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

A617569112

FACILITY: Nexteer Automotive Corporation		SRN / ID: A6175
LOCATION: 3900 Holland Road, SAGINAW		DISTRICT: Bay City
CITY: SAGINAW		COUNTY: SAGINAW
CONTACT:		ACTIVITY DATE: 08/17/2023
STAFF: Benjamin Witkopp	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Facility Inspection		
RESOLVED COMPLAINTS:		

Ben Witkopp of the Michigan Department of Environment, Great Lakes, and Energy - Air Quality Division (AQD) met with Nikita Patterson of Nexteer on August 17 and 23, 2023. The facility is covered by a Renewable Operating Permit (ROP) MI-ROP-A6175-2022. Three permit modification requests have been made since its approval but all concerned equipment removal.

The facility is basically engaged in forming and machining metal parts for the automotive industry. The emissions are generally handled by scrubbers or baghouses. Consolidations within the facility have occurred with some equipment being moved between plants while some has been removed entirely. Rendering equipment unusable and abandoning in place was also used. A power plant is located on site and supplies steam to the facility via a number of natural gas fired boilers of various sizes. The power plant does not generate electricity. The facility is considered a major source due to carbon dioxide (CO), Nitrogen oxides (NOx), Volatile Organic Compounds (VOC), and particulate emissions. The site is considered a minor source of hazardous air pollutants (HAPs). A malfunction abatement plan (MAP) is in place for a number of pieces of equipment.

Required records for virtually all equipment were then checked for primarily late 2022 and 2023 to date. The records were checked by plant number but presented below in the order found in the ROP. Pressure drops and water flow rates etc. are required to be checked with ranges specified either directly in the permit or in the MAP.

EUBR02 is a 77 MMbtu heat input gas fired boiler. A material limit of 375 MMCF is in place. Records showed 110 MMCF on a 12-month rolling time period. The highest NOx emissions were about 6.9 tons per year on a 12-month rolling time period. The permit limit is 39.4 tons.

EUBR03 is a 150 MMbtu heat input gas fired boiler. Records showed a high of 155,632 MCF on a 12-month rolling time period.

EUBR05 is a 180 MMbtu heat input gas fired boiler. Records showed 91,853 MCF on a 12-month rolling time period as its highest amount.

EUBR06 is a 180 MMbtu heat input gas fired boiler similar to boiler 5. It's highest records showed 115,366 MCF on a 12-month rolling basis.

A material limit of 2,500 MMCF exists for the total usage by boilers 3, 5, and 6. The fuel use condition limits the potential emissions from the power plant. A total of the highest usages above equals 362,851 MCF or 362.851 MMCF. The highest total 12-month rolling time period was expectedly somewhat lower at 351.15 MMCF which is well below the limit.

CG02 is comprised of lathes using a scrubber as control. The MAP required range is 8 to 12 inches for the pressure drop and 300 gallons per minute (gpm) for the minimum flow. The typical pressure drop was 9 inches and had a high of 10. The flow was typically 350 – 400 gpm.

CG03 is a group of grinding stations controlled by a scrubber. The MAP required range is 8 to 12 inches while 700 gpm is the minimum flow. It was found to usually be around 9 to 10 inches of pressure drop and 720 - 750 gpm.

CG07 is a group of grinding stations with scrubber controls. Records indicated the pressure drops were within the 8 to 12 inch range specified in the MAP and were typically 10 inches. The minimum flow required was 320 gpm and was found to be about 715 - 750 gpm.

PC07 is a phosphate coating system equipped with six scrubbers. The MAP specified amount for flow varies per unit. Unit 1 is 25 gpm, 2 is 45 gpm. Units 3 and 4 are both 35 gpm while units 5 and 6 are 33 gpm. The system has not been running but remains in place.

PC08 is a phosphate coating system equipped with five systems designated A-E. System A is comprised of four mist eliminators. System A has wash down requirements which are performed once per week. Systems B-E are designated as wet scrubbers. Flow requirements vary per unit. System B and D are 15 gpm. System C is 25 gpm while system D is 35 gpm. System B was usually operating at 40+ gpm and D was around 79. System C was typically running at 48 gpm. System E was 87 gpm. The specified pressure drop range varies for each system. The range for systems B and D is 0.2 - 1.3 inches while the range for systems C and E is 0.2 – 2.3 inches System B had 1.2 inches. System C's pressure drop was typically 1.2 to 1.4 inches. System D had a range of 0.5 to 0.6 inches while system E was usually 2.16 inches.

PC09 is a phosphate coating system with scrubber control. The MAP has a pressure drop range of 1.6 to 1.9 inches and a flow of 78 to 92 gpm. The unit operated at about 1.7 inches and 84 gpm.

The air stripper is designated as STR99 and the emission limit is 0.4 tpy of VOC's per year. Reported emissions are extremely small fractions of the limit at only 3.1 pounds per year. The highest monthly amount was one quarter pound.

BL11 is a blaster. Fabric filters are used as control for particulate emissions. The range specified in the MAP is 1.2 - 2.8 inches of pressure drop for unit 11. The value ranged from 1.2 to 1.3 inches.

FGCF05/15 is a pair of carburizing furnaces that use quench oil. Oil usage is limited to 1,760 gallons per month. The highest value was in February 2023, with 2,843 gallons but that did not consider reclamation volumes. Follow up later found the amounts listed were those purchased. 2,025 gallons were reclaimed which would have resulted in 818 gallons being used which is below the limit.

FGCF17/18/19 is comprised of two carburizing furnaces and one rehardener. Quench oil usage is limited to 3,180 gallons per month. Over 12 months the total amount was 3,096 gallons which is below the amount allowed for a single month. Typical monthly usages for carburizer 1 was 96 gallons while carburizer 2 was 98 gallons. The rehardener was usually about 98 gallons per month.

FGCF91 was comprised of EUCF03 and EUCF04. However, EUCF04 has been removed from the facility. There are no record keeping requirements though quench oil usage is tracked on a monthly basis. The unit does have a - testing may be required upon request - provision.

FGFN92 was comprised of EUCF01, EUCF02, EUFN08, EUFN09 EUCF10, EUCF11. EUCF01 has been removed from the facility. There are no record keeping requirements though unit quench oil usage is tracked on a monthly basis and were approximately 15 pounds per month. The FG does have a - testing may be required upon request - provision.

FGCF93 was comprised of EUCF09 and EUCF12. Both units have been removed from the facility.

Sources which could use Rule 287c are very few in number and basically consist of some maintenance painting. Total usage from all painting was less than the 200 gallons per month limit. Individual sheets are tallied into a total for the FG so there is clearly no problem meeting the specified limit. The highest 12-month rolling total was only 66 gallons which is less than the 200 gallons per month allowed for each unit. Units checked had filters in place as required.

There were quite a few sources which used Rule 290 permit exemption in the past. Most of them were washers. The use of a different exemption was brought to Nexteer's attention. Nexteer subsequently explored the use of rule 281(2)(k) which exempts aqueous based parts washers. The definition of "aqueous based parts washer" means a tank containing liquid with a VOC content of less than 5 %, by weight, and at a temperature below its boiling point that is used to spray, brush, flush, or immerse metallic and/or plastic objects for the purpose of cleaning or degreasing. The sites lab then developed percentages of materials to be used in the various washers, along with acceptable ranges. The washers are also checked by the lab via sampling. This has dramatically dropped the number of emission units Nexteer deems exempt per Rule 290.

Several units remain under rule 290 and are tracked separately for compliance. They are listed in the ROP along with the type of control device. Most have control devices and because of the control device presence, they are limited to less than 500 pounds of emissions per month per unit. Visible emissions (VE's) are checked once per month at all plants. Records showed no VE's. Checking the units revealed no exceedances of the 500 pound per month limit and the results are shown below. The unit names are followed by the emissions in terms of tons per month (tpm), MAP ranges, and lastly ranges found in records.

CG17 0.17 tpm MAP 8.5 -11.5 inches pressure drop & 310 gpm records 10 inches & 390-400 gpm

420 cc-cd and 420 cn-co have been deemed obsolete and permanently removed from service.

420 ct 0.17 tpm MAP 8.5 - 11.5 inches pressure drop & 310 gpm records 10 inches & 405 gpm

420 cu has been deemed obsolete and permanently removed from the facility.

541 a-g 0.17 tpm MAP 8.5 - 11.5 inches pressure drop & 310 gpm records 9 - 10 inches & 400 gpm

720fg-fn 0.16 tpm MAP 0-2 inches pressure drop records 0.4 inches

CF20 has been deemed obsolete and permanently removed from the facility

The ROP has requirements for a number of emergency engines. Three different categories exist due to the Maximum Achievable Control Technology (MACT) regulations for reciprocating internal combustion engines (RICE). Two categories concern compression ignition engines, one for less than 500 hp, and one for over 500. Two new spark ignition engines (emgrice 22 and 23) have been installed subject to the New Source Performance Standard (NSPS) JJJJ. For the ease of maintaining tracking the company is treating all CI engines as if they are greater than 500 hp. There were run hours logged by the fire pump house engines and those were less than the 50 hours allowed for emergency engines. It should be noted those hours were due to maintenance checks. The maintenance run times were usually 30 minutes or less. Walk around inspections are periodically conducted too. Outside firms are contracted to perform required maintenance and records were kept of the activity. The tracking, maintenance, and record keeping is also being done for the spark ignition engines. However, like the other engines, they were not used for emergency purposes. EMGRICE23 did have 18.2 hours of run time that were for emergency use.

On August 23, 2023, I returned to the site to check the actual pressure drops and/or flows that are required for the units undergoing stack testing in mid-September. The following units were checked:

BL11 pressure drop is to be in the range of 1 – 3 inches. It read 1.45 inches.

CG02 pressure drop is to be in the range of 8-12 inches and a flow of 300 gpm. Actuals were 9 inches and 354 gpm.

CG03 pressure drop is to be in the range of 8-12 inches and a flow of 700 gpm. Actuals were 10 inches and 715 gpm.

CG07 pressure drop is to be in the range of 8-12 inches and a flow of 320 gpm. Actuals were 9.5 inches and 753 gpm. When asked why the gpm was so much higher than the specified level Nikita said their in-house scrubber expert calculated that 320 gpm was sufficient. However, rather than install a new control valve to right size things to account for production, more than 700 gpm is used. It should be noted the water is recycled. If the upcoming stack test passes at a level greater than the 320 gpm specified, the malfunction abatement plan would need to be modified.

Nexteer uses cold cleaners serviced by Safety Kleen. The solvent used Safety Kleen Premium Solvent. It is a mixture of virgin and recycled petroleum distillates. Lids were closed and the units checked had operating instructions prominently posted.

The facility is considered to be in compliance.

NAME B. Entrup DATE 9/21/23 SUPERVISOR C. Hart