

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

N351743029

FACILITY: THUMB ELECTRIC COOPERATIVE		SRN / ID: N3517
LOCATION: 4151 UBLY RD, UBLY		DISTRICT: Saginaw Bay
CITY: UBLY		COUNTY: HURON
CONTACT: Al Rutkoski, Engineering Technician		ACTIVITY DATE: 01/16/2018
STAFF: Matthew Karl	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Self-initiated inspection to determine compliance with PTI 90-12 and the air regulations.		
RESOLVED COMPLAINTS:		

Gina McCann and I (Matt Karl) performed a self-initiated inspection of Thumb Electric Cooperative Ugly facility on January 16, 2018. We met with Al Rutkoski, Engineering Technician, as well as with Dennis Smalley and Russel Lemanski for a facility tour and with Jim Philp to collect records to determine compliance with the facility's synthetic opt out permit and the air quality regulations.

### Facility Description

The facility operates nine (9) engines, which function as emergency generators. The specifics of the engines are listed in the table below. The facility currently holds a Synthetic Minor Opt-Out Permit (PTI No. 90-12) in place of a Renewable Operating Permit (ROP). Additionally, engines (EU-UNIT5, EU-UNIT6, EU-UNIT7, EU-UNIT8, EU-UNIT9) were recently equipped with catalyst for CO reduction for compliance with the RICE MACT (40 CFR, Part 63 Subpart ZZZZ).

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date / Modification Date	Flexible Group ID
EU-UNIT1	630 kW diesel fuel fired engine/generator set	1/1/1938	FG-ENGINES
EU-UNIT2	736 kW diesel fuel fired engine/generator set	1/1/1938	FG-ENGINES
EU-UNIT3	736 kW diesel fuel fired engine/generator set	1/1/1938	FG-ENGINES
EU-UNIT4	980 kW diesel fuel fired engine/generator set	1/1/1947	FG-ENGINES
EU-UNIT5	1550 kW diesel fuel fired engine/generator set	1/1/1987	FG-ENGINES
EU-UNIT6	1542 kW dual fuel (94% natural gas/ 6% diesel fuel) fired engine/generator set	1/1/1992	FG-ENGINES
EU-UNIT7	2750 kW diesel fuel fired engine/generator set	1/1/2000	FG-ENGINES
EU-UNIT8	2250 kW dual fuel (94% natural gas/6% diesel fuel) fired engine/generator set	7/11/2000	FG-ENGINES
EU-UNIT9	1500 kW dual fuel (94% natural gas/6% diesel fuel) fired engine/generator set	7/11/2000	FG-ENGINES

### Compliance Determination

The catalyst on the engines (EU-UNIT5, EU-UNIT6, EU-UNIT7, EU-UNIT8, EU-UNIT9) were tested by Comprehensive Emissions Services, Inc. to demonstrate compliance with the outlet concentration limit of  $\leq 23$  ppm corrected to 15% O<sub>2</sub>, or a 70% or greater reduction of CO emissions as required in the RICE MACT (40 CFR, Part 63 Subpart ZZZZ). The CO reduction was between 78.96 and 94.38% for all of the engines, which appears to be in compliance with the RICE MACT.

The Permit to Install (PTI No. 90-12) requires the facility to operate each emission unit less than 16 hours per day and not more than 1,100 hours per calendar year. The last time the engines were operated was in May 2017. Engines (EU-UNIT1, EU-UNIT2, EU-UNIT3 and EU-UNIT4) were exercised for an hour to make sure that they are operating properly. Engines (EU-UNIT5, EU-UNIT6, EU-UNIT7, EU-UNIT8, EU-UNIT9) were run from 3.25 to 4.83 hours as part of the catalyst testing.

PTI No. 90-12 also requires the facility to keep records of NOx calculations. Jim Philp provided us with a spreadsheet printout of the NOx emissions on a 12 month rolling time period from June 2016 to May 2017. The total emissions of NOx was 0.88 ton per year (TPY) which is well below the permitted limit of 89.9 TPY.

Additionally, the PTI requires the facility to perform non-certified visual emissions checks on each emission unit stack during operation. During the last inspection of the facility in 2013, Gina McCann noted that the operators are consistent in making these observations, but not in recording them. Dallas Braun, General Manager, stated at the time of the 2013 inspection that the facility would begin recording these observations. However, after being prompted to provide the records on 1/17/18, D. Braun could not produce the records. Because of the limited operation and emissions from the facility, I (Matt Karl) decided to send D. Braun an example Visible Emissions Log to use for compliance with this condition of the PTI via email on 1/19/18. If the facility cannot produce this record on future inspections it could possibly be pursued as a violation of the PTI.

Finally, the facility has been sending records regarding the RICE MACT to P.O. Box 30242 in Lansing, MI. I (Matt Karl) requested D. Braun send those records to the Saginaw Bay District Office for future review and evaluation.

At the time of our inspection the Thumb Electric Cooperative Ugly Facility appeared to be in compliance with PTI No. 90-12 and the air quality regulations.

NAME Matt Karl

DATE 1/23/18

SUPERVISOR C. Gave