

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

N295043675

FACILITY: Eaton Corporation - Marshall Proving Ground		SRN / ID: N2950
LOCATION: 19218 B DRIVE S, MARSHALL		DISTRICT: Kalamazoo
CITY: MARSHALL		COUNTY: CALHOUN
CONTACT: Anna Horvath , EHS Analyst		ACTIVITY DATE: 02/28/2018
STAFF: Rex Lane	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Self Initiated Inspection		
RESOLVED COMPLAINTS:		

On February 28, 2018, Air Quality Division (AQD) staff (Rex Lane and Cody Yazzie) arrived at Eaton Proving Ground located at 19218 B Drive South, Marshall, Michigan at 1:30 pm to conduct an unannounced air quality inspection. The facility was last inspected by the AQD on May 6, 2014 and was compliant at that time. The facility entrance has a security gate and office and staff provided a business card to the officer and stated the purpose of their visit. Staff pulled over to the side of the security building while the officer tried to contact Ms. Anna Horvath, EHS Analyst. The officer was unable to contact Ms. Horvath and asked us to drive over the Administration Building and stop at the security office at the front entrance. Security then contacted Ms. Horvath and she made came over from the Technical Building and staff signed in and were issued visitor badges. Staff stated the purpose of their visit to Ms. Horvath and provided their credentials and a business card. We went to a conference room so staff could ask a few general questions before starting the inspection.

Eaton Proving Ground is an automotive research and development facility that has operated at this location since 1967. This facility primarily tests superchargers, torque control and engine components in two main buildings, Administration and Technical. The facility also has a test track and several smaller outbuildings for storage and vehicle maintenance along with a conference center. The facility has about 200 associates and operates one shift per day Monday through Friday in the main buildings and three shifts at the test track.

The facility is subject to Permit to Install (PTI) No. 34-98C and is a synthetic minor source for carbon monoxide (CO) and nitrogen oxides (NOX). The facility is considered to be an area source for hazardous air pollutants. Required personal protective equipment to conduct an inspection is steel toe boots, safety glasses and hearing protection (where posted). Inspection observations were made by building as follows:

Administration Building:

This building is used primarily to test superchargers and torque control components. All testing rooms use electrically and hydraulically driven equipment to test components. A diesel test cell that was installed during the AQD's last inspection in 2014 has been removed. Equipment that was observed in the Administration building and is exempt from air use permitting is further described below:

- A lab room that contained a powder coat booth and associated electrically fired cure oven and a small internally vented sand blast cabinet to coat and strip coating from helical rotors used in the superchargers. The filters in the powder coat booth appeared to be in good shape. The powder coat process is exempt from air use permitting under Rule 287(2)(d) and the sand blast cabinet is exempt under Rule 285(2)(l)(vi)(B).
- The machine shop had a TIG/MIG welding process that is equipped with a down draft vent to the outside air. The welding equipment is exempt from permitting under Rule 285(2)(i).
- The maintenance garage has both a traditional and a spray booth style cold cleaner with a front-facing door that remains closed until the operator steps on to a mat. The cold cleaners use Safety Kleen premium gold solvent (i.e. Stoddard solvent). The traditional unit is exempt under Rule 281(2)(h) and the spray booth unit is exempt under Rule 285(2)(r)(iv). Staff provided Ms. Horvath with MDEQ operation use labels to post near these units. A small paint booth that was in the maintenance garage during the last AQD inspection has been removed.
- A 201 HP John Deere diesel fired emergency fire pump engine (aka EU-G-003) is located on the south end of the Administration building. The engine was manufactured and installed in 2013 and is subject to 40 CFR Part 60, Subpart IIII. The engine is exempt from air use permitting requirements under Rule 285(2)(g). Eaton contracts with an outside contractor to perform maintenance work on all emergency generators. The current hour meter reading is 137 hours.
- In August 2017, the facility installed a SAMSCO SWE-II Series wastewater evaporator in a small outbuilding adjacent to EU-G-003. The unit is natural gas fired (0.55 MMBtu/hour) and is used to evaporate supercharger tote water. The tote water has been analyzed (attached to this report) and

characterized as nonhazardous wastewater and no VOC's were present above reportable limits. The evaporator is currently used three days per week (72 hours). Based on information provided by the facility following the inspection, the calculated potential emissions for all air contaminants are below their respective emission limits, therefore the process is exempt under Rule 291.

Technical Building:

This building is used primarily to test engine components and most test rooms use electrically and hydraulically driven equipment. Under PTI No. 34-98C, there are three permitted engine dynamometer test cells in this building and a natural gas fired emergency generator (aka EU-G-001). The facility is upgrading electrical and computer controls in all three test cells and the dynamometers were last used in March 2017. Equipment that was observed in the Technical building and is exempt from air use permitting requirements is further described below:

- On the south end of the Technical building, there are three double walled above ground storage tanks (1 – 2,000 gallon; 2 – 1,000 gallon) storing either diesel fuel or gasoline. The tanks were last inspected by Michigan's Licensing and Regulatory Affairs (MI LARA) agency in September 2016. The tanks are exempt from permitting under Rule 284(2)(d) and 284(2)(g)(ii), respectively.
- In an outbuilding adjacent to the fuel storage tanks, the facility installed in August 2017 an identical wastewater evaporator to the one installed adjacent to the Administration building. Process is described in further detail above and is exempt under Rule 291.
- In the garage area, there are two cold cleaners very similar to the units installed at the Administration building. The traditional unit is exempt under Rule 281(2)(h) and the spray booth unit is exempt under Rule 285(2)(r)(iv). The garage also has a small paint booth with filter panels that uses only paint spray cans which is exempt under Rule 287(2)(b). There is a 0.3 MMBtu/hour hot water boiler that provides additional heat to the adjacent office area that was inspected by MI LARA on 2/13/17 and is exempt from permitting under Rule 282(2)(b)(i).
- In the machine shop area, there are internally vented shot blast cabinets and CNC machines that are exempt from permitting under Rule 285(2)(l)(vi)(B).
- In the model shop, there is an electrically fired heat treat furnace with a natural gas curtain and it is equipped to inject anhydrous ammonia into the furnace atmosphere as needed during certain heat treatment cycles. Outside the model shop, there are two 150-pound anhydrous ammonia tanks. The furnace was installed at the facility in 1987 and does not heat treat oil coated parts. There is a standalone oil quench tank near the heat treat furnace. The anhydrous ammonia tanks are exempt from permitting under Rule 284(2)(j). The oil quench tank is exempt under Rule 283(2)(a)(iv) for production of a product for field testing. The heat treat furnace is exempt under Rule 282(2)(a)(i) based on its installation date. **Note:** Staff advised Ms. Horvath that installation of a similar heat treat furnace after 12/20/16 at the facility would be subject to new source permitting because the exemption rule language was changed to exclude furnaces that utilize ammonia.

Conference Building (aka Eaton Lodge):

- This building has a 45 HP Generac natural gas fired emergency generator (aka EU-G-002) that was manufactured and installed in 2012. The emergency generator is subject to 40 CFR Part 60, Subpart JJJJ and is exempt from air use permitting under Rule 285(2)(g). The unit is maintained by an outside contractor. The current hour meter reading is 109 hours. Staff did not go to the conference building during this inspection.

PTI No. 34-98C:

EU-GENERATOR is a 460 HP Kohler/Ford natural gas fired emergency generator (EU-G-001) installed in 1995. The unit is installed adjacent to the Technical building. The unit is subject to 40 CFR Part 63, Subpart ZZZZ. The unit is maintained by an outside contractor. The current hour meter reading is 1,132 hours. The facility is maintaining monthly hours of operation and natural gas throughput and CO and NOX emissions on a monthly and 12-month rolling average as required by Condition VI.1.

EU-HEATER consists of air handling units, heater, ovens and hot water boilers, each burning natural gas fuel with a total heat capacity of 12.8 MMBtu/hour. The facility provided inventory records for all cooling and heating equipment that indicates compliance with total heat capacity listed in the emission unit description. A review of 12-month rolling natural gas records for EU-HEATER for 2017 demonstrates compliance with usage limit under Condition II.1. The facility is maintaining monthly and 12-month rolling time period natural gas usage records as required by Condition VI.1.

FG-TESTCELLS consists of three engine dynamometer test cells that can use either diesel or unleaded gasoline located in the Technical building. Two of three test cells are installed but have not been used since

March 2017. The third test cell engine is in the garage area and will be installed once electrical and computer control upgrades have been completed for all test cells. Based on records (attached) provided following the inspection, diesel fuel usage is well below the calendar day and 12-month rolling time period limits under Condition Nos. II.2 and II.3. To date, the facility has not used gasoline in any of the test cells since issuance of PTI No. 34-98C. The facility is maintaining daily, monthly and 12-month rolling diesel and gasoline usage records sufficient to demonstrate compliance with Condition Nos. VI.1 and VI.2.

FGFACILITY includes all process equipment source-wide including equipment covered by other permits, grandfathered and exempt equipment. The facility is maintaining monthly and 12-month rolling NOx and CO emission calculation records based on Appendix A emission factors as required by Condition Nos. VI.1 and VI.2. For December 2017, 12-month rolling NOX emissions were 0.6 tons/year and CO emissions were 2.1 tons/year which is 0.6% and 2.3% of their respective emission limits under Condition Nos. I.1 and I.2.

Summary:

At the time of the inspection and based on records received following the inspection, it appears that the facility is in compliance with PTI No. 34-98C and applicable state air quality regulations. -RIL

NAME RIL DATE 3/16/18 SUPERVISOR MA 3/16/18

