

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

C570465703

FACILITY: Lakeland Medical Center (Former Memorial Hospital)		SRN / ID: C5704
LOCATION: 1234 NAPIER AVE, SAINT JOSEPH		DISTRICT: Kalamazoo
CITY: SAINT JOSEPH		COUNTY: BERRIEN
CONTACT: Gary Priebe , Mechanic		ACTIVITY DATE: 12/08/2022
STAFF: Matthew Deskins	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Unannounced Scheduled Inspection		
RESOLVED COMPLAINTS:		

On December 8, 2022 AQD staff (Matt Deskins) went to conduct an unannounced scheduled inspection of the Lakeland Regional Medical Center (SRN: C5704) located in St. Joseph, Berrien County. The hospital only has one air permit issued to them by the AQD now and it is an opt-out permit (PTI No. 161-09) for their boilers. They used to have a general permit (PTI No. 555-97A) for two ethylene oxide (EtO) sterilizers, but they quit using them in October of 2018 and have since removed them and voided out the permit. Staff departed for the facility at approximately 9:50 a.m.

Staff arrived at the hospital at approximately 10:55 a.m. Staff proceeded to the back of the hospital to the shipping and receiving area where they have entered before to conduct previous inspections. Prior to entering the building, staff had observed the stack that services the boilers and it appeared to meet the 48-inch maximum diameter and the minimum 118-foot height above ground level. Staff did not observe any visible emissions coming from it. Staff then proceeded to the shipping and receiving area. Upon entering the building, staff couldn't remember which direction the Building Services Department (BSD) was so staff asked someone (Dan) that they ran into in the hallway. Staff introduced them self and stated the purpose of the visit. Dan mentioned that he could lead staff to the boiler room and staff mentioned that they weren't boiler inspectors per se and stated that they had an air permit for the boilers that staff needed to determine compliance with. Staff then asked if Gary Priebe, who staff had met with during previous inspections, still worked there and if so, could he lead staff to their office. Dan then led staff to the BSD and then into Gary's office. Staff re-introduced them self to Gary and stated the purpose of the visit. Gary then asked what staff needed to see and staff explained to him about the permit issued for the boilers. Gary then pulled out a binder that he keeps all the records in so staff could look at them. Staff then asked Gary to verify that the Eto Sterilizers had been removed / dismantled and no longer in use to which he did. Staff then mentioned that they would review records first and then would like to verify that the boilers are still the same. Gary then led staff to a nearby conference room where they could review the records. Adjacent to the conference room was the office of Walt Pullins who oversees the BSD and is the AQD's MAERS contact. Staff introduced them self to Walt and he then asked what brought staff there today. Staff explained the AQD inspection frequency for Opt-Out Sources, which is mandated by the EPA, and is typically done "On-Site". After conversing with Walt for a few minutes, staff then proceeded to the conference room to review their records and the following is a summary of staff's inspection along with compliance comments.

NOTE 1: During a previous inspection staff had given Gary the Boiler MACT Brochure that included information on new regulations for certain boilers that could apply to the hospital's boilers. Since the hospital is an area source, the 40 CFR Part 63 Subpart JJJJJ might apply to them but staff did not make any compliance determination regarding it since the AQD is not delegated by the EPA to enforce this regulation to date.

NOTE 2: After reviewing records, Gary took staff to the boiler room where the 3 boilers are located. Staff verified that they were the same units as were there previously as well as what are described in their air permit.

BOILERS (PTI No. 161-09)

The hospital had obtained a new air permit in November of 2009 for the installation of (3) new Bryan Steam Boilers to replace (originally in a staged process) the current (3) Cleaver – Brooks Boilers. The new boilers were rated at 25.2 MMBtu/hr and can fire on natural gas or No. 2 fuel oil and were to be equipped with low NOx burners. According to Gary, only one of the Bryan Boilers was ever installed. Gary had said during previous inspections that they didn't install the other two due to budget cuts and because the (2) Cleaver-Brooks are still running so good. The (2) Cleaver-Brooks are rated at 33.975 MMBtu/hr and Gary had said previously that they are used either for stand-by or back up units to the Bryan Boiler. The Bryan Boiler is also equipped with a Continuous Emissions Monitor (CEMs) even though there are no PTI conditions pertaining to it. The following lists the permit requirements/conditions regarding the boilers:

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date / Modification Date	Flexible Group ID
EUBOILER1	Cleaver-Brooks boiler model D-42, burner model 400-BR, unit #WL-2472 Heat Input Capacity: 33.975 MMBtu/hour Fuel: Natural Gas and No. 2 Fuel Oil Oil Fire Rate: 242 gallons/hour	1975/ November 25, 2002/ June 8, 2006/ November 17, 2009	FGBOILERS
EUBOILER2	Cleaver-Brooks boiler model D-42, burner model 400-BR, unit #WL-2473 Heat Input Capacity: 33.975 MMBtu/hour Fuel: Natural Gas and No. 2 Fuel Oil Oil Fire Rate: 242 gallons/hour	1975/ November 25, 2002/ June 8, 2006/ November 17, 2009	FGBOILERS
EUBOILER3	Bryan Steam LLC - RW 2100 Boiler	November 17, 2009	FGBOILERS

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date / Modification Date	Flexible Group ID
	low-NOx burners and flue gas recirculation Heat Input Capacity: 25.2 MMBtu/hour Fuel: Natural Gas and No. 2 Fuel Oil Oil Fire Rate: 180 gallons/hour		
EUBOILER4	Bryan Steam LLC - RW 2100 Boiler low-NOx burners and flue gas recirculation Heat Input Capacity: 25.2 MMBtu/hour Fuel: Natural Gas and No. 2 Fuel Oil Oil Fire Rate: 180 gallons/hour	November 17, 2009	FGBOILERS
EUBOILER5	Bryan Steam LLC - RW 2100 Boiler low-NOx burners and flue gas recirculation Heat Input Capacity: 25.2 MMBtu/hour Fuel: Natural Gas and No. 2 Fuel Oil Oil Fire Rate: 180 gallons/hour	November 17, 2009	FGBOILERS
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.			

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGBOILERS		

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
	<p>Five natural gas and No. 2 fuel oil fired boilers. Only three boilers may run at the same time.</p> <p>NOTE: EUBOILER1 and EUBOILER2 are currently operating at the LRMC facility. LRMC intends to maintain and operate three boilers. They will accomplish this by shutting down EUBOILER1 when EUBOILER4 is installed and EUBOILER2 when EUBOILER5 is installed.</p>	<p>EUBOILER1, EUBOILER2, EUBOILER3, EUBOILER4 and EUBOILER5</p>

The following conditions apply to: FGBOILERS

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. NOx	47.3 tpy	12-month rolling time period as determined at the end of each calendar month	FGBOILERS	GC 13 and SC VI. 1. & 2.	R 336.1205(1)(a) & (3), R 336.2803, R 336.2804, 40CFR52.21(c) &(d)
2. NOx – natural gas	0.03 #/MM Btu	Test Protocol	EUBOILER3, EUBOILER4 and EUBOILER5	GC 13	R 336.1205(1)(a) & (3), R 336.2803, R 336.2804, 40CFR52.21(c) &(d)
3. NOx – fuel oil	0.14 #/MM Btu	Test Protocol	EUBOILER3, EUBOILER4 and EUBOILER5	GC 13	R 336.1205(1)(a) & (3), R 336.2803, R 336.2804, 40CFR52.21(c) &(d)
4. SO2	33.6 tpy	12-month rolling time period as determined at	FGBOILERS	GC 13 and SC VI. 1. & 3.	R 336.1205(1)(a) & (3)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
		the end of each calendar month			

AQD Comment: Appears to be in COMPLIANCE. The AQD hasn't requested any testing to demonstrate compliance with 2 and 3 above and the facility is well below the NOX and SO2 limits in 1 and 4 since they hardly ever combust fuel oil. Also, the boiler unit that they mainly run is the Bryan which is equipped with Low-NOx burners and flue gas recirculation.

II. MATERIAL LIMITS

1. The permittee shall only burn natural gas or No. 2 fuel oil in FGBOILERS. (R 336.1205(1)(a) & (3))

AQD Comment: Appears to be in COMPLIANCE. The boilers only use the above fuels although fuel oil is hardly ever used. Staff had been told that they only fire fuel only to do maintenance checks and records that were reviewed appear to indicate that.

2. The fuel usage for FGBOILERS shall not exceed 4,730,400 gallons of fuel oil per 12-month rolling time period as determined at the end of each calendar month, or as determined by the following equation. (R 336.1205(1)(a) & (3))

$(\text{FO usage} \times \text{FO Heating Value} \times \text{FO Emission Factor}) + (\text{NG usage} \times \text{NG Heating Value} \times \text{NG Emission Factor}) \leq 47.3 \text{ TPY NO}_x$

2000 lb/ton

Where,

FO usage = amount of fuel oil used in gallons per 12-month rolling time period

FO Heating Value = 140,000 Btu/gallon

FO Emission Factor = 0.14 lb/MMBtu

NG Usage = amount of natural gas used in cubic feet per 12-month rolling time period

NG Heating Value = 1020 Btu/scf

NG Emission Factor (EUBOILER1 and EUBOILER2) = 0.14 lb/MMBtu

**NG Emission Factor (EUBOILER3, EUBOILER4 and EUBOILER5) =
0.03 lb/MMBtu**

AQD Comment: Appears to be in COMPLIANCE. As mentioned previously, the hospital hardly ever uses fuel oil and it is well below the amount allowed above. They aren't using the equation above to demonstrate compliance because they use fuel oil delivery records.

3. The sulfur content of the fuel oil shall not exceed 0.10 percent by weight. (R 336.1205(1)(a) & (3), R 336.1401)

AQD Comment: Appears to be in Compliance. The fuel oil sulfur content is 15 ppm or 0.0015% by weight.

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate more than three boilers at any one time in FGBOILERS. (R 336.1205, R 336.1224, R 336.1225, R 336.1702, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d))

AQD Comment: Appears to be in COMPLIANCE. They only have three boilers so that is the most that they could run at one time. Typically, only one is running but they may have to run two if it gets extremely cold outside.

2. The permittee shall obtain the following information from the fuel oil supplier for each shipment of fuel oil for EUBOILER3, EUBOILER4 and EUBOILER5:

- a. The name of the oil supplier;**
- b. A certification from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41(c); and**
- c. The sulfur content of the oil.**

(R 336.1205(1)(a) and (3), 40 CFR 60.42(c)(h))

AQD Comment: Appears to be in Compliance. Staff did not look at the most recent Bill of Lading / fuel oil receipt because they haven't had any fuel oil deliveries since the last inspection. The last one staff looked at had contained all the above information. The fuel

oil manufacturer they use is Citgo Petroleum and staff had been told that their product meets ASTM D396 specifications under NSPS Subpart Dc.

3. 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 SUBPART Dc, as they apply to EUBOILER3, EUBOILER4 and EUBOILER5. (40 CFR Part 60 Subparts A & SUBPART Dc)

AQD Comment: Appears to be in Compliance. Only the Bryan Boiler is currently subject to the NSPS Dc and the facility has submitted their Initial Notification, has the certification of the fuel oil sulfur content requirements, and they are keeping track of the individual fuel use (whether natural gas or fuel oil) combusted in it that boiler. The NSPS Dc applies to any boiler with a maximum designed heat capacity greater than 10 Million BTU/Hr and less than 100 Million BTU/Hr and was constructed, modified, or reconstructed after June 9, 1989. The two Cleaver-Brooks boilers were installed in 1975 and to AQD knowledge, it doesn't appear that they have been modified or reconstructed since installation.

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate EUBOILER3, EUBOILER4 and EUBOILER5 unless the low-NOx burners and flue gas recirculation systems are installed, maintained, and operated in a satisfactory manner. (R 336.1205, R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1702, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d), 40 CFR Part 60 Subpart Dc)

AQD Comment: Appears to be in Compliance. Only EUBOILER3 (Bryan Boiler) has been installed to date and they appear to be meeting the requirements above. The boiler is also equipped with a CEMS which is not a requirement of the PTI.

V. TESTING/SAMPLING

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

1. N/A

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years and made available to the Department upon request. (R 336.1201(3))

1. The permittee shall keep monthly natural gas and fuel oil usage records, in a format acceptable to the AQD District Supervisor, indicating the amount of natural gas

used, in cubic feet, and fuel oil used, in gallons, on a calendar month basis. The records must indicate the total amount of natural gas and fuel oil used in each boiler in FGBOILERS. (R 336.1205(3))

AQD Comment: Appears to be in Compliance. The hospital is keeping records of monthly fuel usage and it is broken down between the individual boilers now.

2. The permittee shall calculate the NO_x emission rates from FGBOILERS for each calendar month and 12-month rolling time period, using fuel usage records and an emission factor (AP-42, manufacturer's or test data) that is approved by the AQD District Supervisor. (R 336.1205(3))

AQD Comment: Appears to be in Compliance. The facility is calculating emissions using AP-42 Emissions Factors.

3. The permittee shall calculate the SO₂ emission rates from FGBOILERS for each calendar month and 12-month rolling time period, using fuel usage records, sulfur content records and an emission factor (AP-42, manufacturer's or test data) that is approved by the AQD District Supervisor. (R 336.1205(3))

AQD Comment: Appears to be in Compliance. The facility is calculating emissions using AP-42 Emissions Factors.

4. The permittee shall maintain a complete copy of the sulfur content, as supplied by the fuel oil vendor, for each shipment of fuel used in each boiler in FGBOILERS. (R 336.1205(3))

AQD Comment: Appears to be in Compliance. The facility maintains the Bill of Lading / Receipts with this information.

VII. REPORTING

1. The permittee shall provide written notification of construction and operation to comply with the federal Standards of Performance for New Stationary Sources, 40 CFR 60.7. The permittee shall submit this notification to the AQD District Supervisor within the time frames specified in 40 CFR 60.7. (40 CFR 60.7, 40 CFR 60.48c (a))

AQD Comment: Appears to be in Compliance. The facility is required to submit notification within 30 days (postmarked) of the start of construction of the new boiler(s) and within 15 days (postmarked) of initial start-up of the new boiler(s). They submitted

this information after one of staff's previous inspections for the first Bryan Boiler and they haven't installed the other two boilers to date.

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBOILERS	48	118	R 336.1225 R 336.2803, R 336.2804, 40CFR52.21(c) &(d)

AQD Comment: Appears to be in Compliance. The stack for the boilers appears to meet the above dimensions.

IX. OTHER REQUIREMENTS

1. N/A

INSPECTION CONCLUSION:

The facility appears to be in Compliance with the terms and conditions of PTI No. 161-09 at the present time. Staff departed the facility at approximately 12:10 p.m.

NAME Matt Deskins

DATE 12-12-22

SUPERVISOR  12/12/22