

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

M365344675

FACILITY: V A MEDICAL CENTER		SRN / ID: M3653
LOCATION: 2215 FULLER RD, ANN ARBOR		DISTRICT: Jackson
CITY: ANN ARBOR		COUNTY: WASHTENAW
CONTACT: Yvette Harden , GEMS Coordinator		ACTIVITY DATE: 05/22/2018
STAFF: Zachary Durham	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Scheduled, targeted inspection of the hospital facilities including EtO sterilizers, boilers, emergency generator, and exempt cogeneration micro-turbine system. Associated PTIs include 182-98, 315-98, and 36-11.		
RESOLVED COMPLAINTS:		

Contact

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Purpose

This was a scheduled inspection of the VA Hospital located at 2215 Fuller Rd in Ann Arbor. The site visit included inspection of Permits to Install (PTIs) 182-98, 315-98, and 36-11 for ethylene oxide sterilizers (EtO), four (4) natural gas-fired boilers with fuel oil backup capability, and a 1500kW emergency engine, respectively. I arrived midday on 5/22/18 and met with Joseph Jurasek, Yvette Harden, and various other VA staff members.

Background

This facility was targeted for inspection this year because they continue to operate EtO sterilization units for certain medical equipment where no alternative treatment has become available. The DEQ has recently lowered the health-based screening level for EtO and will no longer be issuing the general permits for EtO sterilizers. PTI 182-98 is a general permit for EtO sterilizers, which remains valid.

The emergency backup engine is subject to the New Source Performance Standard (NSPS) in 40 CFR Part 60, Subpart IIII for Stationary Compression Ignition Internal Combustion Engines. The engine is also subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) in 40 CFR Part 63, Subpart ZZZZ for Stationary Reciprocating Internal Combustion Engines.

The MAERS submittal for reporting year 2017 was audited and passed.

The facility was last inspected in October 2015.

Compliance Evaluation

PTI 182-98

This is the general PTI for EtO sterilization units used by the VA. These units are equipped with a scrubber that control emissions from the units at 99.9% control efficiency. The permit includes emission limits on EtO of 0.141 lb/month and 0.006 lb/hour. Attached record keeping show the highest use in the last 12-month rolling time period to be October 2017 at 0.00506 pounds and 0.001265 pounds/hour. All other months have been less than this, which are well under the emission limits.

PTI 315-98

This is the PTI for one (1) 500-HP boiler and three (3) 700-HP boilers. These boilers are natural gas-fired boilers with fuel oil backup capability. Attached is an invoice from Atlas Oil Company that indicates they receive #2 Ultra Low Sulfur Diesel (ULSD). Also attached is a record of natural gas use and ULSD use in the boilers on a monthly basis. These boilers are considered "gas-fired boilers" under 40 CFR Part 63, Subpart JJJJJ (6J) and are thus not subject to this area source federal regulation.

PTI 36-11

This is the PTI for the 1500kW emergency engine. This is a diesel-fueled unit manufactured in 2011 by Caterpillar and certified to EPA Tier II standards. The material limit of 15 ppm sulfur by weight is being met by through the use of ULSD (see attached Atlas Oil Company documents). The engine control panel was observed on site, which was equipped with a non-resettable hour meter that read 64.8 hours at the time of the inspection. Attached is representative monthly maintenance document for the engine, which appears to run weekly for about a half hour.

Other

The VA has installed and been operating a cogeneration micro turbine array that has been previously demonstrated to be exempt from requiring a PTI by Rule 282(2)(b)(i) for fuel burning equipment used for electric power generation that uses sweet natural gas with a rated heat input capacity of not more than 50 MMBtu/hour. The turbine system was running at the time of the inspection. The natural gas flow to the turbines was 7.86 kscfh and generating 595.676kW. Attached are the control panel photos from the system.

Compliance Determination

After on site inspection and review of the provided record keeping, I have determined that the VA Medical Center is in compliance with State of Michigan and Federal air quality rules and regulations and PTIs 182-98, 315-98, and 36-11.

Recommendations

This facility should begin to add the micro-turbine as an emission unit in future MAERS reports.

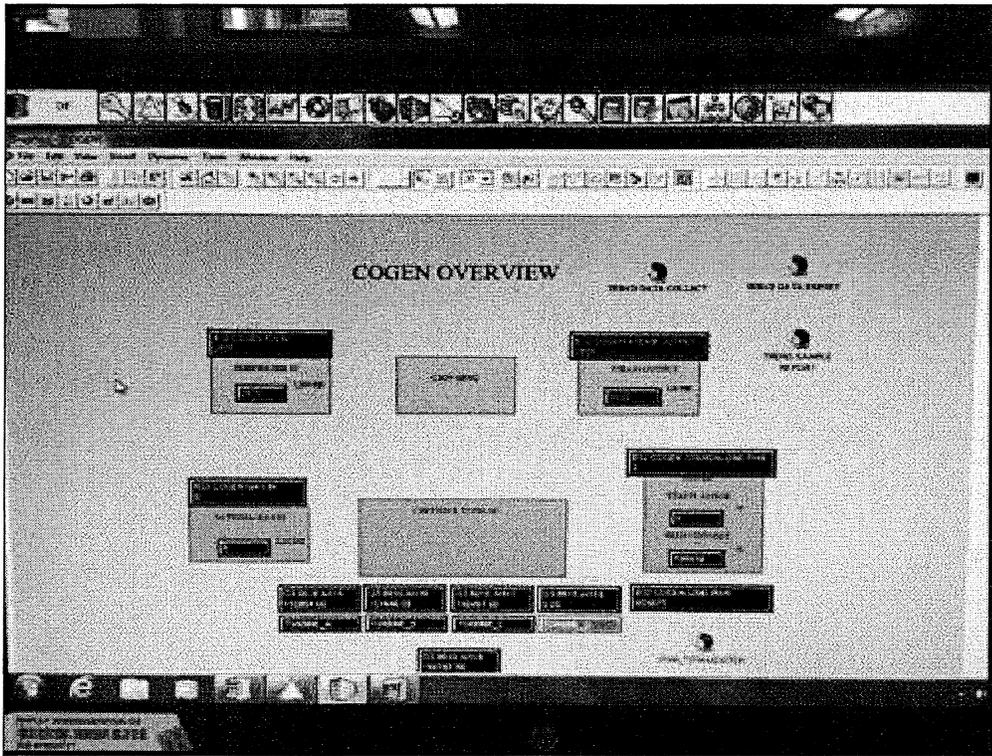


Image 1(Cogen Overview) : Cogen overview screenshot

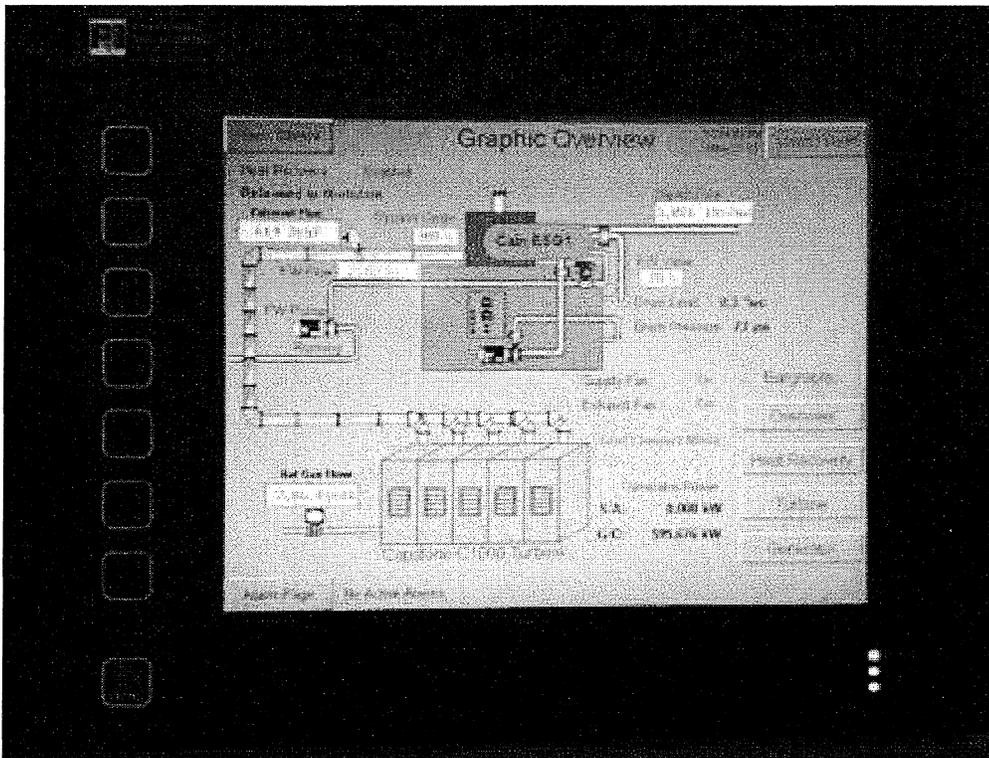


Image 2(Graphic overview) : Graphic overview screenshot

The screenshot displays a 'Capstone Overview' interface with a dark background. On the left side, there is a vertical column of seven square icons. The main content area features a data table with the following structure:

	Stand Alone Group	Grid Connect Group	Mufpac		
Power Output	0.000 kW	0.000 kW	0.000 kW		
Power Capacity	0.000 kW	0.000 kW	0.000 kW		
	Turbine A	Turbine B	Turbine C	Turbine D	Turbine E
Power Output	0.000 kW	0.000 kW	0.000 kW	0.000 kW	0.000 kW
Current					
Phase A	177 amps	179 amps	176 amps	24 amps	178 amps
Phase B	176 amps	177 amps	175 amps	18 amps	176 amps
Phase C	178 amps	177 amps	175 amps	18 amps	175 amps
Voltage					
Phase A	260 volts	260 volts	260 volts	0 volts	260 volts
Phase B	261 volts	261 volts	260 volts	0 volts	260 volts
Phase C	261 volts	261 volts	260 volts	0 volts	260 volts
Alarm Page	No Active Alarms				Refresh

Image 3(Capstone overview) : Turbine output from the Capstone system overview

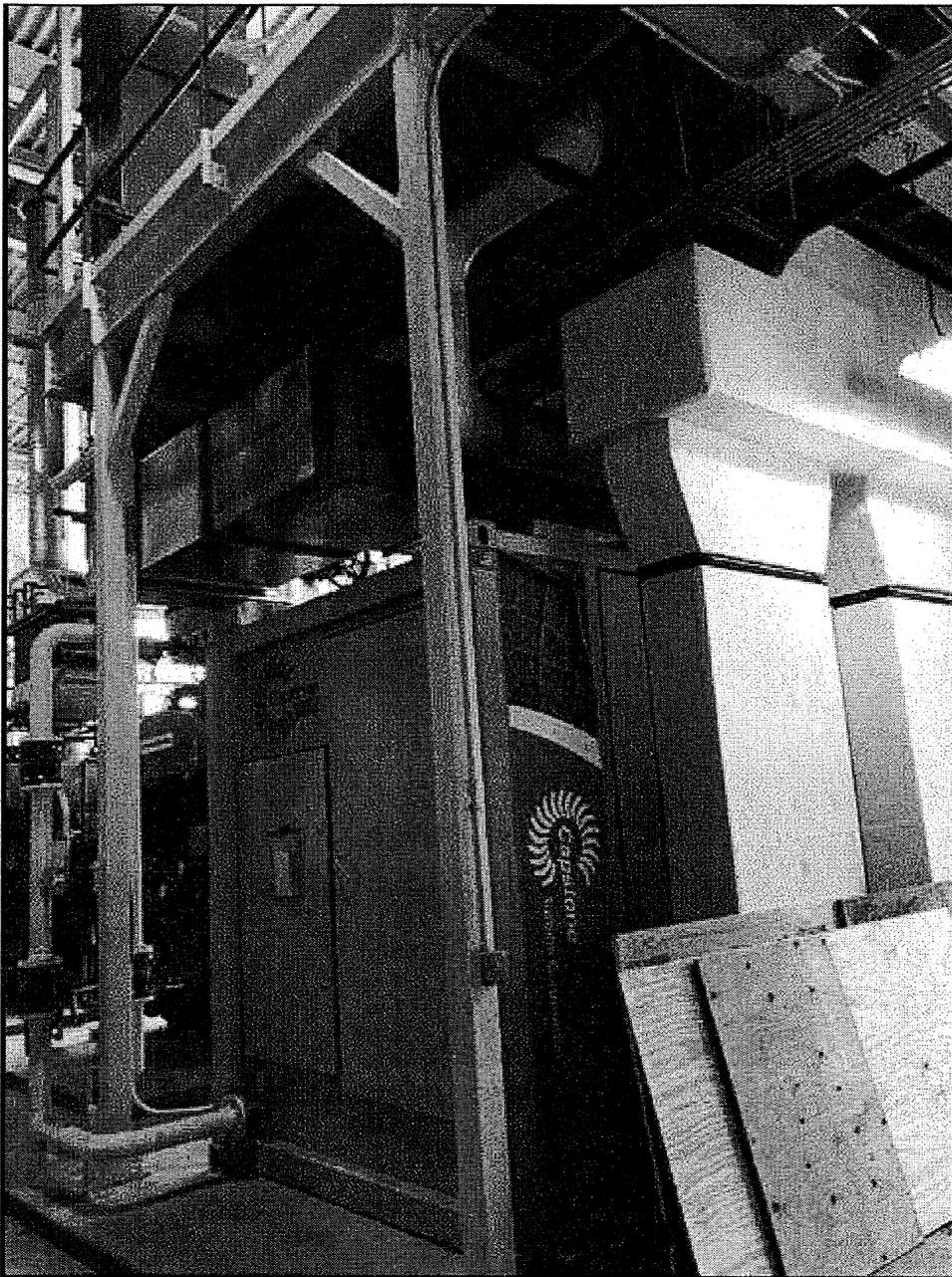


Image 4(Capstone system) : Installed Capstone micro-turbine system



Image 5(Cogen system) : Cain ESG1 overhead of the micro-turbine system

NAME Jack Durham

DATE 6/14/18

SUPERVISOR [Signature]