

usage for the boilers and fuel oil shipments. Fuel oil is rarely used but is used in the boilers every three months and in the generators as necessary to meet hospital standards.

Generators use fuel oil and the facility performs a two hour load bank test every year and a four hour load bank test every three years. Mr. Thayer explained that they replaced the meters in the generators and Ms. Beethem explained that in her submittal of records for the generators.

Our next discussion was about storage tanks onsite. Ms. Beethem explained that the facility has 6 tanks- five of the tanks are for the boilers and one tank is for the grounds crew equipment. They are all underground storage tanks. Three tanks are 28,000 gallon, two tanks are 30,000 gallons and the tank for the grounds crew equipment is 1000 gallons.

Ms. Beethem explained that the new sterilizers are maintained and showed me the maintenance activities.

After our discussion, we went out into the facility. I did not observe the power house during this inspection. Ms. Beethem explained that they have not changed the boilers since initial installation. There are four boilers at the VAMC. The maximum heat input capacity of each boiler is 29.3 mmBTU/hr. They use natural gas solely, but have the capability to use fuel oil. They use fuel oil as a backup and during the boiler tune up. They typically use one boiler in the summer and two to three in the winter. One boiler is not used each year and they rotate that boiler each year. They do not use steam from the City of Detroit because it's cheaper to make steam themselves.

Our first stop was the North Generator House. There are eight emergency generators for the VAMC. There are two generator houses, each with four generators. The eight generators are identical in make and model. They are Caterpillar, Model SR4, 600 KW generators. They were installed in 1995/1996. Each has a capacity to use 372 gallons/ day of diesel fuel. I observed four generators in standby mode. All were the identical model, Caterpillar Model SR-4. Each has an output of 600 KW. This is the information gathered for the four generators:

Generator 1:- Caterpillar
Diesel fuel fired
600 KW output
Model SR-4, Serial No. 6MA01077
Hours Fired- 28.8

Generator 2:- Caterpillar
Diesel fuel fired
600 KW output
Model SR-4, Serial No. 6MA01075
Hours Fired- 25.2

Generator 3:- Caterpillar
Diesel fuel fired
600 KW output
Model SR-4, Serial No. 6MA01078
Hours Fired- 31.7

Generator 4:- Caterpillar
Diesel fuel fired
600 KW output
Model SR-4, Serial No. 6MA01076
Hours Fired- 123.4

We then went to the South Generator House. We observed the same configuration of generators that we saw at the North Generator House. This is the information gathered for the four generators:

Generator 1:- Caterpillar
Diesel fuel fired
600 KW output
Model SR-4, Serial No. 6MA01082
Hours Fired- 45.5

Generator 2:- Caterpillar

Diesel fuel fired
600 KW output
Model SR-4, Serial No. 6MA01081
Hours Fired- 38.1

Generator 3:- Caterpillar
Diesel fuel fired
600 KW output
Model SR-4, Serial No. 6MA01079
Hours Fired- 39.7

Generator 4:- Caterpillar
Diesel fuel fired
600 KW output
Model SR-4, Serial No. 6MA01080
Hours Fired- 37.0

Finally, our next stop was to observe the sterilizers. The sterilizers are not used every day. The sterilizers are used for certain items that cannot tolerate high steam or moisture, such as electronics, cameras, etc. The sterilizers are controlled by two abators, which were installed in 2013 have a catalyst. We observed the duct work from the sterilizers to the abators.

There is an alarm inside and outside the room where the abators are located in the event that ethylene oxide is emitted in the room. The EtO monitor read 0 ppm at the time of my inspection.

I gathered records from Ms. Beethem regarding the abators, including test results and maintenance records. I left the facility at 11:30AM.

COMPLAINT/COMPLIANCE HISTORY:

There have been no complaints against the VAMC. VAMC has been in compliance during last two inspections.

OUTSTANDING CONSENT ORDERS:

None

OUTSTANDING LOVs

None

OPERATING SCHEDULE/PRODUCTION RATE:

The VAMC operates 24 hours a day, seven days a week.

APPLICABLE RULES/PERMIT CONDITIONS:

The VAMC is subject to the National Emission Standards for Hazardous Air Pollutants: Area Source Hospital Ethylene Oxide Sterilizers- subpart WWWW. AQD's current direction is to provide assistance to industry when requested and evaluate noncompliance on a case by case basis.

The VAMC was issued the following permits:

295-07- Issued October 29, 2007.

270-07- Issued August 09, 2007, updated on March 23, 2012 and August 4, 2013

The following conditions apply to: FG-BOILERS

Emission Limits

	Pollutant	Equipment	Limit	Time Period	Applicable Requirement(s)
1.1	NO _x	FG-BOILERS	51.7 tpy	12-month rolling time period as determined at the end of each calendar month	R336.1205

Compliance- Records were received. Emissions for the boilers have been in 9-11 TPY range over the last year.

Visible Emission Limits

1.2 Visible emissions from FG-BOILERS, when firing fuel oil, shall not exceed 20 percent opacity, as specified in the federal Standards of Performance for New Stationary Sources, 40 CFR 60.43c(c). [40 CFR Part 60 Subparts A & Dc]

Compliance- One boiler was operating at the time of my inspection and it was firing on natural gas. The boilers fire on diesel fuel approximately once a month.

Material Usage Limits

1.3 The permittee shall combust only natural gas or distillate oil in FG_BOILERS. (R 336.1201(3), R 336.1205, 40 CFR Part 60 Subpart Dc)

Compliance- Boilers only operate on natural gas and diesel fuel.

1.4 The sulfur content of the fuel oil burned in FG-BOILERS shall not exceed 0.30 percent by weight. [R 336.1205 (3), R 336.1402, 40 CFR 60.42c(d), Wayne County Air Pollution Control Regulation Section VI, Section 6.3]

Compliance- Fuel shipment record and analysis was received. Analysis shows that Sulfur content was .0007% by weight.

1.5 The FG-BOILERS throughput shall not exceed 90,000 gallons per year of distillate oil. (R 336.1205)

Compliance- Records show that less than 90,000 gallons of diesel fuel was used.

Process/Operational Limits

1.6 The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and Dc, as they apply to FGBOILERS. [40 CFR Part 60 Subparts A & Dc]

Compliance- It appears that all provisions were met. Since natural gas is the main fuel source, the majority of compliance depends on keeping records.

Monitoring

1.7 The permittee shall monitor, in a satisfactory manner, the natural gas and fuel oil usage in FG-BOILERS on a monthly basis. [R 336.1225, R 336.1702(a)]

Compliance. Records are kept.

1.8 The permittee shall demonstrate compliance with the SO₂ standard at 40 CFR 60.42c(d) by obtaining a fuel supplier certification for each delivery of distillate oil. The certification shall include the name of the oil supplier and a statement from the oil supplier that the oil complies with the specifications under the following definition of distillate oil. Distillate oil means fuel oil that complies with the specifications for fuel oils numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396-78, 89, 90, 92, 96, or 98, "Standard Specification for Fuel Oils." Also, AQD requires the inclusion of the following information on the certification:

- a. Flash point in °F or °C
 - b. Gravity at 60/60F (specific gravity or degrees API)
 - c. Sulfur content (% by weight)
 - d. Higher heating value (Btu/lb or Btu/gallon)
- [R 336.1205(3), 40 CFR 60.41c, 60.42c(d), 60.46c(h), and 60.48c(f)(1)]

Compliance- Fuel Supplier Certification was provided by VAMC

Recordkeeping/Reporting/Notification

1.9 The permittee shall keep, in a satisfactory manner, monthly and previous 12-month NO_x emission calculation records for FG-BOILERS. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. [R336.1205, 40 CFR 52.21 (c) & (d)]

Compliance- Records are kept in a satisfactory manner.

1.10 The permittee shall keep, in a satisfactory manner, copies of the fuel supplier certifications for FG-BOILERS, as required by SC 1.8. The permittee shall keep all records on file at the facility for a period of at least five years and make them available to the Department upon request. (R 336.1205, 40 CFR 60.48c(i))

Compliance- Fuel supplier certifications were provided.

1.11 The permittee shall submit notification to the AQD District Supervisor the following information as required by 40 CFR 60.7:

- a) The name and address of the owner or operator;
- b) The physical location of the affected source;
- c) The date of construction and actual startup
- d) The design heat input capacity and identification of fuels to be combusted;
- e) The annual capacity factor based on anticipated firing of each individual fuel.

[40 CFR 60.48c(a)]

Compliance- Notification was sent on August 10, 2007

1.12 The permittee shall keep, in a satisfactory manner, monthly natural gas and fuel oil usage records for FG-BOILERS. Records of fuel oil usage may be estimated monthly and corrected as actual average monthly usage at the time of receipt of an oil delivery. All records shall be kept on file for a period of at least five years and made available to the Department upon request. [R 336.1225, R 336.1702(a), 40 CFR 60.48c(g)]

Compliance- Records are kept in a satisfactory manner.

Stack/Vent Restrictions

	Stack & Vent ID	Maximum Diameter (inches)	Minimum Height Above Ground Level (feet)	Applicable Requirement
1.13	SV-BS-1	51	160	R 336.1225, R 336.1901
The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.				

Undetermined- Stack was not viewed at the time of the inspection.

The following conditions apply to: FG-GENERATORS

Emission Limits

	Pollutant	Equipment	Limit	Time Period	Testing/ Monitoring Method	Applicable Requirement(s)
2.1	NO _x	FG-GENERATORS	20.5 tpy	12-month rolling time period as determined at the end of each calendar month	SC 1.4, 1.5, & 1.7	R336.1205
The NO _x limit is based on an emission factor of 604 lb NO _x per 1,000 gallons of fuel oil.						

Compliance- Records are kept and were submitted at the time of the inspection.

Material Usage Limits

2.2 The permittee shall combust only distillate oil in FG-GENERATORS. (R 336.1201(3), R 336.1205)

Compliance- Generators combust diesel fuel.

2.3 The sulfur content of the fuel oil burned in FG-GENERATORS shall not exceed 0.30 percent by weight.
[R 336.1205(3), R 336.1402, Wayne County Air Pollution Control Regulation Section VI, Section 6.3]

Compliance- Fuel Certification shows that diesel fuel has a sulfur content of less than .30percent by weight.

Process/Operational Limits

2.4 The maximum operating time for each of the eight generators included in FG-GENERATORS shall not exceed 500 hours per 12 month rolling time period. [R 336.1201(3), R 336.1205]

Compliance- Check of the hour log on the generators and review of records showed that each generator averaged less than 30 hours each.

Monitoring

2.5 The permittee shall monitor, in a satisfactory manner, the hours of operation of each of the eight generators included in FG-GENERATORS on a monthly basis. [R 336.1225, R 336.1702(a)]

Compliance- Log of hours is kept on the generators.

2.6 The permittee shall obtain a fuel supplier certification for each delivery of distillate oil. The certification shall include the following information:

- a. Flash point in °F or °C
 - b. Gravity at 60/60F (specific gravity or degrees API)
 - c. Sulfur content (% by weight)
 - d. Higher heating value (Btu/lb or Btu/gallon)
- [R 336.1205(3)]

Compliance- Fuel supplier certifications were provided.

Recordkeeping/Reporting/Notification

2.7 The permittee shall keep, in a satisfactory manner, monthly and previous 12-month NO_x emission calculation records for FG-BOILERS. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. [R336.1205, 40 CFR 52.21 (c) & (d)]

Compliance- Nox emission calculations are kept and were submitted at the time of the inspection.

2.8 The permittee shall keep, in a satisfactory manner, copies of the fuel supplier certifications for FG-GENERATORS, as required by SC 2.6. The permittee shall keep all records on file at the facility for a period of at least five years and make them available to the Department upon request. (R 336.1205, 40 CFR 60.48c(i))

Compliance- Fuel Certification was supplied.

2.9 The permittee shall keep, in a satisfactory manner, monthly records of the hours of operation for each of the eight generators included in FG-GENERATORS All records shall be kept on file for a period of at least five years and made available to the Department upon request. [R 336.1225, R 336.1702(a),]

Compliance- Hours are monitored on each generator.

Stack/Vent Restrictions

	Stack & Vent ID	Maximum Diameter (inches)	Minimum Height Above Ground Level (feet)	Applicable Requirement
2.10a	SV-GS1	12	46	R 336.1225, R 336.1901
2.10b	SV-GS2	12	46	R 336.1225, R 336.1901
2.10c	SV-GS3	12	46	R 336.1225, R 336.1901
2.10d	SV-GS4	12	46	R 336.1225, R 336.1901
2.10e	SV-GS5	12	23	R 336.1225, R 336.1901
2.10f	SV-GS6	12	23	R 336.1225, R 336.1901
2.10g	SV-GS7	12	23	R 336.1225, R 336.1901
2.10h	SV-GS8	12	23	R 336.1225, R 336.1901
The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.				

Undetermined- Stacks were not observed at the time of the inspection.

The following conditions apply to: FGFACILITY

Emission Limits

	Pollutant	Equipment	Limit	Time Period	Testing/ Monitoring Method	Applicable Requirements
3.1	NO _x	FGFACILITY	89.5 tpy	12-month rolling time period as determined at the end of each calendar month	See below, and SC 2.2	R336.1205(3)

The permittee shall calculate NO_x emissions for all boilers in FGFACILITY based on fuel usage data per special conditions 1.7 and 1.12, and the worst-case emission factor from testing per GC 13, if required by the Department, and the emission factors below.

The permittee shall calculate NO_x emissions for all emergency generators in FGFACILITY based operating data per special conditions 2.5, 2.7, and 2.9, and the worst-case emission factor from testing per GC 13, if required by the Department and an emission factor of 604 lb NO_x per 1,000 gallons of fuel oil.

Natural Gas Emission Factor for Boilers
NO_x = 0.100 lb/MMBtu

Fuel Oil Emission Factor for Boilers
NO_x = 0.020 lb/gallon fuel oil

Compliance-Records show that facility NOx emissions are less than 89.5TPY>

Recordkeeping / Reporting / Notification

3.2 The permittee shall keep, in a satisfactory manner, monthly and previous 12-month NO_x emission records, as required by SC 3.1, for FGFACILITY. All records shall be kept on file for a period of at least five years and made available to the Department upon request. [R336.1205(1)(a) & (3)]

Compliance- Records are kept and were provided at the time of the inspection.

3.3 The permittee shall keep monthly and previous 12-month natural gas and fuel oil usage records for FGFACILITY, in a format acceptable to the AQD District Supervisor, indicating the total amount of natural gas used, in cubic feet, and fuel oil used, in gallons, on a 12-month rolling time period basis. All records shall be kept on file for a period of at least five years and made available to the Department upon request. [R336.1205(1)(a) & (3)]

Compliance- Records are kept and were provided at the time of the inspection.

3.4 The permittee shall keep, in a satisfactory manner, a written log of the monthly hours of operation of each emergency generator at FGFACILITY. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. [R336.1205(1)(a) & (3)]

Compliance- Hours of operation are logged on each generator.

PTI -270-07- Approved August 9, 2007 and updated March 23, 2012 and August 14, 2013

**ATTACHMENT A SPECIAL CONDITIONS
FLEXIBLE GROUP SUMMARY TABLE**

The descriptions provided below are for informational purposes and do not constitute enforceable conditions. Flexible Group ID	Description - Emission Unit(s)Included in Group
FG-STERILIZERS	One or more ethylene oxide (EtO) sterilizers, with a capacity not to exceed 30 cubic feet per unit, and associated aeration equipment. Each unit shall be controlled by a control device that is guaranteed by the manufacturer to reduce EtO emissions by at least 99.9%.
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.	

The following conditions apply to: FG-STERILIZERS

I. <u>EMISSION LIMITS</u> Pollutant	Limit	Time Period	Equipment	Applicable Requirement
1. EtO	0.006 pph	Hourly	FG-STERILIZERS	R 336.1205, R 336.1225(1)
Undetermined- Stack Test would need to be conducted to evaluate hourly emissions. Stack test was conducted in 2013 to show destruction efficiency.				
2. EtO	0.0001 ton/mo (0.141 lb/mo)	Calendar month	FG-STERILIZERS	R 336.1205, R 336.1225(1)
Compliance- Records show that EtO emissions were below .141lb/mo				
3. HCFC	62.3 pph	Hourly	FG-STERILIZERS	R 336.1205, R 336.1225(1)
Compliance- NO HCFC is used.				
4. HCFC	0.75 ton/mo	Calendar month	FG-STERILIZERS	R 336.1205, R 336.1225(1)
Compliance- NO HCFC is used.				

II. MATERIAL LIMITS

1. The permittee shall use a sterilant gas, which consists of 100% EtO or an EtO/inert gas mixture. Acceptable inert gases include 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124), carbon dioxide (CO₂), or a HCFC blend, which includes only toxic air contaminants for which the initial threshold screening level (ITSL) is equal to or greater than 5000 micrograms per cubic meter on a 24 hour average. (R 336.1225(1))

Compliance- EtO is used.

2. The permittee shall not use more than 6.5 pounds of EtO per calendar day, or 141.1 pounds of EtO per calendar month in FG-STERILIZERS. (R 336.1205)

Compliance- Records were provided and show that less than 6.5 pounds of EtO was used per day and less than 141.1 pounds per month.

3. The permittee shall not use more than 69.23 pounds of HCFC per calendar day, or 1,500 pounds of HCFC per calendar month in FG-STERILIZERS. (R 336.1205)

Compliance- HCFC is not used.

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate any sterilizer or aerator associated with FG-STERILIZERS unless the associated control device is installed, maintained and operated properly according to the manufacturer's specifications. Proper operation requires a minimum of 99.9% reduction (by weight) of EtO emissions to the atmosphere. A copy of the manufacturer's specifications for the control device shall be maintained on file. (R 336.1205, R 336.1225(1), R 336.1910)

Compliance-The control device was operated properly. The sterilizer shuts off automatically if it is not operating properly.

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate any sterilizer associated with FG-STERILIZERS unless a closed loop recirculating fluid vacuum pump, an air ejector system, or other method of drawing a vacuum and evacuating the sterilizer chamber is installed, maintained, and operated in a satisfactory manner. This equipment is necessary to prevent the discharge of any EtO to a wastewater stream. (R 336.1201a(1))

Compliance-A heated catalytic process is used to control emissions from the sterilizer chamber.

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. Verification and quantification of EtO emission rates from FG-STERILIZERS, and control device efficiency, by testing at owner's expense, in accordance with Department requirements, may be required for continued operation. Refer to 40 CFR 63.365 for test methods and procedures. Within 60 days of notification from the AQD, a complete

test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. (R 336.2001(1), R 336.2001(2), R 336.2001(4), R 336.2003, 40 CFR 63.365)

Compliance- Testing was done on October 23, 2013 and November 15, 2013.

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall monitor an operating parameter of the control device, based on either manufacturer's specifications or a performance test, which assures at least 99.9% reduction of EtO emissions. A copy of the manufacturer's specifications for the control device shall be maintained on file. (R 336.1225, R 336.1910)

a) For processes controlled by an acid-water scrubber: Measure and record once per week, either the maximum ethylene glycol concentration of the scrubber liquor, or the level of the scrubber liquor in the recirculation tank.

b) For processes controlled by a catalytic oxidizer: Continuously monitor the oxidation temperature in the catalyst bed.

Compliance- Temperature is monitored and in the event the abator is operated outside the pre-set range, the sterilizer and abator will be shut down.

2. The permittee shall keep, in a satisfactory manner, separate daily and monthly records of the amount of EtO and any inert gas used in each sterilizer, in pounds per cycle. (R 336.1205, R 336.1225(1))

Compliance- Records are kept daily and monthly.

3. The permittee shall calculate the EtO emission rates from FG-STERILIZERS for each month as outlined in Appendix A. (R 336.1205, R 336.1225(1))

Compliance- Calculations are done every month.

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 catalyst or scrubber liquor; and any testing results for FG-STERILIZERS. All records shall be kept on file and made available to the Department upon request. (R 336.1225, R 336.1910)

Compliance- Records of testing results were received at the time of the inspection.

VII. REPORTING Not applicable (N/A)

VIII. STACK/VENT RESTRICTIONS

1. The exhaust gases from FG-STERILIZERS shall be discharged unobstructed vertically upwards to the ambient air at an exit point not less than 25 feet above ground level. The discharge must be located a minimum of 25 feet from any window, air intake vent, or any location accessible by the general public. (R 336.1225(1))

Undetermined- A check of the stack height was not done at the time of the inspection.

IX. OTHER REQUIREMENTS

1. The permittee shall not replace or modify any portion of F-STERILIZERS, including control equipment, nor install new equipment unless all of the following conditions are met: (R 336.1201)

a) The permittee shall update the general permit by submitting a new Process Information Form (EQP5730) to the Permit Section and District Supervisor, identifying the existing and new equipment a minimum of 10 days before the replacement, modification or installation of new equipment.

Compliance- General permit was updated on March 23, 2012 and August 14, 2013.

b) The permittee shall continue to meet all general permit to install applicability criteria after the replacement, modification or installation of new equipment is complete.

Compliance- Facility is complying with general permit.

c) The permittee shall keep records of the date and description of the replacement, modification or installation of new equipment. All records shall be kept on file for a period of at least five years and made available to the Department upon request.

Compliance- Facility is using the same abator and sterilizer as stated in general permit.

2. 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. (40 CFR Part 63, Subpart A and Subpart WWWW)

Compliance- Notification of Compliance Status was submitted. Facility uses an abator which is considered an air pollution control device.

APPLICABLE FUGITIVE DUST CONTROL PLAN CONDITIONS:

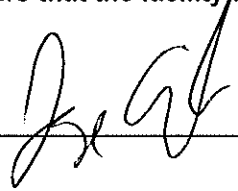
N/A All of the VAMC's property is paved.

MAERS REPORT REVIEW

Pollutant	2013 Emissions(TPY)
CO	10.5
NOx	13.2
PM	.93
Sox	.15
VOC	.67

FINAL COMPLIANCE DETERMINATION:

It appears that the facility is in compliance with all applicable regulations.

NAME 

DATE 5-1-14

SUPERVISOR W.M.