 N6266 Manla Washt.

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

N626650130

FACILITY: FEDERAL MOGUL POWERTRAIN INC		**SRN / ID:** N6266
LOCATION: 560 AVIS DR, ANN ARBOR		**DISTRICT:** Jackson
CITY: ANN ARBOR		**COUNTY:** WASHTENAW
CONTACT: Mark Lash , Manager HD Engineering Test Lab, EHS Officer		**ACTIVITY DATE:** 08/29/2019
STAFF: Diane Kavanaugh Vetort	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Conducted complete scheduled inspection. SM Opt out facility.		
RESOLVED COMPLAINTS:		

Contact: Mark Lash, HD Engineering Test Lab Manager Environmental Health and Safety Facility Officer Mark.Lash@Tenneco.comWork: (734)913-4440, Cell: (734)216-8199

Purpose

On the afternoon of August 29, 2019, I conducted a complete, scheduled compliance inspection, unannounced, at the above Federal Mogul Powertrain, LLC. facility (hereinafter FM) location in Ann Arbor. The purpose of the inspection was to determine the facility's compliance status with the applicable federal and Michigan Department of Environment, Great Lakes and Energy (EGLE), Air Quality Division (AQD) Act 451, Part 55 Air Pollution Control regulations, the administrative rules and the conditions of FM's Synthetic Minor Opt-out, Air Use Permit to Install (PTI) No. 220-03.

FM Powertrain LLC is now owned by Tenneco. FM is located in a technology park on Avis Drive just south of the Ann Arbor Municipal Airport. On August 29, I arrived at FM presented my identification and requested to conduct a site inspection. FM's permit contains underlying applicable requirement Rule 205(3), which outlines AQD's authority to approve PTI's with limitations which restrict the facility's potential to emit to a quantity below that which would constitute a Title V major source.

Background

This facility was last inspected by Zachary Durham, AQD on August 8, 2015. FM operates an engine testing facility at this location with capability to test vehicle engines with both natural gas and diesel fuels. Facility operates a research testing lab for diesel piston technologies.

Their Title V Opt-out PTI, No. 220-03, covers one Flexible Group FG-TESTCELLS that includes six engine dynamometer test cells. Nitrogen Oxide (NOx) emissions are limited to 2,840 lb/MMscf natural gas; 0.377 lb/gallon diesel; and 89.5 tons per year per 12-month rolling time period as determined at the end of each calendar month. The PTI limits natural gas usage for FG-TESTCELLS to not exceed 63.0 million standard cubic feet per 12-month rolling time period. The PTI limits diesel fuel combustion to 475,000 gallons per 12-month rolling time period. The permit requires recordkeeping of usage and emissions.

During the past calendar year 2018, FM reported in MAERS that they combusted 116,549 gals. of diesel fuel. They are also required to track NOx emissions, which are currently reported to MAERS. My review of 2018 MAERS shows use of stack test emission factors (EF) for CO (8.6xE1 lb/E3 gal) and NOx (3.77xE2 lb/E3 gal). Remaining pollutants for diesel fuel and all pollutants for natural gas emissions are calculated based on MAERS EF. FM reported

5 tons CO, 22 tons NOx, 2.5 tons PMs and SO2, and 3 tons each of volatile organic and toxic organic compounds.

Compliance Evaluation

The facility contact, Mark Lash, was unavailable at the time so I was accompanied by FM Senior Technician, Hugh Dye. I gave him my contact information, explained the purpose of the inspection and we proceeded with a physical tour of the facilities. I told him that most of the permit required records that I need to obtain can wait for Mark Lash later.

General information was requested and answered by Hugh. FM employs 11 to 12 people at this site. They operate 7 AM to 5 PM Monday through Friday with 24/7 testing which can be unmanned over the weekends. Today due to the upcoming Labor Day holiday weekend there were only a few staff on-site and little to no operations were occurring.

Hugh and I walked to each Engine Test Cell to observe operations. Each room has a fuel cabinet that has a totalizer meter. Hugh said that AND is the manufacturer. Other equipment observed had manufacturer names that were mentioned of KMAX; Tricore Coreolis (type of meter); and Micro Motion. Per Hugh the Consumer's meter outside building is used also as this as most accurate meter for natural gas.

Cell 1
I observed a MAC engine, Volvo engine, called MP7. 11L diesel. Not running -has electronic issues.

Cell 2
I observed the engine was not on the dynamometer. Not operating. The Cell had a Chiller (Thermal shock testing) 50 ton – 450 gallons glycol used to shock the engine.

Cell 3
I observed an 8.3 Cummins diesel engine with Chiller in the room. Operating a 1000-hour test.

Cell 4
I observed a Cummins diesel engine X12 12L over fuel test 530 HP 2100 RPM

Cell 5
I observed a Natural gas Cummins 13G from an Urban Bus.

Cell 6
I observed a Detroit Diesel DD15 (Daimler engine). They have both a DD13 and DD15. Running a short test which is 100 hours or lower.

Hugh confirmed that durability testing is the testing that runs for longer periods of 1000 to 2000 hours. All testing is considered "uncontrolled" as the engines do not have Catalytic Converters and there is no add on air pollution control equipment. Prior AQD inspection reports stated that "the exhaust is channeled into a diesel particulate filter (DPF), a ceramic matrix that is regenerated on a periodic basis with the use of a dedicated spark plug and fuel feed to combust the accumulated soot on the ceramic matrix." I asked Mark about this and he indicated each Cell exhaust has a muffler essentially which does control particulate to some extent however it is still possible to get some puffs of black smoke at times. I did not conduct a roof inspection on this date, and this is being noted to be done at a future inspection.

During the walk-through Hugh and I observed an Infrared room NuVonyx – used for metal hardening. We next observed a small engine test cell called "HATZ" per Hugh it is being discontinued and hasn't run in about a year. He said a small single cylinder diesel engine was what they tested.

Hugh and I went outside to observe the area where the two 5000-gallon diesel underground storage tank (UST) are located in a small hill near the dock and parking lot. Waste oil used to be stored in a UST here but that was removed long ago per Hugh. We walked around back behind the building and I observed they are now using a new above ground storage tank (AST) system for waste oil, 500 gallons, located in the garage type covered area. It sits next to a 1200-gallon diesel AST for Cell 5 & 6. Fuel storage tanks for dynamometers are permit exempt under Rule 284(2)(g)(iii).

During the inspection I observed a lab that prior inspections had identified as a small research operation involving a very small plating bath using a solution containing diamond dust and chromic acid which electrolytically adhered the solution to wear surfaces of pistons. This operation has been discontinued. Prior inspection found the operation was Rule 201 exempt via the laboratory exemption in Rule 283, and not subject to the chrome NESHAP as it was a laboratory research operation. The existing hood is being used for polishing small parts. I observed FM also has a welding hood with vertical exhaust tied into the lab exhaust per Hugh. Nothing was operating during the inspection. Welding is considered permit exempt under Rule 285(2)(i).

During the inspection I observed a new process called the Plasma Sprayer #962 with a Torit cartridge pulse jet dust collector and added HEPA filter section before the exhaust. It is using powder coatings and consists of a high temperature plasma spray head to melt, atomize, and spray a mist of molten metal onto automotive engine components (e.g., pistons). Waste powder material is collected into two 55-gallon drums below the Torit Unit. The material is considered hazardous waste. I later learned from Mark that they have not generated enough material to dispose of to date. Hugh introduced me to the persons working with this process. The gentleman explained the process and provided me with hard copies of four Safety Data Sheets (below) for the powder materials sprayed per my request. The SDS contain hazardous air pollutants, Nickel, Chromium, and Manganese.

Saint Gobain: Ceria Zirconia
Oerlikon metco: Amdry various
Praxair: NI-164 / NI-211 products
Oerlikon metco: Metco 443 various, Amdry, PEX, XPT

The Plasma Sprayer had recently been operating but was not operating during the inspection. It is in a small room with air inlet and floor exhaust. The ductwork runs overhead, horizontal, through the building and out the wall to the Torit /HEPA filter collector outside. It sits near the dock, the fuel tanks, and parking area. I observed the Torit /HEPA collector appeared to be new, in very good condition, and the housekeeping in the area was also very good.

I later spoke to Mark Lash and learned that the Plasma Sprayer commenced installation in 2017. The operator had told me it took about a year to install and was not fully operating until the end of 2018. Mark said the Torit was purchased used and they supplemented it with the HEPA section. Following the inspection Mark sent me the demonstration of exemption for this process prepared by NTH consultants on their behalf. I also requested additional information

for the Torit/HEPA such as unit size, capacity, filter information, and blowers. Mark agreed to send this information to me by September 13. The information was received and is acceptable.

The NTH report evaluated only three types of powdered metal coatings (missing the Praxair SDS). They identified only Nickel and Chromium as HAPs (missing Manganese in Oerlikon metco 443 at a low 1%). The % by weight of Ni and Cr are highest in the missing Praxair SDS. My review indicates the potential emissions based on NTH's review substituting the higher % weights in the worst-case Praxair coating, are still very low at Ni 0.795 lb/yr and Cr 0.53 lb/yr. They proposed the process exempt under Rule 287(2)(d) for powder coating booths. They provided information that it also may qualify for exemption Rule 283(2)(a)(v) pilot process using T-BACT. This appears to be an acceptable determination based on the information received.

I learned from Mark that FM uses waste haulers contracted through their Corporate office. They have a variety of contracts with various haulers, so it changes depending on what the material is and the costs. They have used Fiber Tech Environmental, Bux Oil, and US Industrial Tech. per Mark.

During the inspection I observed that FM has three System One solvent based cold cleaners. Mineral spirits @ 25 gallons each with a recirculating distillation of the impurities, oils, which are then transferred to the Waste Oil tank for disposal. Cold cleaners/solvent distillation equipment less than 55 gallons can be permit exempt under Rule 285(2)(u). I provided Hugh with new Environmental Assistance Orange Stickers which cover proper operation and the applicable rules.

Recordkeeping

Early AQD inspection reports state that FM identified a daily limit for their diesel fuel usage limit in order to conservatively assure compliance. Their records indicate 1290 gal/day as their diesel fuel limit, which equates to about 470,000 gals /year, that is less than their permitted level of 475,000 gals/yr.

During the inspection I requested FM records for the 12-month period ending July 2019 (most recent complete month). I received spreadsheet records from Mark following the inspection by email. We had some communication by email and phone. I requested he add the NOx emissions calculations record keeping to the database and resubmit it. This was received the week of September 9, 2019. All records received are attached to this report to the plant file.

FM spreadsheet covers monthly & 12 month rolling diesel usage and indicates compliance with the permit usage limits as of month ending July 2019. Another spreadsheet shows 2019 Fuel used including natural gas.

To date 2019 diesel usage = 37,165 gallons from three tanks #1, #2 and #4; 12 month rolling July 2019 = 36,833 gallons. To date 2019 natural gas usage = 40,909 CCF

Facility wide NOx emissions for the 12-month rolling time period ending July 2019 are reported as 1.16 tons. In the last 5 years the highest 12-month rolling NOx emissions occurred during 2017-2018 at 33.34 tons.

Summary

AQD determined that Federal Mogul Powertrain LLC is in substantial compliance with the applicable state and federal regulations and conditions of their PTI No. 220-03. All related correspondence and records are attached to this report to file.

A roof inspection is recommended during operation at the next scheduled inspection.

NAME [signature] DATE 9/13/19 SUPERVISOR [signature]