

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Self Initiated Inspection**

N573243061

FACILITY: Thumb Electric Cooperative		SRN / ID: N5732
LOCATION: 2437 East Dayton Road, CARO		DISTRICT: Saginaw Bay
CITY: CARO		COUNTY: TUSCOLA
CONTACT: Michael Reece, Facility Manager		ACTIVITY DATE: 01/18/2018
STAFF: Matthew Karl	COMPLIANCE STATUS: Compliance	SOURCE CLASS: Synthetic Minor
SUBJECT: Self-initiated inspection to determine compliance with PTI 544-95B and the air regulations.		
RESOLVED COMPLAINTS:		

I (Matt Karl) performed a self-initiated inspection of the Thumb Electric Cooperative Caro Facility on January 18, 2018. I met with Michael Reece, Facility Manager to determine compliance with the facilities Permit to Install (PTI) No. 544-95B and the air quality regulations.

### Facility Description

The facility operates six (6) engines, which function as emergency generators. The specifics of the engines are listed in the table below. The last time that the facility operated the engines as emergency generators was in 2003. The last time that the engines were "exercised" for maintenance check purposes was August 10, 2016.

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date / Modification Date
EU-UNIT1	1169 kW, 1646 HP diesel fuel fired Cooper Bessemer engine/generator set	1949
EU-UNIT2	1169 kW, 1646 HP diesel fuel fired Cooper Bessemer engine/generator set	1949
EU-UNIT3	1313 kW, 1850 HP diesel fuel fired Cooper Bessemer engine/generator set	1953
EU-UNIT4	1500 kW, 2160 HP diesel fuel fired Fairbanks Morse engine/generator set	1984
EU-UNIT5	2000 kW, 2880 HP diesel fuel fired Fairbanks Morse engine/generator set	1998
EU-UNIT6	2000 kW, 2820 HP diesel fuel fired Fairbanks Morse engine/generator set	2000

### Compliance Determination

PTI No. 544-95B requires that the facility monitor the fuel usage for each engine and calculate both daily and 12-month rolling time period NOx emissions. The facility is well below both the daily emission limit of 8,088 lbs and the 12-month rolling emission limit of 88 tons at 312 lbs and 0.2 tons respectively.

The PTI No. 544-95B also requires the facility to emit less than 542.4 pounds per calendar day of CO emissions. The facility is well below this emission limit at 71.5 lbs.

Finally, the PTI requires that each of the individual engines not exceed individual limits for SO2. The facility is well below each of these emission limits. The results are summarized in the table below.

Emission Unit ID	Emission Limit (Pounds per calendar day)	Emissions (Pounds per calendar day)
EU-UNIT1	170.4	6.7
EU-UNIT2	170.4	6.7
EU-UNIT3	169.4	7.5

EU-UNIT4	182.4	8.7
EU-UNIT5	248.2	11.6
EU-UNIT6	243.4	11.4

At the time of my inspection, the Thumb Electric Cooperative Caro Facility appeared to be in compliance with PTI No. 544-95B and the air quality regulations.

NAME 

DATE 1/23/18

SUPERVISOR 