

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

G506772821

FACILITY: WILLIAM BEAUMONT HOSPITAL		SRN / ID: G5067
LOCATION: 3601 W. 13 MILE RD., ROYAL OAK		DISTRICT: Warren
CITY: ROYAL OAK		COUNTY: OAKLAND
CONTACT: Amy Blazejewski , Director of Environment and Life Safety		ACTIVITY DATE: 07/15/2024
STAFF: Shamim Ahammod	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Conducted a scheduled inspection of William Beaumont Hospital-Royal Oak Campus (Beaumont).		
RESOLVED COMPLAINTS:		

On July 15, 2024, Michigan Department of Environment, Great Lakes, and Energy (EGLE) staff, Jillian Cellini 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.

SOURCE DESCRIPTION

William Beaumont Hospital's Royal Oak campus is in southeastern Oakland County. It 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. The five permitted boilers at Beaumont Royal Oak provide steam for equipment sterilization 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. Ten stationary engines at Beaumont are emergency generators that fire 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 control emissions from the EtO sterilizers. The facility plans to remove all EtO sterilizers in September 2024. They have already started using hydrogen peroxide sterilizers in the facility.

Regulatory Analysis

The Beaumont Royal Oak Campus is in Southeastern Oakland County which is currently designated by the United States Environmental Protection Agency (USEPA) as 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 is 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-ELECGEN1R, EU-ELECGEN2R, EU-ELECGEN3R, EU-ELECGEN4R, EU-ELECGEN6, EU-ELECGEN7, EU ELECGEN8, EU-ELECGEN9, EU-RESGEN1, and 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). However, the definition of emergency stationary RICE in MACT ZZZZ states that all emergency stationary RICE must comply with the requirements specified in [40 CFR 63.6640\(f\)](#) in order to be considered emergency stationary RICE. Therefore, the ROP contains the requirements in 40 CFR 63.6640(f) for EU-ELECGEN1R, EU-ELECGEN2R, EU-ELECGEN3R, EU-ELECGEN4R, EU-ELECGEN6, EU-ELECGEN7, EU ELECGEN8, EU-ELECGEN9, EU-RESGEN1, and EU-RESGEN2.

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 requested the 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 July 15, 2024, at 10:00 AM, we arrived at the facility and were greeted by Andy Rusnak and Jim Gibson at the south entrance of the hospital.

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
- Andy Rusnak, Technical Manager, Impact Compliance and Testing
- Jim Gibson, Beaumont, Bio-medical Technician, William Beaumont
- Howard Bosch, Beaumont, Lead Technician Power Plant, William Beaumont

I did save all records at S:\Air Quality Division\STAFF\Shamim Ahammod.

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 learned the process, and verified the ROP's general and special conditions set forth on MI-ROP-G5067-2019b.

Full Compliance Evaluation (FCE)

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), 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. 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 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 January 2023 and June 2024 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 2023 through June 2024. I reviewed the records and found the permittee only burned natural gas in all boilers in 2023 and 2024. 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 SO₂ 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_x emission rate using the method and emission factors in Appendix 7.2.

- The permittee calculated the NO_x emission rate using the method and emission factors in Appendix 7.2.

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.

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

Reporting (EU-BOILER1)

Per SC VII.2, and SC VII.3, no deviations reported for the annual or semi-annual reporting in 2023.

Stack/Vent Restrictions

Per VIII.1, at the time of inspection, I observed, that the exhaust stacks (SV-STACK1) appeared vertical and unobstructed. I used a device named a Nikon Forestry Pro II Rangefinder to determine the stack height. I measured the stack height to be around 125 feet. According to Nikon's website, the Forestry Pro II has an accuracy of ± 0.9 ft for actual distances shorter than 3,280 feet. Though the Rangefinder measurement I took is less than the minimum height in the permit, AQD has decided not to rely on the Rangefinder for compliance.

In addition, there is a 130-foot difference between the ground elevation and the EU-BOILERS1 stack elevation according to Google Earth Pro which supports that the stack meets the minimum height requirement in the ROP.

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 NO_x emissions. The record indicates that the highest NO_x emission from Boiler#2 was 11.3 tons, for the 12-month rolling period ending in April and May 2024, which was less than the permit limit of 23 tpy. For Boiler#3, the highest NO_x emission was 5.2 tons, for the 12-month rolling period ending in May 2024, which was less than the permit limit of 23 tpy.

SC I.2; at the time of inspection, no boilers were in operation. Therefore, 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 2023 and June 2024 was zero pounds.

MATERIAL LIMIT(S)

Per SC 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 12-month rolling natural gas consumption in EU-BOILER2 was 226.69 MMSCF, for the 12-month rolling period ending in April 2024, which was less than the limit of 420 MMSCF per year. For EU-BOILER3, the highest 12-month rolling natural gas consumption was 102.86 MMSCF, for the 12-month rolling period ending in May 2024, which was less than the limit of 420 MMSCF per year.

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 2023 through June 2024. The record indicates that the highest 12-month rolling fuel oil No.2 consumption in EU-BOILER2 was zero gallons and EU-BOILER3 consumed 857 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 JJJJJJ, 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.

- The permittee provided monthly boiler fuel usage data from January 2023 through June 2024. I reviewed the records and found the permittee burned natural gas in all boilers from January 2023 through June 2024 except boiler 3.
- EU-BOILER3 was run for 12 hours in October 2023 which was less than the limit of 48 hours, for each boiler, during any calendar year

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.

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		
2024	Boiler No. 2	Boiler No. 3
	(days)	(days)
January	31	0
February	28	0

March	31	23
April	30	30
May	31	31
June	30	30
July	31	29
August	31	23
September	15	30
October	31	31
November	30	30
December	31	31

Per SC VI.4, The permittee shall calculate NO_x 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 September 1, 2023.**
- An annual boiler CSD-1 Inspection was done on September 1, 2023.
- Annual Fire Boiler on Fuel Oil Test conducted on November 1, 2023.

Boiler#3

- Annual Boiler CSD-1 Inspection was completed on August 31, 2023.
- Annual boiler inspection was conducted on August 17, 2023.
- Annual fire Boiler on Fuel oil Test was conducted on November 3, 2023.

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 reported.

Stack/Vent restrictions.

Per SC VIII.1, at the time of inspection, the exhaust stacks appeared vertical and unobstructed. I used a device named a Nikon Forestry Pro II Rangefinder to determine the stack height. I measured the

stack height to be around 125 feet. According to Nikon's website, the Forestry Pro II has an accuracy of ± 0.9 ft for actual distances shorter than 3,280 feet. Though the Rangefinder measurement I took is less than the minimum height in the permit, AQD has decided not to rely on the Rangefinder for compliance.

In addition, there is a 130-foot difference between the ground elevation and the EU- EUBOILER2, and EUBOILER3 stack elevation according to Google Earth Pro which supports that the stack meets the minimum height requirement in the ROP.

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 12-month rolling NOx emissions for EU-BOILER4 and EU-BOILER5 combined was 14.3 tons, for the 12-month rolling period ending in March and April 2023, which was less than the limit of 48.5 tpy.

Per SC I.2, at the time of inspection, no boilers were in operation. Therefore, 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-BOILER4 and EU-BOILER5 (individually) between January 2023 and June 2024 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 12-month rolling natural gas consumption in EU-BOILER4 and EU-BOILER5 was 286.86 MMSCF combined for the 12-month rolling period ending in April 2023, which was less than the limit of 693.8 MMSCF per year.

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 2023 through June 2024.

The facility did not use fuel oil No.2 in EU-BOILER4 and EU-BOILER5 from January 2023 through June 2024.

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 in EU-BOILER4 and EU-BOILER5 from January 2023 through June 2024. During this period, the permittee only burned 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 SO₂ 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		
2024	Boiler No. 4	Boiler No. 5
	(days)	(days)
January	31	31
February	28	28
March	31	31
April	30	18
May	18	31
June	30	30
July	26	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_x 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_x 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 May 17, 2023.
- **An annual boiler CSD-1 Inspection was done on May 17, 2023.**
- **Annual Fire Boiler on Fuel Oil Test conducted on November 1, 2023.**
- An annual boiler inspection was done on May 31, 2024.
- An annual boiler CSD-1 Inspection was done on May 31, 2024.

Boiler#5

- An annual boiler inspection was done on April 20, 2023.
- An annual boiler CSD-1 Inspection was done on April 20, 2023.
- Annual Fire Boiler on Fuel Oil Test conducted on November 1, 2023.
- An annual boiler inspection was done on April 30, 2024.
- An annual boiler CSD-1 Inspection was done on April 30, 2024.

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 did not burn liquid fuel from January 2023 through June 2024.

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, I did not verify the stack height and diameter.

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

The emission units in FG-FUELOIL 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.

MATERIAL LIMIT(S)

To show compliance with 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 12-month rolling fuel oil no. 2 consumption in EU-ELECGEN6 and EU-ELECGEN7 was 2290 gallons combined, for the 12-month rolling period ending in April 2024, which was less than the permit limit of 65,000 gallons combined per year.

To show compliance with 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 12-month rolling Fuel Oil No. 2 consumption in EU-ELECGEN8 and EU-ELECGEN9 was 3010 gallons combined, for the 12-month rolling period ending in October 2023, 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 indicates 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.

As required in 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 from January 2023 to June 2024.

Per SC VI.2 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.

In the ROP renewal process, the permittee submitted a preventive maintenance plan that was updated on May 23, 2023.

- I received and reviewed a PDF document (Asset Number: M153203, & Model No.: 3512 EPSS-1 GENERATOR 2) to verify all preventive maintenance events conducted on EU-ELECGEN6 from 1/1/2023 to 06/30/2024.
- I received and reviewed a PDF document (Asset Number: M153204 & Model No.: 3512 EPSS -1 GENERATOR 4) to verify all preventive 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 preventive 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 preventive maintenance events conducted on EU-ELECGEN9.
- Per the maintenance plan, the permittee conducted weekly generator test run/inspection, monthly generator battery maintenance/load test, monthly generator fuel oil supply check, semi-annual emergency generator lube oil sample test, annual engine coolant glycol strength test, and annual emergency circuit breaker exercise.

REPORTING

As required in SC VII.2, SC VII.3, and SC VII.4, AQD received a semi-annual report with a fuel oil analysis report on January 22, 2024.

FG-EMERGENCY

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

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 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 12-month rolling hours of operation
EU-ELECGEN6	29.4 hours for the 12-month rolling period ending in April 2024.
EU-ELECGEN7	29.2 hours for the 12-month rolling period ending in April 2024.
EU-ELECGEN8	35 hours for the 12-month rolling period ending in September 2023 through December 2023.
EU-ELECGEN9	33 hours for the 12-month rolling period ending in September 2023.

DESIGN/EQUIPMENT PARAMETER(S)

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

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	1534.9 hours
EU-ELECGEN7	1536.7 hours
EU ELECGEN8	789 hours
EU-ELECGEN9	764 hours

MONITORING/RECORDKEEPING

Per SC VI.1, I received and reviewed the records 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.

Per SC VI.2, the permittee is required to maintain the following record for each engine in FG-EMERGENCY. The following information shall be recorded and kept on file at the facility:

- Engine manufacturer.
- Date engine was manufactured.
- 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. 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 requested delegation to enforce 40 CFR 63 Subpart ZZZZ at area sources of HAP emissions.**

FG-MACTZZZZ-EMER

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

DESIGN/EQUIPMENT PARAMETER(S)

SC IV.3.a, there is no time limit on using emergency stationary RICE in emergency situations.

SC IV.3.c, Emergency stationary RICE may be operated for up to 50 hours per calendar year in non-emergency situations. These 50 hours of operation are counted as part of the 100 hours per calendar year for maintenance and testing and non-emergency demand response.

MONITORING/RECORDKEEPING

SC VI.1, the permittee shall monitor and record the total hours of operation and the hours of operation during non-emergencies for each engine in FG-MACTZZZZ-EMER, on a monthly and 12-month rolling time period basis, as determined at the end of each calendar month. The permittee shall document how many hours are spent for emergency operation of each engine of FG-MACTZZZZ-EMER, including what classified the operation as emergency and how many hours are spent for non-emergency operation.

- I received and reviewed the monthly and 12-month rolling total hours of operation and the hours of operation during non-emergencies for each engine in FG-MACTZZZZ-EMER, from January 2023 through December 2023. Based on my review, the permittee complies with the permit conditions.

Engines	EU-ELECGEN6	EU-ELECGEN7	EU ELECGEN8	EU-ELECGEN9	EU-RESGEN1	EU-RESGEN2
Emergency uses in hours, per year, 2023	1.9 hrs	2 hrs	0 hrs	0 hrs	0 hrs	0 hrs
Limit: 50 hours per calendar year in non-emergency and 100 hours per calendar year for maintenance and testing and non-emergency demand response.						
Non-emergency uses per year, 2023	26.6 hrs	23.1	35	31	27	24
No Limit						

REPORTING

AQD received a semi-annual and annual report on time.

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 the emission limits in FG-ELECGEN3R&4R SC I.1. through I.3 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 an 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 CO ₂
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 ²	

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 12-month rolling hours of operation of EU-ELECGEN1R and EU-ELECGEN2R were 42.4 and 38.8 hours respectively for the 12-month rolling period ending in January 2024 and November 2023, which are less than the permit limit of 500 hours per year.

SC III.2; Based on records from January through December 2023, the operational hours for EU-ELECGEN1R and EU-ELECGEN2R were 42.1 hours and 38.3 hours respectively which are below the limit of 100 hours per calendar year.

SC III.3; ELECGEN1R and EU-ELECGEN2R are certified and operated in a certified manner. As a result, the permittee is not required to perform emission testing for these engines. 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 544 hours for EU-ELECGEN1R and 472.5 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 in FG-ELECGEN1&2R was 2,000 kW.

TESTING/SAMPLING

SC V.1; ELECGEN1R and EU-ELECGEN2R are certified and operated in a certified manner. As a result, the permittee is not required to perform emission testing for these engines. Details are explained in the emission limit section and SC VII.2, reporting section.

MONITORING/RECORDKEEPING

Per SC VI.2, ELECGEN1R and EU-ELECGEN2R are certified and operated in a certified manner. As a result, the permittee is not required to perform emission testing for these engines.

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, Beaumont is required 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 EU-ELECGEN2R 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 did not measure the stack height and diameter.

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).

SC IX.2; ELECGEN1R and EU-ELECGEN2R are subject to 40 CFR 63 Subpart ZZZZ - NESHAP for Stationary Reciprocating Internal Combustion Engines. These engines are located at an area source of HAPs and therefore must meet the requirements of 40 CFR 63 Subpart ZZZZ by meeting the requirements of 40 CFR part 60 subpart IIII.

FG-ELECGEN3R&4R

Two 23.5 MMBTU/hr, 3,633 bhp (2500 kilowatts (kW)), diesel-fueled emergency engines with a model year of 2011 or later, and a displacement of 4.88?liters/cylinder.

Emission Units: EU-ELECGEN3R, EU-ELECGEN4R

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

Emission Units: EU-ELECGEN1R, EU-ELECGEN2R

EMISSION LIMIT(S)

- Compliance with the emission limits in FG-ELECGEN3R&4R SC I.1. through I.4 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 an 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 ²	

MATERIAL LIMIT(S)

SC II.1: I received and reviewed the records indicating that the permittee burns only diesel fuel, in each engine of FG-ELECGEN3R&4R with a maximum sulfur content of 15 ppm (0.0015 percent) by weight. I attached these records to this report.

PROCESS/OPERATIONAL RESTRICTION(S)

SC III.1: based on the record provided by the permittee, I found the total highest operation time of the EU-ELECGEN3R and EU-ELECGEN4R were 58.7 hours and 49.7 hours respectively for the 12-month rolling period ending in February 2024, those are less than the permit limit of 500 hours per year.

Per SC III.2, based on records, from January 2023 through June 2024, the non-emergency operational hours for EU-ELECGEN3R and EU-ELECGEN4R were 14.6 hours in March 2023 and 6.3 hours in September 2023 respectively which are below the limit of 100 hours per calendar year. Per SC III.3, EU-ELECGEN3R and EU-ELECGEN4R are certified and operated in a certified manner. As a result, the permittee is not required to perform emission testing on these engines. 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 76.5 hours for EU-ELECGEN3R and 65.6 hours for EU-ELECGEN4R.

Per SC IV.2, The nameplate capacity of each engine of FG-ELECGEN3R&4R shall not exceed 2,500 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-ELECGEN3R&4R was 2,500 kW.

TESTING/SAMPLING

SC V.1; EU-ELECGEN3R and EU-ELECGEN4R are certified and operated in a certified manner. As a result, the permittee is not required to perform emission testing on these engines. Details are explained in the emission limit section and SC VII.2, reporting section.

MONITORING/RECORDKEEPING

Per SC VI.2, EU-ELECGEN3R and EU-ELECGEN4R are certified and operated in a certified manner. As a result, the permittee is not required to perform emission testing on these engines. 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

- 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.
- Per SC VII.5 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 VII.6. 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.

STACK/VENT RESTRICTION(S)

During this inspection, I did not measure the stack height and diameter.

OTHER REQUIREMENTS (S)

SC IX.1; 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, EU-ELECGEN3R and EU-ELECGEN4R are subject to 40 CFR 63 Subpart ZZZZ - NESHAP for Stationary Reciprocating Internal Combustion Engines. These engines are located at an area source of HAPs and therefore must meet the requirements of 40 CFR 63 Subpart ZZZZ by meeting the requirements of 40 CFR part 60 subpart IIII.

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.

- At the time of inspection, I learned that the facility plans to remove all of the EtO sterilizers by September 2024.

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. Based on records from January 2023 through June 2024, provided by the permittee, I found that the highest EtO emissions were 0.46 lb per year for the 12-month rolling period ending in January 2024 which was less than the limit of 3.69 lb/year.

MATERIAL LIMIT(S)

SC II.1; according to records from January 2023 through June 2024, 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. At the time of inspection, I 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.

- I observed each sterilizer's exhaust is connected to the scrubbers. The permittee has installed the Advanced Air Technologies Safe-Cell System Model 2002 acid scrubber.
- At the time of inspection, we observed EU-ETOSTERILIZER1 was connected with scrubber 7 and EU-ETOSTERILIZER2 was connected with scrubber 8.
- Both, EU-ETOSTERILIZER3 and EU-ETOSTERILIZER4 were connected with scrubber 9. Each scrubber has two contact towers for maximum efficiency. At the time of inspection, only EU-ETOSTERILIZER4 was in operation.

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 the test report, 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 (inH ₂ O)	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 checks the scrubber solution, the acid scrubber recirculation rate, and the acid scrubber exhaust fan differential pressure on a weekly basis.
- 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 H₂O during testing.
- 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. During the review of the permittee records from January 2023 to June 2024, 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 2.8- and 3.0-inches H₂O.

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.

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 the 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 January 1, 2023, through July 11, 2024, including the work order date, description of the work, work completion date, and status of the work. Most of the cases, the permittee conducted an inspection on the PM 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.

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)

At this time of the inspection, I did not measure the stack height of the sterilizers.

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 requested 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 my last visit on February 23, 2023, I observed that the room

designated for the paint spray booth had been repurposed as a storage area, making it unsuitable for painting activities. The permittee has not utilized this area for painting purposes in several years.

FG-COLDCLEANERS.

During my last visit on February 23, 2023, I inspected the equipment in the garage and did not see the cold cleaner. According to facility personnel, the EU-CCGARAGE had been removed.

Annual Emission report to SLEIS

The facility submitted its 2023 annual emission report on time. According to the emission report, the NOx emissions from Boiler 1 were 0.6 tons for December 2023. This figure is consistent with the records provided in an accompanying Excel sheet, which also indicates that the NOx emissions from Boiler 1 were 0.6 tons in December 2023.

Similarly, the emission report states that the NOx emissions from Boiler 2 amounted to 10.9 tons for December 2023. This value aligns with the data presented in their Excel sheet, confirming that the NOx emissions from Boiler 2 were also 10.9 tons in December 2023.

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.

NAME Shamim Ahammod

DATE 08/21/2024

SUPERVISOR K. Kelly