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

A617559775

FACILITY: Nexteer Automotive Corporation		**SRN / ID:** A6175
LOCATION: 3900 Holland Road, SAGINAW		**DISTRICT:** Bay City
CITY: SAGINAW		**COUNTY:** SAGINAW
CONTACT: Kim Bostek , Supervisor Global Environmental Engineering		**ACTIVITY DATE:** 09/08/2021
STAFF: Benjamin Witkopp	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Site inspection and records review		
RESOLVED COMPLAINTS:		

Ben Witkopp of the Michigan Department of Environment, Great Lakes, and Energy - Air Quality Division (AQD) met with Nikita Patterson and Kim Bostek of Nexteer on September 8 and 9, 2021. Both were available the afternoon on the 8th. Kim Bostek was the contact on September 9. Nikita Patterson is replacing Alex Juhasz who was the previous contact. Nikita has been with Nexteer for some time but had dealt only with waste issues at the facility. She had no previous experience concerning air. Since Nikita had been off work for quite some time, Kim was also filling in. Kim is the Superviosr for Global Environmental Engineering for Nexteer. The facility is covered by a Renewable Operating Permit (ROP) MI-ROP-A6175-2014b. Though a number of changes were facilitated by the "b" version of the ROP, no revision requests have been made since its approval.

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 particluate 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 2021 given the difficulties of supply and demand the facility experienced during the covid 19 outbreak. The records were checked in the order found in the ROP. Currently 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 95.65 MMCF on a 12 month rolling time period. NOx emission were only about 5.8 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 101,969 MCF on a 12 month rolling time period.

EUBR05 is a 180 MMbtu heat input gas fired boiler. Records showed 221,015 MCF on a 12 month rolling time period.

EUBR06 is a 180 MMbtu heat input gas fired boiler similar to boiler 5. Records showed only 134,773 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 usages above equals 457,757 MCF or 457.757 MMCF which is well below the limit.

BL05 was a bar mill blaster used to remove rust from steel stock. The unit was removed on November 2, 2018.

BL12 is a blaster used for deburring. The unit has not been running in 2021.

CG01 was slot grinding which removed excess metal from parts. The unit was dismantled in 2019.

CG02 is comprised of lathes using a scrubber as control. The MAP required range is 8.5 to 11.5 inches for the pressure drop and 310 gallons per minute (gpm) for the minimum flow. The typical pressure drop was 9.1 inches and had a high of 10. The flow was typically 312 - 320 gpm.

CG03 is a group of grinding stations controlled by a scrubber. The MAP required range is 8.5 to 11.5 inches while 710 gpm is the minimum flow. It was found to usually be around 10.6 inches of pressure drop and 712 - 720 gpm.

CG07 is a group of grinding stations with scrubber controls. Records indicated the pressure drops were within the 8.5 to 11.5 inch range specified in the MAP and were typically 9 - 10. The minimum flow required was 710 gpm and was actually found to be about 713 gpm.

CG15 was a group of grinders with a scrubber for control. CG15 was dismantled in 2020.

CG16 was a group of cage grinders with a scrubber for control. CG16 was dismantled in 2020.

MI10 was a plastic granulating system controlled by a bag house. The unit had not been operated since January 2017. It has been rendered inoperable and has essentially been abandonded on site.

MI14 was the pickle house acid baths. The operation has ceased and the equipment was removed in 2018.

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 flows for unit 1 were around 60 gpm. 75 - 102 gpm was typical for unit 2. A flow in the 50 to 70 gpm range was found for units 3 and 4. Unit 5 flows were around 70 gpm as was unit 6. The specified pressure drop for the units is 0.7 to 2.8 inches. It was usually 0.8 to 1 inches.

PC08 is a phosphate coating system equipped with five systems designated A-E. System A is actually comprised of four mist eliminators. Systems B-E are designated as wet scrubbers. Flow requirements vary per unit. Systems A and C are both 15 gpm. System B is 25 gpm while systems D and E are 35 gpm. System A's flow was 50 - 55 gpm. System C was typically running at 78 gpm. System B was typically 53 gpm. System D was around 89 gpm while E was 45 gpm. The specified pressure drop range for the systems is 0.2 - 2.3 inches. System A pressure drop was 1.18 inches while system B was 0.8 inches. System C's pressure drop was typically 0.45 inches. System D had a range of 2 - 2.2 inches while system E was usually 1.85 inches. It should be noted system E had a flow of zero per the records for May 14, 2021 and that the pump was not working until May 24, 2021. At that point, the pump was reactivated and the flow resumed. The operational status of the production line was not noted at the time This was investigated further and the results presented later in the report.

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 85 gpm. The unit operated at about 1.8 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 tiny fractions of the limit at only 1.3 pounds per year.

FGBL91 was comprised of BL04 and BL11 which are blasters. Only BL11 remains in use as BL04 was removed in 2018. 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 most typically found was 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 amounts are measured. Purchase records are not used. The lowest usage was in January of 2021 at 132 gallons while the highest was in May 2021 with 1,283 gallons.

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 3,196 gallons which is just slightly above 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.

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 200 gallons per month. The limit is 200 gallons per month per booth. Individual sheets are tallied into a total for the FG so there is clearly no problem meeting the specified limit. The 12 month rolling total was only 316.25 gallons. The highest individual monthly amount was found in plant 3 at 17.5 gallons.

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 Nexteers attention. Alex 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 precentages 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. 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.

420 cc-cd 0.17 tpm MAP 8.5 - 11.5 inches pressure drop & 710 gpm records 10.4 inches & 712 gpm

420 cc-co 0.17 tpm MAP 8.5 - 11.5 inches pressure drop & 710 gpm records 8.9-9.3 inches & 714 gpm

420 ct 0.17 tpm MAP 8.5 - 11.5 inches pressure drop & 310 gpm records 10.2 inches & 440 gpm

420 cu 0.25 tpm MAP 8.5 - 11.5 inches pressure drop & 310 gpm records 9.2 inches & 375 gpm

541 a-g 0.17 tpm MAP 8.5 - 11.5 inches pressure drop & 310 gpm records 10.5 inches & 373 gpm

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

CF20 0.17 tpm - note: uncontrolled therefore limit is 1,000 pounds per month

CG17 0.17 tpm MAP 8-12 inches pressure drop & 300 gpm records 9.6 inches & 438 gpm

The ROP has requirements for a number of emergency engines. Three different categories exist due to the Maximum Achievable Contol 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. Previously, a third category was for spark ignition engines less than 500 hp but those have been removed. 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. The only hours run were logged by the fire pump house engines and that was 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 10 minutes or so. 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.

On September 9, 2019 I returned to the site to finish checking records and to check the pressure drops and/or flows that were found to be on the low end of acceptable ranges, or had problems, during records review. The following units were checked:

PC08 system E for the phosphate coating system was operating. I went up with a technician to check the pressure drop and flow for the unit. During records review it was nonfunctional for nearly 2 weeks. Rather than getting an approximate reading from the flucuating guage on the the side of the unit, the technician takes a calibrated, electronic meter and measures directly using the units two pressure ports. The result was 1.9 inches of pressure drop. The flow was from the guage on the side of the unit and was agreed upon to be 89 gpm. Both values are within range. The production supervisor confirmed the phosphate coating system was running during the period in May 2021 in which the pump for control system E was non-operational. Running the process while one of the control systems was non-operational is a vioation of Rule 910. Rule 910 requires a control device to be installed, maintained, and operated in a satisfactory manner.

CG03, a group of grinding stations controlled by a scrubber, was operating. The pressure drop was 9.5 inches of water and the flow was 770 gpm. Both measurements are acceptable.

CG07 is a group of grinders with scrubber control. The unit was operating. The flow was 650 gpm and the pressure drop was 9 inches. The flow is below the 710 specified in the MAP and would be considered a deviation though not a violation.

Lastly, CG02 consists of lathes using a scrubber as control. The unit was operating. The pressure drop was 9 inches. However, even after several minutes of observation, the highest flow rate seen was only 297 gpm as oppossed to the 310 in the MAP. The lower flow rate would be considered a deviation though not a violation.

The facility is in noncompliance.

NAME B. Linkopf DATE 9-22-21 SUPERVISOR Chris Hare