for EU-COGEN1 and EU-COGEN2 are recorded in a computer software program. A list of completed preventative maintenance activities for EU-COGEN1 and EU-COGEN2 was provided by Mr. Bosch (S:\Air Quality Division\STAFF\Kerry Kelly\G5067_William Beaumont Royal Oak\FY 2021 Inspection\Generator Maintenance). These records appear to indicate the maintenance is done according to the schedule outlined in the Preventative Maintenance Plan.

FG-ELECGEN1&2R

This flexible group includes two 2,000 kilowatts, diesel-fueled, CAT 3516C, emergency engines. The nameplates on each engine in FG-ELECGEN1&2R match the description stated in the ROP. These engines are subject to the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, 40 CFR, Part 60, Subpart IIII.

The engines in FG-ELECGEN1&2R must meet the requirements of the NESHAP for Stationary Reciprocating Internal Combustion Engines (40 CFR Part 63, Subpart ZZZZ) by meeting the requirements of 40 CFR Part 60, Subpart IIII per 40 CFR 63.6590(c)(1). No further requirements in 40 CFR Part 63, Subpart ZZZZ apply the engines in FG-ELECGEN1&2R.

Emissions from each engine in FG-ELECGEN1&2R are limited to the following in the ROP:

Pollutant	Limit
NMHC + NOx	6.4 g/kW-hr
CO	3.5 g/kW-hr
PM	0.2 g/kW-hr

Compliance with these emission limits is demonstrated by purchasing an engine certified by the manufacturer to meet the emission limits and by operating the engines according to the manufacturer's emission-related written instructions. Each engine in FG-ELECGEN1&2R has a certified engine plate identifying them as certified Caterpillar engines belonging to engine family: ECPXL78.1NZS.

Per EPA's Engine Family Spreadsheet, (<https://www.epa.gov/sites/production/files/2016-09/nrci-cert-ghg-14d.xls>), the engines' certificate number is ECPXL78.1NZS-024 and each engine has the following certified emission factors (g/kW-hr2):

Steady State NMHC	Steady State NOx	Steady State NMHC + NOx	Steady State CO	Steady State PM	Steady State CO2
0.26 g/kW-hr	5.07 g/kW-hr	5.3 g/kW-hr	0.9 g/kW-hr	0.12 g/kW-hr	688.40 g/kW-hr

The ROP requires the permittee burn only diesel fuel, in each engine of FG-ELECGEN1&2R with the maximum sulfur content of 15 ppm (0.0015 percent) by weight. Fuel oil certification reports submitted by Beaumont state the maximum sulfur content of diesel fuel purchased by Beaumont is 0.0015% by weight.

The ROP mandates that each engine in FG-ELECGEN1&2R not be operated for more than 500 hours per year on a 12-month rolling time period basis and each engine must have non-resettable hours meter to track the operating hours. Each engine in FG-ELECGEN1&2R is equipped with a non-resettable hours meter. Mr. Rusnak provided records of each engines operating hours for September 2019 through December 2020 (Attachment 12). Based on these records, each engine in FG-ELECGEN1&2R was operated less than 39 hours in a 12-month rolling time period between September 2019 and December 2020.

Beaumont may operate each engine of FG-ELECGEN1&2R 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, or the insurance company associated with the engine. Each engine of FG-ELECGEN1&2R may be operated 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. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or to generate income. Mr. Rusnak provided records of each engines operating hours for September 2019 through December 2020 (Attachment 12). Based on these records, EU-ELECGEN1R was operated for non-emergency purposes for 33 hours in calendar year 2019 and 23.2 hours in calendar year 2020 and EU-ELECGEN2R was operated for non-emergency purposes for 28.8 hours in calendar year 2019 and 29.9 hours in calendar year 2020.

Beaumont is required to operate and maintain each engine in FG-ELECGEN1&2R according to manufacturer's emissions-related written instructions and keep records of the routine preventative maintenance events for EU-ELECGEN1&2R. Mr. Rusnak provided preventative maintenance events for EU-ELECGEN1&2R for January 2020 through December 2020 (S:\Air Quality Division\STAFF\Kerry Kelly\G5067_William Beaumont Royal Oak\FY 2021 Inspection\Generator Maintenance). These records appear to indicate the maintenance is done according to the schedule outlined in the Preventative Maintenance Plan which includes manufacturer's recommended activities.

The ROP requires Beaumont to submit a notification specifying whether each engine of FG-ELECGEN1&2R 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. Beaumont submitted a notification via email to Rebecca Loftus, AQD, for EU-ELECGEN1R and EU-ELECGEN2R on January 28, 2016. The notification indicated the engines are certified and will be operated and maintained in a certified manner.

ETHYLENE OXIDE STERILIZERS

Beaumont Royal Oak personnel use four ethylene oxide (EtO) sterilizers to sterilize temperature sensitive surgical tools such as scopes and lenses. The permit conditions for all four sterilizers are included in MI-ROP-G5067-2019a under the Flexible Group FG-ETOSTERILIZERS. These EtO sterilizers are subject to the National Emission Standards for Hazardous Air Pollutants for Hospital Ethylene Oxide Sterilizers, 40 CFR, Part 63, Subpart WWWW. Three Advanced Technology Safe-Cell System sulfuric acid scrubbers and dry bed chemical filters are used to control emissions from the EtO sterilizers.

I inspected the four EtO sterilizers located in the Lower Level of the North Tower at Beaumont Royal Oak. Of the four sterilizers I inspected, two (5A and 6A) were Model 8XL and two (7A and 8A) were Model 5XL. None of the sterilizers were operating during the inspection. The sterilizers and scrubbers are separated from the adjacent work area by sliding glass doors that require a key-card for entry. The sterilizer room is separated from the scrubber room by a wall with a steel access door. For employee protection, both the room with the sterilizers and the room with the scrubbers are under negative pressure. In the event of an uncontrolled EtO release from the sterilizers or scrubbers, the emissions in the EtO sterilizer room and/or scrubber room will be exhausted directly into the ambient air. In addition, both the EtO sterilizer room and the scrubber room have EtO monitors. The EtO monitor readings can be seen from outside of each of these rooms. At the time of my inspection the readings on each of these monitors was 0.0 ppm. A monitor located in the closed cabinet where

EtO containers are stored also read 0.0 ppm during my inspection. The container storage cabinet exhausts to the ambient air through the acid scrubber bypass stack. AQD permit section staff indicated that the container storage cabinet is intended to be a safety device and is not expected to be a source of continuous EtO emissions. According to Mr. Gibson, the EtO monitors are set to alarm at 5.0 PPM triggering the air handlers to release to the atmosphere.

The entire process of sterilization takes 14 hours at 55 degrees Celcius and 15 hours at 37 degrees Celcius. The actual sterilization period lasts for 2-3 hours. After sterilization, gas is immediately purged from the chamber and the chamber is aerated for 12 hours to remove any residual EtO. The EtO for the sterilizers comes in individual one-time use canisters. All of the EtO contained in one canister will be used in one load. Use of single-use canisters is another safety measure aimed at ensuring that if a canister leaks or if there is a problem with the sterilization process, only a relatively small, finite amount of EtO will be released into the atmosphere. The exhaust from each sterilizer is vented to a sulfuric acid scrubber and through a dry chemical bed filter. The EtO is converted to ethylene glycol after being sent through the sulfuric acid scrubber and is collected in a holding tank at the bottom of the scrubber. Each acid scrubber has a dedicated exhaust fan that is in the duct work located after the individual scrubber. Because the exhaust fan is located in the duct work after the acid scrubber, the run of duct work from the sterilizer to the acid scrubber is under negative pressure.

EtO emissions from FG-ETOSTERILIZERS are limited to 0.0059 lb/hour and 3.69 lb/year. According to the ROP, compliance with the lb/hour limit is met through verification that each scrubber for the sterilizers reduce EtO emissions by at least 99.5 percent and by operating the scrubbers within the parameters recommended by the manufacturer or recorded during stack testing. Compliance with the annual emission limit is demonstrated through the recordkeeping requirements in FG-ETOSTERILIZERS VI.2.

Mr. Rusnak provided a specification sheet from Advanced Air Technologies that states the scrubber has an EtO removal efficiency of up to 99.9% (Attachment 15). The ROP requires stack testing be conducted no later than May 30, 2020 for the scrubber connected to EU-STERILIZER3 and EU-STERILIZER4 and no later than September 30, 2024 for each scrubber associated with EU-STERILIZER1 and EU-STERILIZER2. Stack testing for EU-STERILIZER3 and EU-STERILIZER4 was delayed due to the Covid 19 pandemic. The stack test for EU-STERILIZER3 and EU-STERILIZER4 was conducted on January 5, 2021 and January 6, 2021.

The stack test summary report for the test conducted January 5 and 6, 2021 indicated the destruction efficiency of the scrubber was greater than 99.9 percent. Beaumont recorded the pH of the acid solution, acid scrubber recirculation pump flow rate (gallons/minute), and the acid scrubber exhaust fan differential pressure (inches H₂O) during testing. According to the stack test report submitted, the pH of the acid solution was approximately 1, acid scrubber recirculation pump flow rate ranged between 3.6 and 3.8 gal/min for Pump A and 3.3 and 3.4 for Pump B, and the acid scrubber exhaust fan differential pressure was 3.3 inches H₂O during testing.

The ROP indicates satisfactory operation of the control system includes implementation and maintenance of a Malfunction Abatement Plan (MAP) as described in FG-ETOSTERILIZERS SC III.2. According to the MAP submitted by Beaumont, the scrubber solution, the acid scrubber recirculation rate, and the acid scrubber exhaust fan differential pressure are checked monthly. The MAP also states the scrubber solution should be changed if the pH of the acid solution exceeds 3, the acceptable range for the acid scrubber recirculation pump flow rate is 3 to 4 gal/min, and the acceptable range for the acid scrubber exhaust fan differential pressure must be maintained within 1 inch of water column of the correct air flow rate determined during initial setup. Mr. Gibson explained the scrubbing solution is changed approximately every three years or if the pH is greater than 1, per company policy. I asked Beaumont to update the MAP to reflect the scrubber solution change-out frequency stated by Mr. Gibson, and to ensure the pH observed during testing is maintained.

Mr. Rusnak provided preventative maintenance procedures for weekly and monthly safe-cell inspections and records of the preventative maintenance checks and alarms for the sterilizers and scrubbers (S:\Air Quality Division\STAFF\Kerry Kelly\G5067_William Beaumont Royal Oak\FY 2021 Inspection\Sterilizer Maintenance & Alarms). These records appear to indicate the maintenance is done following the procedure, and according to the schedule, outlined in the MAP. Issues discovered from alarms between August 2019 and December 2020 include:

- EU-ETOSTERILIZER1: sterilizer not progressing into aeration due to safe cell float sticking (9/7/19) and pump pressure and VAC test failures (6/10/20)
- EU-ETOSTERILIZER2: low scrubber water levels (10/8/19)
- EU-ETOSTERILIZER3: VAC sensor problem (11/8/19)

- EU-ETOSTERILIZER4: door lock issues (9/4/20, 9/8/20, 10/7/20, 12/18/20)

The records appear to indicate the cause of all alarms were investigated on the same day as the alarm and repairs were made and equipment tested before being put back into use.

Beaumont checks and records the pH of the acid scrubbing solution, acid scrubber recirculation pump flow rate (gallons/minute), and the acid scrubber exhaust fan differential pressure for each scrubber monthly.

Mr. Gibson explained the scrubbing solution is changed approximately every three years or if the pH is greater than 1, per company policy. The last scrubbing solution replacement occurred in September 2018. Based on records of the monthly pH readings provided by Mr. Rusnak, the pH was never above 1 in any scrubber for September 2019 - December 2020 (Attachment 16).

Mr. Rusnak provided records of the acid scrubber recirculation pump flow rate (gallons/minute) and the acid scrubber exhaust fan differential pressure (inches H₂O) for September 2019 - December 2020 (Attachment 17). These records indicate the acid scrubber recirculation pump flow rate ranged from 3.0 - 3.5 gal/min for the pumps associated with the scrubbers for EU-STERILIZER1 and EU-STERILIZER2 and 3.3 - 3.5 gal/min for the pumps associated with the scrubber for EU-STERILIZER3 and EU-STERILIZER4. Records indicate the acid scrubber exhaust fan differential pressures ranged from 2.3 to 3.1 inches H₂O .

Records of the daily and monthly number of loads for each unit and calculations of the 12-month rolling emissions of EtO are required to demonstrate compliance with the 3.69 lbs/year limit. Mr. Rusnak provided records of the number of loads per day and month and EtO emissions for September 2019 through December 2020 (Attachment 18). Though the manufacturer documentation and the stack testing conducted on the scrubber for EU-STERILIZER3 and EU-STERILIZER4 indicates the EtO removal efficiency is 99.9%, Beaumont is using a control efficiency of 99.5 percent to calculate emissions. The records provided by Mr. Rusnak indicate the highest 12-month rolling EtO emissions between September 2019 and December 2020 was 1.15 lbs reported for October 2019.

The ROP limits the amount of EtO used in the sterilizers to not more than 0.37 lb EtO per cycle/load in EU-ETOSTERILIZER1 and EU-ETOSTERILIZER2 and not more than 0.22 lb EtO per cycle/load in EU-ETOSTERILIZER3 or EU-ETOSTERILIZER4. Records indicate Beaumont is using 0.37 lb EtO per cycle/load in EU-ETOSTERILIZER1 and EU-ETOSTERILIZER2 and 0.22 lb EtO per cycle/load in EU-ETOSTERILIZER3 or EU-ETOSTERILIZER4. During previous inspections I observed the one time use EtO canisters Beaumont uses and noted the sizes were 0.37 lbs and 0.22 lbs.

During the inspection, I verified the emissions from each sterilizer in FG-ETOSTERILIZERS were ducted to one of three Advanced Air Technologies Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters. None of the sterilizers were operating during the inspection. The pumps and fans were running and I noted the following flow rates and exhaust ventilation differential pressures during the inspection:

Emission Unit ID in ROP	Unit ID	Model	Associate Scrubber ID	Scrubber Flow Rate (gallons/minute)	Scrubber Exhaust Fan Differential Pressure
EU-ETOSTERILIZER1	5a	8XL	#7	3.6 & 3.8	~2.5" WC
EU-ETOSTERILIZER2	6a	8XL	#8	3.2 & 3.6	~2.5" WC
EU-ETOSTERILIZER3	7a	5XL	#9	3.4, 3.2	~2.5" WC
EU-ETOSTERILIZER4	8a	5XL	#9	3.4, 3.2	~2.5" WC

The stack for the EtO sterilizers/scrubbers must be a maximum of 18 inches in diameter and a minimum of 35 feet above ground. The exhaust gases from the stacks must be discharged unobstructed horizontally to the ambient air per the ROP. The exhaust gases from each scrubber are directed to a common stack located on the third floor roof on the north side of the North Tower. Mr. George escorted me, Mr. Rusnak, and Ms. Blazewski to the roof to see the stack. The room for the air handling unit next to the scrubber stack has a

warning about EtO. I did not measure the dimensions of the stack. It appeared to extend about 8 feet above the roof surface and appeared to be no more more than 18 inches in diameter. The stack dimensions appear to be consistent with the dimensions indicated in the ROP.

Beaumont is required to comply with the applicable requirements in the NESHAP for Hospital Ethylene Oxide Sterilizers, 40 CFR, Part 63, Subpart WWWW. Michigan has not accepted delegation to implement and enforce 40 CFR, Part 63, Subpart WWWW. I did not evaluate Beaumont's compliance with 40 CFR, Part 63, Subpart WWWW during this inspection.

FG-287(2)(c)

The flexible group FG-287(2)(c) addresses a paint spray booth (EU-WOODSHOP) located in Beaumont's woodshop. At the time of my inspection, I observed the paint booth and the room the paint booth is located in are being used as storage space with no room to perform painting. This is the same condition I observed during the last two inspections I conducted at Beaumont.

FG-COLDCLEANERS

There were previously two parts washers at Beaumont Royal Oak. One of the parts washers is located in the West Powerhouse and the other (EU-CCGARAGE) is located in the garage. The parts washer in the West Powerhouse uses ArmaKleen 4 in 1 which is considered an aqueous solution (VOC content less than 5% by weight). I inspected equipment in the garage and did not see the cold cleaner that was previously located there. According to Mr. George, the cold cleaner was removed from the facility.

EQUIPMENT NOT INCLUDED IN ROP

SANDING EQUIPMENT

Beaumont has a sanding area in the woodshop where particulate emissions are controlled by a Torit baghouse located along the outside of the building. The woodworking operations appear to be exempt from obtaining a PTI pursuant Rule 285(2)(l)(vi)(C). During my inspection, I noted that the dust collector appeared to be maintained and I did not observe any fugitive dust.

WELDING EQUIPMENT

In the garage hand welders are occasionally used; these activities appear to be exempt from obtaining a PTI pursuant Rule 285(2)(i).

BOILERS

I inspected 2 boilers and 8 water heaters in the research building and attic. There were two 6.277 MMBtu/hour Cleaver Brooks boilers capable of firing natural gas and fuel oil #2 (EU-RESBOILER1 & EU-RESBOILER2) and eight Lochinvar boilers with a heat input capacity of 2.07 MMBtu/hour capable of firing natural gas (EU-RESBOILERHH). The information on the nameplates of each boiler and water heater matches the description of permit exempt equipment provided in MAERS and the ROP application. All 10 of these boilers/water heaters appear to be exempt from PTI requirement in Rule 201 pursuant to Rule 282(2)(b)(i).

Beaumont previously used three additional PTI exempt boilers in the research building (EU-BOILER9, EU-BOILER10, and EU-BOILER11). During the inspection, Mr. Bosch indicated EU-BOILER11 was removed and showed me the space where EU-BOILER11 used to be located. I observed, during the inspection, that EU-BOILER9 and EU-BOILER10 were dismantled.

The boilers in the research building do not appear to be subject to 40 CFR 60 Subpart Dc because they each have a maximum heat input of less than 10 MMBtu/hour.

As stated previously, boilers that meet the definition of natural gas-fired boilers, are not subject to 40 CFR 63 Subpart JJJJJ. Meeting the definition on natural gas-fired boiler includes not exceeding 48 hours of operation on liquid fuel for periodic testing, maintenance, or operator training not to exceed a combined total of 48 hours during any calendar year. Beaumont reported in the Michigan Air Emissions Reporting System (MAERS) that all research boilers, including EU-RESBOILER1 & EU-RESBOILER2, only used natural gas for calendar year 2020. As a result, it appears all boilers in the research building are not subject to 40 CFR 63 Subpart JJJJJ.

FUEL STORAGE TANKS

Beaumont has seven diesel storage tanks ranging in size from 6,000 gallons to 40,000 gallons used for storing fuel for the boilers and ICE at the facility. These tanks appear to be exempt from the requirement to have a PTI pursuant to Rule 284(2)(d). The 6,000 gallon (22.7 m³) tank does not appear to be subject to 40

CFR, Part 60, Subpart Kb because it is less than 19,812.9 gallons (75 m³). It appears the 20,000 gallon (75.7 m³) and 40,000 gallon (151.4 m³) tanks are not subject to 40 CFR, Part 60, Subpart Kb per 40 CFR 60.110b (b) because the true vapor pressure of ultra low sulfur diesel at 100 degrees Fahrenheit is less than 3.5 kPa

In addition to the diesel fuel storage tanks, Beaumont has two, 2,000 gallon gasoline storage tanks used to store gasoline that will be dispensed, via one of three pumps, to a variety of vehicles at Beaumont. These tanks appear to be exempt from an obtaining a PTI pursuant to Rule 284(2)(g)(ii) and do not appear to be subject to 40 CFR, Part 60, Subpart Kb because they are less than 19,812.9 gallons (75 m³). The gasoline tanks at Beaumont appear to be subject to the NESHAP for Gasoline Dispensing Facilities, 40 CFR, Part 63, Subpart CCCCC. EGLE-AQD has not accepted delegation to implement and enforce 40 CFR, Part 63, Subpart CCCCC. As a result, compliance with 40 CFR 63 Subpart CCCCC was not evaluated during this inspection.

XYLENE RECYCLING

In a room connected to the autopsy room in the South Tower, there is a batch xylene recycling unit. This unit has a capacity of 10 gallons of waste xylene. Waste xylene is generated in the surgical pathology unit and is used to get alcohol out during lab, slide stainer, and tissue processing. This emission unit appears to be exempt from the requirement to have a PTI per Rule 285(2)(u).

MICHIGAN AIR EMISSION REPORTING SYSTEM (MAERS)

For 2020, Beaumont reported the following emissions:

Pollutant	Amount
NOx	30.9 tons
CO	23.7 tons
VOC	2.1 tons
PM 10	2.1 tons
PM 2.5	2.1 tons
SO ₂	716.7 lbs
Ammonia	267.33 lbs
Lead	0.27 lbs
Ethylene Oxide	0.85 lbs

The reported emissions appear to be comparable with the records reviewed during my inspection.

SEMI-ANNUAL AND ANNUAL COMPLIANCE REPORTS

Beaumont submitted all semi-annual and annual reports required in the ROP for July 1, 2019 through December 31, 2020. All reports were received on time. One deviation was reported during the January 1, 2020 through January 30, 2020 reporting period. The deviation was for failure to perform stack testing to determine ethylene oxide (EtO) destruction efficiency associated with the control device for EU-ETOSTERILIZER3 and 4 prior to May 30, 2020. The stack test was postponed due to COVID-19 safety & resource concerns. EGLE-AQD was notified April 8, 2020 and provided enforcement discretion on April 9, 2020. The testing was completed January 5 and 6, 2021.

CONCLUSION

Based on information gathered and reviewed for this inspection, William Beaumont Hospital - Royal Oak appears to be in compliance with the Federal Clean Air Act, Michigan's Air Pollution Control Rules, and the conditions established in ROP No. MI-ROP-G5067-2019a.

NAME

K. Kelly

DATE 4/29/21

SUPERVISOR

Joyce