

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

G506766432

<b>FACILITY:</b> WILLIAM BEAUMONT HOSPITAL		<b>SRN / ID:</b> G5067
<b>LOCATION:</b> 3601 W. 13 MILE RD., ROYAL OAK		<b>DISTRICT:</b> Warren
<b>CITY:</b> ROYAL OAK		<b>COUNTY:</b> OAKLAND
<b>CONTACT:</b> Amy Blazejewski , Director of Environment and Life Safety		<b>ACTIVITY DATE:</b> 02/23/2023
<b>STAFF:</b> Shamim Ahammod	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> Conducted full compliance evaluation(FCE).		
<b>RESOLVED COMPLAINTS:</b>		

On February 23, 2023, Michigan Department of Environment, Great Lakes and Energy (EGLE) staff, Shamsul Fahim, Owen Pierce, and I (Shamim Ahammod) conducted a scheduled inspection of William Hospital-Royal Oak Campus (Beaumont), State Registration Number (SRN): G5067, located at 3601 W 13 Mile Road, Royal Oak, Michigan. The purpose of the inspection was to determine the company'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 PA 451, as amended (Act 451); the Air Pollution Control Rules; and the conditions established in Renewable Operating Permit (ROP) No. MI-ROP-G5067-2019a and Permit to Install Number (PTI) 95-19A.

### SOURCE DESCRIPTION

William Beaumont Hospital's Royal Oak campus is located in southeastern Oakland County and occupies approximately 110 acres bounded on the north by 13 Mile Road, on the east by Coolidge Highway, and on the west and south by residential subdivisions. The Royal Oak campus consists of more than one million square feet of occupied space.

Regulated equipment at the facility includes boilers, emergency generators, chemical sterilizers, cold cleaners, and a paint booth.

The five permitted boilers at Beaumont Royal Oak are used to provide steam for equipment sterilization, cooking, and building heating. These boilers primarily fire natural gas, however, the Michigan Department of Community Health 2007 Minimum Design Standards for Health Care Facilities requires emergency fuel be provided for boilers when adequate supplies of the primary fuel are not available. As a result, these five permitted boilers are capable of combusting fuel oil No. 2. The 2007 Minimum Design Standards for Health Care Facilities Hospitals also requires hospitals be capable of providing not less than 72 hours of service at full load in emergency situations.

Previously, eight of the 10 stationary engines at Beaumont were emergency generators that fire only No. 2 fuel oil. Two cogeneration engines (EU-COGEN1 and EU-COGEN2) were capable of firing No. 2 fuel oil and natural gas.

On 4/5/2023, PTI No. 95-19A was incorporated into ROP No. MI-ROP-G5067-2019b with a minor modification and issued the modified permit. Through this modification, EU-COGEN1 was replaced by EU-ELECGEN3R, and EU-COGEN2 was replaced by EU-ELECGEN4R. It can be noted that EU-COGEN1 and EU-COGEN2 were removed from the facility on 8/10/2022 and 8/21/2022 respectively.

Currently, all of the 10 stationary engines (EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9, EU-RESGEN1, EU-RESGEN2, EU-ELECGEN1R, EU-ELECGEN2R, EU-ELECGEN3R, and EU-ELECGEN4R) at Beaumont are emergency generators that combust only No. 2 fuel oil.

Beaumont Royal Oak personnel use four ethylene oxide (EtO) sterilizers to sterilize temperature-sensitive surgical tools such as scopes and lenses. Three Advanced Technology Safe-Cell System sulfuric acid scrubbers and dry bed chemical filters are used to control emissions from the EtO sterilizers.

### **Regulatory Analysis**

The Beaumont Royal Oak Campus is located in Southeastern Oakland County which is currently designated by the United States Environmental Protection Agency (USEPA) as an attainment for all criteria pollutants. The stationary source is subject to Title 40 of the Code of Federal Regulations (CFR) Part 70 because the potential to emit of carbon monoxide and nitrogen oxides exceeds 100 tons per year.

The stationary source is a minor source of HAP emissions because the potential to emit of any single HAP regulated by Section 112 of the federal Clean Air Act, is less than 10 tons per year and the potential to emit of all HAPs combined are less than 25 tons per year.

EU-BOILER2, EU-BOILER3, EU-BOILER4, and EU-BOILER5 at the stationary source are subject to the Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units promulgated in 40 CFR Part 60, Subparts A and Dc.

EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-BOILER4, and EU-BOILER5 at the stationary source are not subject to the National Emission Standard for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers at Area Sources promulgated in 40 CFR Part 63, Subparts A and JJJJJ per 40 CFR 63.11195(e). 40 CFR 63.11195(e) states that gas-fired boilers, as defined in 40 CFR 63 Subpart JJJJJ, are not subject to the subpart and to any requirements in the subpart. Enforceable restrictions contained in the ROP that limit the number of hours EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-BOILER4, and EU-BOILER5 may be operated on liquid fuel during periodic testing, maintenance, or operator training, to a total of 48 hours during any calendar year, qualifies these boilers as gas-fired boilers as defined in 40 CFR 63 Subpart JJJJJ.

EU-ELECGEN1R and EU-ELECGEN2R at the stationary source are subject to the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines promulgated in 40 CFR Part 60, Subparts A and IIII.

EU-ELECGEN3, EU-ELECGEN4, EU-ELECGEN5, EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9, EU-RESGEN1, EU-RESGEN2 at the stationary source are not subject to the National Emission Standard for Hazardous Air Pollutants 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).

EU-ETOSTERILIZER1, EU-ETOSTERILIZER2, EU-ETOSTERILIZER3, and EU-ETOSTERILIZER4 at the stationary source are subject to the National Emission Standard for Hazardous Air Pollutants for Hospital Ethylene Oxide Sterilizers promulgated in 40 CFR, Part 63, Subparts A and WWWW. The ROP contains special conditions provided by William Beaumont in their application for applicable requirements from 40 CFR Part 63, Subparts A and WWWW. The EGLE-AQD has not accepted delegation to implement and enforce this area source MACT.

No emission units have emission limitations or standards that are subject to the federal Compliance Assurance Monitoring rule pursuant to 40 CFR Part 64, because all emission units at the stationary

source either do not have a control device or those with a control device do not have potential pre-control emissions over the major source thresholds.

### **Onsite Inspection**

On February 23, 2023, at 1:00 PM, we arrived at the facility and greeted by Amy Blazejewski, Beaumont Staff. We showed our photo credentials and explained the purpose of the inspection. During the inspection, the following Beaumont and contract employees assisted me by showing me the relevant equipment, answering questions, and providing records:

- Amy Blazejewski, Senior Director, Environment and Life Safety, William Beaumont
- Matthew George, Director of Facilities Management Services, Authorized Representative, William Beaumont
- Andy Rusnak, Technical Manager, Impact Compliance and Testing
- Jim Gibson, Beaumont, Bio-medical Technician, William Beaumont
- Kevin Paquet, Lead Technician, William Beaumont
- Howard Bosch, Beaumont, Lead Technician Power Plant, William Beaumont

Before walking through the facility, we had a short meeting in the conference room. During the short meeting, I discussed the ROP requirements and what we wanted to observe during our field visit. I requested the records that I needed to review during the full compliance evaluation (FCE). After a short meeting, we walked through the facility and learned the process, and verified the ROP's general and special conditions set forth on MI-ROP-G5067-2019a.

### **Full Compliance Evaluation (FCE)**

#### **PTI No. 95-19A**

#### **FGBOILERS2&3 Flexible Group Conditions**

Boiler 2 and Boiler 3. Both boilers combust natural gas as their primary fuel source but also have the capability of combusting fuel oil No. 2.

**Emission Units:** EUBOILER2, and EUBOILER3

#### **Emission Limits**

Per SC I.1, The permittee provided me with a record of the 12-month rolling NOx emissions. The record indicates that the highest NOx emission from Boiler#2 was 11.3 tons, for the 12-month rolling period ending in May and June 2022, which was less than the permit limit of 23 tpy.

For Boiler#3, the highest NOx emission was 4.1 tons, for the 12-month rolling period ending in June 2022, which was less than the permit limit of 23 tpy.

Per SC I.2, At this time of inspection, I did not verify compliance with the opacity limit.

Per SC I.3, based on the emission calculations and records provided by the facility and required in EU-BOILER2 and EU-BOILER3, SC VI. 2 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-BOILER2 and EU-BOILER3 (individually) between January 2021 and December 2022 was zero pounds.

#### **MATERIAL LIMIT(S)**

Per II.1, The permittee provided me with a record of the 12-month rolling natural gas consumption for each boiler individually. The record indicates that the highest natural gas consumption in EU-BOILER2 was 226 MMSCF, for the 12-month rolling period ending in June 2022, which was less than the limit of 420 MMSCF. For EU-BOILER3, the highest natural gas consumption was 82 MMSCF, for the 12-month rolling period ending in June 2022, which was less than the limit of 420 MMSCF.

Per II.2, The permittee provided me with a record of the 12-month rolling fuel oil No.2 consumption for each boiler individually from January 2021 through December 2022. The record indicates that the highest fuel oil No.2 consumption in EU-BOILER2 and EU-BOILER3 was zero gallons which was less than the limit of 200,000 gallons per year.

**PROCESS/OPERATIONAL RESTRICTION(S)**

Per SC III.1 and 40 CFR Part 63 Subpart JJJJJ, the permittee shall only burn virgin fuel oil No. 2 in EU-BOILER2 and EU-BOILER3 during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel. The periodic testing on liquid fuel shall not exceed a combined total of 48 hours, for each boiler, during any calendar year.

- EU-BOILER2 & EU-BOILER3 are 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 JJJJJ if they are operated as gas-fired boilers 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 permittee provided monthly boiler fuel usage data from January 2021 through December 2022. I attached this record to this report. I reviewed the records and found the permittee only burned natural gas in all boilers in 2021 and 2022. This boiler appears to be operating as a gas-fired boiler and therefore is not subject to 40 CFR 63 Subpart JJJJJ.

**MONITORING/RECORDKEEPING**

Per SC VI.1, The permittee provided me with a record of the 12-month rolling natural gas and fuel oil No.2 consumption for each boiler individually.

Per SC VI.2, details are explained in SC I.3 (emission limit section).

Per SC VI.3, The permittee shall keep a record of the number of operating days in each calendar month for EU-BOILER2 and EU-BOILER3. According to the record, provided by the permittee, the number of operating days in each calendar month for EU-BOILER2 and EU-BOILER3 are as follows:

Monthly Operating days		
2022	Boiler No. 2	Boiler No. 3
	(days)	(days)
January	31	31
February	28	26
March	28	28
April	30	30

May	31	31
June	30	30
July	31	31
August	31	5
September	18	22
October	17	31
November	30	11
December	31	0

Per SC VI.4, The permittee shall calculate NO<sub>x</sub> emissions from EU-BOILER2 and EU-BOILER3 each calendar month and 12-month rolling time period, as determined at the end of each calendar month, using the method and emission factors delineated in Appendix 7.2

- Details are explained in SC I.1 (Emission limit section).

Per SC VI.6, The permittee shall develop and implement, in accordance with good engineering practices, a routine preventative maintenance plan for EU-BOILER2 and EU-BOILER3. The permittee shall record all preventative maintenance events and have the records available upon request.

I received and reviewed the work order status records that the permittee has completed on EU-BOILER2 and EU-BOILER3.

### **Boiler#2**

- An annual boiler inspection was done on 10/27/2022.
- An annual boiler CSD-1 Inspection was done on 10/27/2022.
- Annual Fire Boiler on Fuel Oil Test on 12/2/2022.

### **Boiler#3**

- Annual Boiler CSD-1 Inspection was completed on 8/31/2022.
- Replaced the feedwater valve on 11/30/2022.
- Annual fire Boiler on Fuel oil Test on 11/30/2022
- Note: being done in December with CSD1 testing

Per SC VI.7, The permittee shall monitor and keep records of the number of hours EU-BOILER2 and EU-BOILER3 were operated on liquid fuel for periodic testing, maintenance, or operator training during each calendar year.

- Details are explained in SC I.3 (emission limit section).

### **Reporting**

As required in SC VII.2 and SC VII.3, the AQD received a semi-annual and annual report on time. There were no deviations found.

### **Stack/Vent restrictions**

Per SC VIII.1, at the time of inspection, the exhaust stacks appeared vertical and unobstructed. SV-STACK1 stack appeared to be at least 131 feet above ground in height and 48 inches maximum exhaust dimensions.

**Other requirements**

Per SC IX.1 and 40 CFR 60 Subpart Dc, the permittee shall comply with all applicable provisions of the New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Units.

- Details are explained in SC II.1 and II.2 (material limit section) and SC VI.1 (Monitoring and record-keeping).

**FGBOILERS4&5  
Flexible Group Conditions**

Boiler 4 and Boiler 5. Both boilers combust natural gas as their primary fuel source but also have the capability of combusting fuel oil No. 2.

**Emission Units:** EU-BOILER4, EU-BOILER5

**Emission Limits**

Per SC I.1, The permittee provided me with a record of the 12-month rolling NOx emission combined for EU-BOILER4 and EU-BOILER5. The record indicates that the highest NOx emission for EU-BOILER4 and EU-BOILER5 combined was 12.9 tons, for the 12-month rolling period ending in December 2022, which was less than the limit of 48.5 tpy.

Per SC I.2, At this time of inspection, I did not verify the opacity. I did not take Method 9 reading during my visit.

Per SC I.3, based on the emission calculations and records provided by the facility and required in EU-BOILER2 and EU-BOILER3, SC VI. 2 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-BOILER4 and EU-BOILER5 (individually) between January 2021 and December 2022 was zero pounds.

**MATERIAL LIMIT(S)**

Per II.1, The permittee provided me with a record of the 12-month rolling natural gas consumption in EU-BOILER4 and EU-BOILER5. The record indicates that the highest natural gas consumption in EU-BOILER4 and EU-BOILER5 was 258.62 MMSCF combined for the 12-month rolling period ending in December 2022, which was less than the limit of 693.8 MMSCF.

**Per SC II.2,** The permittee provided me with a record of the 12-month rolling fuel oil No.2 consumption for each boiler individually from January 2021 through December 2022.

The record indicates that the highest fuel oil No.2 consumption in EU-BOILER4 and EU-BOILER5 was zero gallons, for the 12-month rolling period ending in June 2022, which was less than the limit of 5250 gallons combined per year.

**PROCESS/OPERATIONAL RESTRICTION(S)**

Per SC III.1, The permittee shall only burn virgin fuel oil No. 2 in EU-BOILER4 and EU-BOILER5 during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel. The periodic testing on liquid fuel shall not exceed a combined total of 48 hours, for each boiler, during any calendar year.

- According to the records, provided by the facility, the permittee did not use fuel oil as fuel in EU-BOILER4 and EU-BOILER5 from January 2021 through December 2022. During these periods, the permittee only burns natural gas as fuel in EU-BOILER4 and EU-BOILER5.
- Details are explained in SC III.1 EUBOILER1 (Process/Operational restrictions).

### MONITORING/RECORDKEEPING

Per SC VI.1, The permittee provided me with a record of the 12-month rolling natural gas and fuel oil No.2 consumption for each boiler individually. Details are explained in SC III.1 (Process/Operational restriction section).

Per SC VI.2, The permittee shall calculate the average daily SO<sub>2</sub> emissions from EU-BOILER2 and EU-BOILER3 each calendar month using the method delineated in Appendix 7.1.

- Details are explained in SC I.3 (Emissions Limit Section).

Per SC VI.3, The permittee shall keep a record of the number of operating days in each calendar month for EU-BOILER4 and EU-BOILER5. The following is the record of the number of operating days in each calendar month for EU-BOILER4 and EU-BOILER5, provided by the permittee.

Monthly Operating Days		
2022	Boiler No. 4	Boiler No. 5
	(days)	(days)
January	27	31
February	19	28
March	31	31
April	30	4
May	16	7
June	30	30
July	31	31
August	31	31
September	30	30
October	31	31
November	30	30
December	31	31

Per SC VI.4, The permittee shall calculate NO<sub>x</sub> emissions from EU-BOILER4 and EU-BOILER5 each calendar month and 12-month rolling time period, as determined at the end of each calendar month, using the method and emission factors delineated in Appendix 7.2

- The permittee provided me with a record that indicated the permittee calculates NO<sub>x</sub> emissions from EU-BOILER4 and EU-BOILER5 each calendar month and 12-month rolling time period. I attached these documents to this report.

Per SC VI.6, The permittee shall develop and implement, in accordance with good engineering practices, a routine preventative maintenance plan for EU-BOILER4 and EUBOILER5. The permittee shall record all preventative maintenance events and have the records available upon request.

I received and reviewed the work order status records that the permittee has completed on EU-BOILER4 and EUBOILER5.

**Boiler#4**

- An annual Boiler Inspection was done on 5/31/2022.
- An annual boiler CSD-1 Inspection was done on 5/31/2022.
- Annual Fire Boiler on Fuel Oil Test on 11/30/2022.
- Note: being done in December with CSD1 testing

**Boiler#5**

- Annual Boiler CSD-1 Inspection was completed on 4/29/2022.
- An annual Boiler Inspection was done on 4/29/2022.
- Annual fire Boiler on Fuel oil Test on 11/30/2022
- Note: being done in December with CSD1 testing

Per SC VI.7, The permittee shall monitor and keep records of the number of hours EU-BOILER4 and EU-BOILER5 were operated on liquid fuel for periodic testing, maintenance, or operator training during each calendar year.

- Based on the record, the permittee does not burn liquid fuel.

**Reporting**

As required in SC VII.2 and SC VII.3, the AQD received a semi-annual and annual report on time. There were no deviations reported.

**Stack/Vent restrictions**

Per SC VIII.1, at the time of inspection, the exhaust stacks appeared vertical and unobstructed. SV-BOILER4 stack appeared to be at least 35.1 feet above ground in height and 30 inches maximum exhaust dimensions.

SV-BOILER5 stack appeared to be at least 35.1 feet above ground in height and 42 inches maximum exhaust dimensions.

**Other requirements**

Per SC IX.1 and (40 CFR 60 Subpart Dc), The permittee shall comply with all applicable provisions of the New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Units.

- EU-BOILER4 and EU-BOILER5 are subject to 40 CFR Part 60 Subparts Dc.
- FG-BOILERS4&5 in the ROP contains conditions from 40 CFR Part 60 Subparts Dc applicable to EU-BOILER4 and EU-BOILER5.
- Details are explained in SC II.1 and II.2 (material limit section) and SC VI.1 (Monitoring and record-keeping).

**FG-FUELOIL**

Emission units are subject to a sulfur dioxide emission standard and a fuel oil certification or analysis requirement. Some emission units are also subject to fuel usage limits.

**Emission Units:**

EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-BOILER4, EU-BOILER5, EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9, EU-ELECGEN3R, EU-ELECGEN4R.

**MATERIAL LIMIT(S)**



Per SC II.1, The permittee provided me with a record of the 12-month rolling Fuel Oil No. 2 consumption in EU-ELECGEN6 and EU-ELECGEN7. The record indicates that the highest fuel oil no. 2 consumption in EU-ELECGEN6 and EU-ELECGEN7 was 2052 gallons combined, for the 12-month rolling period ending in December 2022, which was less than the permit limit of 65,000 gallons combined per year.

Per SC II.2, The permittee provided me with a record of the 12-month rolling Fuel Oil No. 2 consumption in EU-ELECGEN8 and EU-ELECGEN9. The record indicates that the highest Fuel Oil No. 2 consumption in EU-ELECGEN8 and EU-ELECGEN9 was 2356 gallons combined, for the 12-month rolling period ending in December 2022, which was less than the permit limit of 65,000 gallons combined per year.

As required in SC II.3, I received a fuel oil sulfur content certification that indicate the sulfur content in fuel is less than 0.0015% of sulfur by weight.

### **MONITORING/RECORDKEEPING**

Per SC VI.1, the permittee provided me with a 'Fuel Oil Sulfur Content Certification' indicating the sulfur content in FG-FUELOIL is less than 0.0015% by weight.

Per SC VI.2, the permittee provided the fuel oil usage records indicating the amount of fuel used in gallons each calendar monthly and 12-month rolling for EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, and EU-ELECGEN9 for 2021 and 2022.

As required in SC VI.3, The permittee shall develop and implement, in accordance with good engineering practices, a routine preventative maintenance plan for EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, and EU-ELECGEN9. The permittee shall record all preventative maintenance events and have the records available upon request.

The permittee submitted a preventive maintenance plan in the last ROP renewal updated on 4/8/2016.

- I received and reviewed a PDF document (Asset Number: M153203, & Model No.: 3512 EPSS-1 GENERATOR 2) to verify all preventative maintenance events conducted on EU-ELECGEN6 from 1/1/2022 to 12/31/2022.
- I received and reviewed a PDF document (Asset Number: M153204 & Model No.: 3512 EPSS-1 GENERATOR 4) to verify all preventative maintenance events conducted on EU-ELECGEN7.
- I received and reviewed a PDF document (Asset Number: M165681 & Model No.: 3516 EPSS-3 GENERATOR 1) to verify all preventative maintenance events conducted on EU-ELECGEN8.
- I received and reviewed a PDF document (Asset Number: M165682 Model #: 3516 EPSS-3 GENERATOR 2) to verify all preventative maintenance events conducted on EU-ELECGEN9.
- According to the preventative maintenance records, the permittee conducted monthly generator battery maintenance, weekly generator test run, annual engine coolant Glycol Strength test, Semi-annual emergency generator lube oil sample test, annual emergency circuit breaker exercise, and monthly emergency generator fuel oil supply check.

Per SC VI.4, The permittee shall develop and implement, in accordance with good engineering practices, a routine preventative maintenance plan for, EU-RESGEN1 and EU-RESGEN2. The permittee shall record all preventative maintenance events and have the records available upon request.

- I received and reviewed a PDF document (Asset Number: M153262 Model #: 3508B EPSS-4 GENERATOR 1) to verify all preventative maintenance events conducted on EU-RESGEN1.

- I received and reviewed a PDF document (Asset Number: M153263 Model #: 3508B EPSS-4 GENERATOR 2) to verify all preventive maintenance events conducted on EU-RESGEN2.
- According to the preventive maintenance records, the permittee conducted monthly generator battery maintenance, weekly generator test run, annual engine coolant Glycol Strength test, Semi-annual emergency generator lube oil sample test, annual emergency circuit breaker exercise, and monthly emergency generator fuel oil supply check.

## REPORTING

As required in SC VII.1, The permittee shall 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.

- On January 17, 2023, AQD only received a semi-annual report. The permittee is required to submit a fuel oil analysis record either conducted by the fuel oil supplier or an independent laboratory and a certified statement by a responsible official with the semi-annual report during the reporting time.
- At this time, AQD is not sending a VN to the facility for this violation. In the future, a VN will be issued to the facility if they don't submit fuel oil sulfur content certification with the semi-annual report. It can be noted that the permittee sent me a fuel oil sulfur content certification, certified by RKA Petroleum upon my request on 4/20/2023.

## FG-EMERGENCY

Flexible Group conditions Includes four permitted engines that were classified as existing institutional emergency stationary reciprocating internal combustion engines located at an area source of hazardous air pollutants under 40 CFR Part 63 Subpart ZZZZ.

Emission Units: EU-ELECGEN6, EU-ELECGEN7, EU ELECGEN8, EU-ELECGEN9,

**See MI-ROP-G5067-2019a FG-EMERGENCY SC III.1, IV.1, and VI.6 section of this report.**

## FG-ELECGEN3R&4R REPORTING

Per SC No. VII.1. of FG-ELECGEN3R&4R, AQD received a notification on March 6, 2023, that both engines in FG-ELECGEN3R&4R (EU-ELECGEN3R and EU-ELECGEN4R) started operating on 2/27/2023.

Per SC No. VII.2. of FG-ELECGEN3R&4R AQD received a notification on March 6, 2023, that both engines in FG-ELECGEN3R&4R are certified and will be operated in a certified manner.

## MI-ROP-G5067-2019a

### EU-BOILER1

Keeler Model No. DS-30 boiler. Heat input capacity of 39 MM BTU/hour. Capable of producing 30,000 pounds of steam per hour. Combusts natural gas and fuel oil No. 2.

**Flexible Group ID:** FG-FUELOIL

**Emission Limit** (EU-BOILER1)

According to SC I.1 (Emission Limit), SO<sub>2</sub> 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

the facility and required in EU-BOILER1 SC VI. 2 and VI.3 and FG-FUELOIL SC VI.1, the 24-hour average SO<sub>2</sub> 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 SO<sub>2</sub> emissions for EU-BOILER1 between January 2022 and December 2022 was zero pounds.

#### **Process/Operational Restriction(s) (EU-BOILER1)**

Per SC III.1, The permittee shall only burn virgin fuel oil No. 2 during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel. The periodic testing on liquid fuel shall not exceed a combined total of 48 hours, for each boiler, during any calendar year. 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 JJJJJ 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 permittee provided monthly boiler fuel usage data from January 2021 through December 2022. I attached this record to this report. I reviewed the records and found the permittee only burned natural gas in all boilers in 2021 and 2022. This boiler appears to be operating as a gas-fired boiler and therefore is not subject to 40 CFR 63 Subpart JJJJJ.

#### **Monitoring/recordkeeping (EU-BOILER1)**

Per SC VI.1, The permittee shall not burn any fuel in EU-BOILER1 other than natural gas and/or virgin fuel oil No. 2.

- See details in SC III.1, process/operational restrictions section.

Per SC VI.2, The permittee shall monitor and record natural gas and fuel oil No. 2 usage on a monthly basis.

- See details in SC III.1, process/operational restrictions section.

Per SC VI.3, The permittee shall calculate the SO<sub>2</sub> emission rate using the method in Appendix 7.1.

- Details are explained in SC I.1 (Emission Limit Section).

Per SC VI.4, The permittee shall calculate the NO<sub>x</sub> emission rate using the method and emission factors in Appendix 7.2.

- The permittee calculated the NO<sub>x</sub> emission rate using the method and emission factors in Appendix 7.2. I attached this document to this report.

Per SC VI.6, The permittee shall monitor and keep records of the number of hours EU-BOILER1 was operated on liquid fuel for periodic testing, maintenance, or operator training during each calendar year.

- The permittee only burned natural gas in all boilers in 2021 and 2022.

**Reporting (EU-BOILER1)**

Per SC VII.2, and SC VII.3, no deviations reported for the annual or semi-annual reporting in 2022.

**Stack/Vent Restrictions**

Per VIII.1, at the time of inspection, I observed, the exhaust stacks (SV-STACK1) appeared vertical and unobstructed. SV-STACK1 stack appeared to be at least 131 feet above ground in height and 48 inches maximum exhaust dimensions.

**Other requirements**

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 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 JJJJJ if it operated as a gas-fired boiler as defined in the subpart per 40 CFR 63.11195.

- Details are explained in SC III.1 (process/operational restrictions).

**FG-EMERGENCY**

Flexible Group conditions

Includes six permitted engines that were classified as existing institutional emergency stationary reciprocating internal combustion engines located at an area source of hazardous air pollutants under 40 CFR Part 63 Subpart ZZZZ. It also includes two existing institutional emergency stationary reciprocating internal combustion engines (EU-RESGEN1, EU-RESGEN2) that are exempt from obtaining a Permit to Install pursuant to R 336.1285(g).

**Emission Units:** EU-COGEN1, EU-COGEN2, EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9, EU-RESGEN1, EU-RESGEN2

**EMISSION LIMIT(S)**

Per SC I.1, The permittee provided me with a record of the 12-month rolling NOx emission for EU-COGEN1 and EU-COGEN2. The record indicates that the highest NOx emission for EU-COGEN1 and EU-COGEN2 was 0.35 tons combined which was less than the permit limit of 82.2 tons combined per year for the 12-month rolling period ending in April, May, and June 2022.

**PROCESS/OPERATIONAL RESTRICTION(S)**

Per SC III.1, The permittee shall not operate any engine in FG-EMERGENCY for more than 500 hours per year on a 12-month rolling time period basis, as determined at the end of each calendar month. Based on records provided by the facility, the highest operation time of operating any engine in FG-EMERGENCY was less than 500 hours per year on a 12-month rolling time period basis, as determined at the end of each calendar month.

Engine	Highest operation time for a 12-month rolling period ending in X month
EU-COGEN1	24.8 hours for the 12-month rolling period ending in January and February 2022
EU-COGEN2	28.4 hours in January and February 2022

EU-ELECGEN6	28.3 hours for the 12-month rolling period ending in May 2022.
EU-ELECGEN7	24.2 hours for the 12-month rolling period ending in April 2022.
EU-ELECGEN8	24.4 hours for the 12-month rolling period ending in January 2022.
EU-ELECGEN9	25.7 hours for the 12-month rolling period ending in April and May 2022.
EU-RESGEN1	22.6 hours for the 12-month rolling period ending in February 2022.
EU-RESGEN2	21.8 hours for the 12-month rolling period ending in May 2022 and July through December 2022.

### DESIGN/EQUIPMENT PARAMETER(S)

Per SC IV.1, The permittee requires to equip and maintain each engine in FG-EMERGENCY with a non-resettable hour meter to track the operating hours.

- EU-COGEN1 was removed on 8/10/2022. It was replaced by EU-ELECGEN3R.
- EU-COGEN2 was removed on 8/21/2022. It was replaced by EU-ELECGEN4R.

FG-EMERGENCY engine	At the time of inspection, I observed the non-resettable hour meter reading for the FG-EMERGENCY engine is as follows:
EU-ELECGEN6	1495.7 hours
EU-ELECGEN7	1498.6 hours
EU ELECGEN8	750 hours
EU-ELECGEN9	726 hours
EU-RESGEN1	771 hours
EU-RESGEN2	748 hours
EU-ELECGEN1R	491.2 hours
EU-ELECGEN2R	421.6 hours

Per SC IV.4, Emergency stationary RICE may be operated for up to 50 hours per calendar year in non-emergency situations.

Based on records provided by the facility, Emergency stationary RICE engines were operated less than 50 hours per calendar year in non-emergency situations.

FG-EMERGENCY engine	Emergency Hrs. Jan 2022 to Dec. 2022 (Calendar Year)	Non-Emergency Hrs. Jan 2022 to Dec. 2022 (Calendar Year)
EU-COGEN1	11	15.3
EU-COGEN2	7.8	18.5
EU-ELECGEN6	7.5	20.3
EU-ELECGEN7	1.4	21.2
EU ELECGEN8	0.4	16.6
EU-ELECGEN9	0.3	24.7
EU-RESGEN1	0.2	17.8
EU-RESGEN2	0.2	21.8

EU-ELECGEN1R	15.1	17.9
EU-ELECGEN2R	11.6	23.9

### MONITORING/RECORDKEEPING

Per SC VI.1, I received and reviewed the records of record of the total hours of operation and the hours of operation during non-emergencies for each engine in FG-EMERGENCY, on a monthly and 12-month rolling time period basis, as determined at the end of each calendar month.

As respecified in SC VI.2, I received the daily natural gas and fuel oil usage records indicating the amount of natural gas used and fuel oil used each calendar month for EU-COGEN1 and EU-COGEN2. I attached this record to this report.

As required in SC VI.3, I received and reviewed the calculation of NO<sub>x</sub> emissions for EU-COGEN1 and EU-COGEN2 each calendar month and 12-month rolling time period.

Per SC VI.4, The permittee provided an Excel sheet indicating the emission calculations for EU-COGEN1 and EU-COGEN2. I attached this record to this report.

Per SC VI.5, at this time of inspection, I did not check the maintenance records for EU-COGEN1 and EU-COGEN2.

Per SC VI.6, The permittee requires to maintain the following record for each engine in FG-EMERGENCY. The following information shall be recorded and kept on file at the facility:

- a. Engine manufacturer.
- b. Date engine was manufactured.
- c. Engine model number.
- d. Engine horsepower.
- e. Engine serial number.
- f. Engine specification sheet.
- g. Date of initial startup of the engine; and
- h. Date engine was removed from service at this stationary source.

- I received the above record for each engine in FG-EMERGENCY and I attached this record to this report.

### STACK/VENT RESTRICTION(S)

Per SC VIII, at this time of inspection, I did not measure the diameter and height of the stack.

### OTHER REQUIREMENT(S)

Per SC IX.1, The permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63 Subparts A and ZZZZ, as they apply to FG-EMERGENCY.

- **EGLE-AQD has not accepted delegation to enforce 40 CFR 63 Subpart ZZZZ at area sources of HAP emissions.**

### FG-ELECGEN1&2R

Two 2,000 kilowatts (kW) diesel-fueled emergency engines were manufactured in 2013.

**Emission Units:** EU-ELECGEN1R, EU-ELECGEN2R

### EMISSION LIMIT(S)

- 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 the engine family: ECPXL78.1NZS. Per EPA's Engine Family Spreadsheet, (<https://www.epa.gov/sites/production/files/2016-09/nrci-cert-ghg14d.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
EPA emission factors for each engine	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
Permit Limit			6.4 g/kW-hr	3.5 g/kW-hr	0.20 g/kW-hr <sup>2</sup>	

### **MATERIAL LIMIT(S)**

Per SC II.1, I received and reviewed the records indicating that the permittee burns only diesel fuel, in each engine of FG-ELECGEN1&2R with a maximum sulfur content of 15 ppm (0.0015 percent) by weight. I attached these records to this report.

### **PROCESS/OPERATIONAL RESTRICTION(S)**

Based on the record provided by the permittee, I found the highest operation time of the EU-ELECGEN1R and EU-ELECGEN2R were 30.4 and 37.8 hours respectively for the 12-month rolling period ending in April 2022, those are less than the permit limit of 500 hours per year.

Per SC III.2, Based on records, from January through December 2022, the operational hours for EU-ELECGEN1R and EU-ELECGEN2R were 17.9 hours and 23.9 hours respectively those are below the limit of 100 hours per calendar year.

Per SC III.3, Engines are certified and operated in a certified manner. These engines are not required to perform emission testing. Details are explained in the emission limit section and SC VII.2, reporting section.

### **DESIGN/EQUIPMENT PARAMETER(S)**

Per SC IV.1, The permittee shall equip and maintain each engine of FG-ELECGEN1&2R with non-resettable hours meters to track the operating hours.

- At the time of this inspection, I observed the non-resettable hour's meter reading was 491.2 hours for EU-ELECGEN1R and 421.6 hours for EU-ELECGEN2R.

Per SC IV.2, The nameplate capacity of each engine of FG-ELECGEN1&2R shall not exceed 2,000 kW, as certified by the equipment manufacturer.

- During my inspection, I observed the nameplate of each engine that indicated the capacity of each engine of FG-ELECGEN1&2R was 2,000 kW.

### **TESTING/SAMPLING**

Per SC V.1, Engines are certified and operated in a certified manner. These engines are not required to perform emission testing. Details are explained in the emission limit section and SC VII.2, reporting section.

### **MONITORING/RECORDKEEPING**

Per SC VI.2, Engines are certified and operated in a certified manner. These engines are not required to perform emission testing.

As required in SC VI.3, details are explained in SC III.1 and SC III.2, process/operational restrictions section.

As required in SC VI.4, I received the fuel supplier certification records that indicated the sulfur content in fuel is less than 0.0015% by weight. The fuel supplier certification has been attached to this report.

Per SC VI.5, The permittee shall develop and implement, in accordance with good engineering practices, a routine preventative maintenance plan for each engine of FG-ELECGEN1&2R.

- I received and reviewed a PDF document (Asset Number: 449801, Model #: 3516 EPSS-1 GENERATOR 1) to verify all preventive maintenance events conducted on EU-ELECGEN1R.
- I received and reviewed a PDF document (Asset Number: 449802 Model #: 3516 EPSS-1 GENERATOR 3) to verify all preventive maintenance events conducted on EU-ELECGEN2R.
- According to the preventive maintenance records, the permittee conducted monthly generator battery maintenance, weekly generator test run, annual engine coolant Glycol Strength test, Semi-annual emergency generator lube oil sample test, annual emergency circuit breaker exercise, and monthly emergency generator fuel oil supply check.

## **REPORTING**

Per SC VII.2, 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. Based on the previous inspection report dated 3/12/2021, Beaumont submitted a notification via email to Rebecca Loftus, AQD, for EU-ELECGEN1R and EUELECGEN2R on January 28, 2016. The notification indicated the engines are certified and will be operated and maintained in a certified manner.

## **STACK/VENT RESTRICTION(S)**

During this inspection, I observed the exhaust stacks appeared vertical and unobstructed. However, I did not measure the stack height and diameter at this time of inspection.

## **OTHER REQUIREMENTS (S)**

Per SC IX.1, Each engine in FG-ELECGEN1&2R reportedly commenced construction on or after July 11, 2005, and as such are subject to the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines in 40 CFR 60 Subpart IIII.

- 40 CFR 60 Subpart IIII requirements are specified in I.1-3 (Emission Limit), II.1 (material limits), III.2, III.4 (process/operational restrictions), IV.1, and IV.2 (design/equipment parameters), VII.2 (reporting section).

Per SC IX.2, The emergency engine is subject to 40 CFR 63 Subpart ZZZZ - NESHAP for Stationary Reciprocating Internal Combustion Engines, but the engine is located at an area source of HAPs.

- EGLE-AQD has not accepted delegation for area sources.

## **FG-ETOSTERILIZERS**

Two (2) 3M Steri-Vac 8XL Gas Sterilizers and two (2) 3M Steri-Vac 5XL Gas Sterilizers, each controlled by one of the three Advanced Air Technologies Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters.



**Emission Units:** EU-ETOSTERILIZER1, EU-ETOSTERILIZER2, EU-ETOSTERILIZER3, EU-ETOSTERILIZER4

### **POLLUTION CONTROL EQUIPMENT**

Advanced Air Technologies Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters.

### **EMISSION LIMIT(S)**

EtO emissions from FG-ETOSTERILIZERS are limited to 0.0059 lb/hour per SC I.1 and 3.69 lb/year per SC I.2. According to the ROP, compliance with the lb/hour limit is met through verification that each scrubber for the sterilizers reduces 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.

Per SC I.2 and SC VI.2, based on records from January 2022 through December 2022, provided by the permittee, I found that the highest EtO emission was 0.71 lb per year for the 12-month rolling period ending in September 2022 which was less than the limit of 3.69 lb/year.

### **MATERIAL LIMIT(S)**

Per SC II.1, According to records from January 2022 through December 2022, provided by the permittee, the facility uses less than 0.37 lb EtO per cycle /load in EU-ETOSTERILIZER1 or EU-ETOSTERILIZER2 and less than 0.22 lb EtO per cycle/load in EU-ETOSTERILIZER3 or EU-ETOSTERILIZER4.

On June 27, 2023, I revisited the facility and observed the size of the EtO canisters. One canister's net weight was 170 g (0.37 lbs) and another one weight was 100 g (0.22 lbs).

### **PROCESS/OPERATIONAL RESTRICTION(S)**

Per SC III.1, The permittee shall not operate any sterilizer associated with FG-ETOSTERILIZERS unless the Advanced Air Technologies Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters are installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the control system includes a minimum EtO destruction efficiency of 99.5 percent by weight, as well as, the Malfunction Abatement Plan (MAP) as described in SC III.2.

On 6/27/2023, Kerry Kelly and I revisited the facility to see whether each sterilizer's exhaust is connected to the scrubbers. During the revisit, I observed the permittee has installed Advanced Air Technologies Safe-Cell System Model 2002 acid scrubber. No sterilizers were in operation during our visit. However, they operated sterilizers just before our visit. At the time of inspection, we observed, EU-ETOSTERILIZER1 and EU-ETOSTERILIZER2 were connected with separate scrubbers. However, both EU-ETOSTERILIZER3 and EU-ETOSTERILIZER4 were connected with one scrubber. Each scrubber has two-contact towers for maximum efficiency.

- At the time of inspection, I noted the following parameters:
- For EU-ETOSTERILIZER1, I don't see any acid scrubber recirculation rate, and the acid scrubber exhaust fan differential pressure readings.
- For EU-ETOSTERILIZER2, the acid scrubber recirculation rate was 3.4 GPM and 3.8 GPM, and the acid scrubber exhaust fan differential pressure was 3.
- For EU-ETOSTERILIZER3, and EU-ETOSTERILIZER4, the acid scrubber recirculation rate was 3.8 GPM and 3.8 GPM, and the acid scrubber exhaust fan differential pressure was 3.

The permittee provided a specification sheet from Advanced Air Technologies that states the scrubber has an EtO removal efficiency of up to 99.9%. I attached this record to this report. 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 on 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 test reports, average operating conditions during the test periods are given below:

Parameter	EU-ETOSTERILIZER3 Operation	EU- ETOSTERILIZER3 Operation
Column A Recirculation Rate (gpm)	3.7	3.7
Column B Recirculation Rate (gpm)	3.3	3.3
Duct Airflow Monitor (inH2O)	3.3	3.3
Scrubber Acid pH	1	1

According to the test report, the average measured emission rates and destruction efficiency of each operating scenario (three-test average) are given below:

Emission Scenario	Unit/Operating	EtO Injected (lb)	Maximum Potential EtO Exhausted Per Cycle (lb)	EtO Destruction Efficiency
EU-ETOSTERILIZER3		0.22	0.00025	99.9
EU-ETOSTERILIZER3 & EU-ETOSTERILIZER4		0.44	0.00035	99.9
Permit Limit				99.5

Per SC III.2, The permittee shall not operate any sterilizer associated with FG-ETOSTERILIZERS unless a malfunction abatement plan (MAP) as described in Rule 911(2), has been submitted within 60 days of permit issuance, and is implemented and maintained.

- During the last renewal of the ROP, the permittee submitted the updated malfunction abatement plant (MAP) to the AQD. The MAP plan was revised on 8/7/2018. See also SC IV.1.

Per SC III.3, The permittee shall sterilize full loads of items having a common aeration time, except under medically necessary circumstances, as that term is defined in 40 CFR 63.10448. Based on the record provided by the facility (ETO Sterilizers Load Count), the permittee sterilizes full loads of items.

#### **DESIGN/EQUIPMENT PARAMETER(S)**

Per SC IV.1, The permittee shall not operate any sterilizer associated with FG-ETOSTERILIZERS unless each respective venturi and compressed air chamber exhaust system is installed, maintained, and operated in a satisfactory manner. The emission units shall not discharge EtO to a wastewater stream.

- The ROP indicates satisfactory operation of the control system including 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 permittee is required to check the scrubber solution, the acid scrubber recirculation rate, and the acid scrubber exhaust fan differential pressure on a weekly basis. However, based on the record I received, the permittee checked the scrubber solution, the acid scrubber recirculation rate, and the acid scrubber exhaust fan differential pressure monthly. I sent an email to the facility asking why they were keeping records monthly instead of on a weekly basis and not following the MAP. On June 9, 2023, Amy Blazejewski replied, after reviewing the operating manual they started recording the values on a weekly basis.
- On June 27, 2023, I received the scrubber operating parameter records from Jim Gibson. I reviewed the records from 1/4/2023 through 6/21/2023 and found they started keeping the record on a weekly basis for the scrubber operating parameters such as acid scrubber recirculation rate, and the acid scrubber exhaust fan differential pressure.
- 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 H<sub>2</sub>O) during testing. According to the stack test report submitted, the pH of the acid solution was approximately 1, the 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 H<sub>2</sub>O during testing.
- During the review of the permittee records from January 2022 to December 2023, I found that the pH of the acid solution was 1, the acid scrubber recirculation pump flow rate ranged between 3.4 and 3.8 gal/min, and the acid scrubber exhaust fan differential pressure ranged between 2.2 and 3.2 inches H<sub>2</sub>O.

### TESTING/SAMPLING

Per SC V.1, 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. Details are explained in SC III.1 (Process/operational restrictions section).

Per SC V.2, The permittee shall verify the destruction efficiency of each acid scrubber and dry bed chemical filter system connected to the vents for EU-ETOSTERILIZER1 and EU-ETOSTERILIZER2 by testing at the owner's expense, in accordance with the Department requirements no later than September 30, 2024. The permittee hasn't completed the test yet.

Per SC V.3, The permittee shall verify the EtO destruction efficiency of each acid scrubber and dry bed chemical filter system in FG-ETOSTERILIZERS, at a minimum, every five years from the date of the last test. This testing requirement may be waived if the most recent approved stack test results remain valid and representative and, an acceptable demonstration is made to and approved by the AQD District Supervisor.

- This testing was completed on January 5 – 6, 2021. It has not been 5 years since that date.

### MONITORING/RECORDKEEPING

Per SC VI.2, The permittee shall keep a separate monthly record of the following information:

- a. The amount of EtO used in each sterilizer per cycle/load.
- b. The number of cycles/loads processed in each sterilizer per calendar day and per calendar month.
- c. EtO mass emission calculations determining the monthly emission rate, in pounds per calendar month, from each sterilizer, and for all sterilizers combined.

d. EtO mass emission calculations determining the annual emission rate in pounds per 12-month rolling time period as determined at the end of each calendar month, for each sterilizer and for all sterilizers combined.

- I received and reviewed the documents required in SC VI.2.a-d. and attached to this report.

Per SC VI.3, The permittee shall monitor a parameter of the Advanced Air Technologies Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters, based on either the manufacturer's specifications or a performance test, which assures at least 99.5 percent reduction of EtO emissions. A copy of the manufacturer's specifications for the control device shall be maintained on file.

- **Details are explained in Design/Equipment Parameters Section.**

Per SC VI.4, The permittee shall keep the following in a satisfactory manner: records of the date, duration, and description of any malfunction of the control equipment; any maintenance performed; replacement of the Advanced Air Technologies Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters and any testing results for FG-ETOSTERILIZERS.

- The permittee provided the maintenance records from 1/1/2022 through 31/12/2022 including the work order date, description of the work, work completion date, and status of the work. During this period, the total number of service events was 76. Most of the cases, the permittee conducted an inspection on the emission control system -ETO reclaim pump and it has been passed.

Per SC VI.5, The permittee shall keep records of the date and time of any sterilization cycle that does not contain a full load of items.

- I received and reviewed the records and found all sterilization loads contained full loads. I attached this record to this report.

Per SC VI.7, The permittee shall keep a copy of the Initial Notification of Compliance Status submitted to comply with 40 CFR 63 Subpart WWWW.

- According to MACES records, AQD received a copy of the Initial Notification of Compliance Status submitted to comply with 40 CFR 63 Subpart WWWW on September 25, 2013.

## **REPORTING**

Per SC VI.2 and SC VI.3, semi-annual and annual reports have been received on time.

## **STACK/VENT RESTRICTION(S)**

On 6/27/2023, Kerry and I observed the stack from the north side of the facility. However, we did not use any device to measure the stack height and dimension at this time of the visit.

## **OTHER REQUIREMENT(S)**

Per SC IX.1, The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart WWWW for Hospital Ethylene Oxide Sterilizers by the initial compliance date.

- Beaumont is required to comply with the applicable requirements in the NESHAP for Hospital Ethylene Oxide Sterilizers, 40 CFR, Part 63, Subpart WWWW. EGLE-AQD has not accepted the delegation to implement and enforce 40 CFR, Part 63, Subpart WWWW.

## **FGRULE 287 (2)(c)**

The flexible group FG-287(2)(c) addresses a paint spray booth (EU-WOODSHOP) located in Beaumont's woodshop. During the inspection, the paint booth and the room the paint booth is located in are being used as storage space with no room to perform painting. The permittee has not used it in several years.

**FG-COLDCLEANERS.**

I inspected the equipment in the garage and did not see the cold cleaner. According to facility personnel, the EU-CCGARAGE had been removed.

**Conclusion**

Based on the on-site inspection and review of the records, William Beaumont Hospital complies with the requirements of ROP No. MI-ROP-G5067-2019a. and PTI No. 95-19A.

NAME Shamim AhammodDATE 7/17/2023SUPERVISOR *K. Kelly*