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

N266850076

FACILITY: Tenneco		**SRN / ID:** N2668
LOCATION: 3901 WILLIS ROAD, GRASS LAKE		**DISTRICT:** Jackson
CITY: GRASS LAKE		**COUNTY:** JACKSON
CONTACT: Matthew Helmuth , Environmental Health and Safety Manager		**ACTIVITY DATE:** 08/27/2019
STAFF: Stephanie Weems	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:**
SUBJECT: Announced, self-initiated inspection in response to complaint forwarded to AQD by U.S. EPA, Region 5.		
RESOLVED COMPLAINTS: C-19-02032		

Facility Contacts:

Contact: Matthew Helmuth

Phone: 517-522-5525

Email: MHelmuth@tenneco.com

Website: Tenneco.com

Purpose

On August 27, 2019, I conducted an announced inspection of Tenneco, located at 3901 Willis Rd., Grass Lake, Michigan in Jackson County. I was accompanied by Diane Kavanaugh Vetort, Senior Environmental Quality Analyst in the Jackson District Office. The purpose of the inspection was to determine the facility's compliance status with the applicable federal and state air pollution regulations, particularly Michigan Act 451, Part 55, Air Pollution Control Act and administrative rules, and to respond to a complaint the Air Quality Division (AQD) was made aware of by U.S. EPA, Region 5.

Facility Location

The facility is located in Grass Lake. It is surrounded by large parcels of wooded area and residential homes to the south. Interstate 94 is directly north of the facility. See Image 1 for an aerial photo.

Facility Background

Tenneco is one of the world's largest designers, manufacturers, and marketers of clean air and ride performance products and systems for the automotive, commercial truck, and off-highway original equipment and large engine markets, as well as the aftermarkets. The company splits its facilities along two product lines, the Clean Air product line and the Ride Performance product line.

Tenneco's global footprint consist of 15 engineering centers and 92 manufacturing facilities in 23 countries. The Grass Lake location is the North American Clean Air Headquarters as well as the North American Clean Air Engineering Center. Tenneco is ISO 14001 third-party certified.

Tenneco's Grass Lake facility was issued a Permit to Install (PTI) in 1990 for a paint spray booth. This permit has since been voided.

The last inspection conducted at this facility was on June 15, 2011. At that time, AQD staff reported that the paint spray booth had been removed and that the PTI should be voided.

On April 17, 2019 U.S. EPA, Region 5 staff received an anonymous complaint of unknown blue smoke coming from Tenneco. AQD was forwarded the complaint in July of 2019.

Regulatory Applicability

There are no active permits on file with AQD.

Arrival & Facility Contact

No visible emissions or odors were observed upon our approach to the facility. We arrived at approximately 10:25 AM, proceeded to the facility office to request access for an inspection, provided our identification, and met with Matthew Helmuth, Environmental Health and Safety Manager. We informed him of our intent to conduct a facility inspection and to review any necessary records. Matt

extended his full cooperation during the inspection, accompanied us during the full duration of the inspection, and fully addressed our questions.

Pre-Inspection Meeting

We began by explaining to Matt the reason that we were there. We told him EPA had received a complaint of unknown blue smoke coming from the facility, and they forwarded the complaint to us. Due to a recent investigation by EGLE's Water Resources Division staff, it was brought to AQD's attention that there were stacks at the facility.

From there, we began discussions about the basics of the facility and what they do. The Grass Lake facility employs approximately 600 people, and they run Monday-Friday 9AM-5PM. Matt said that they run the occasional Saturday or Sunday, but they run on weekends less than 10% of the time. Matt described operations at the facility as prototype and emission control product testing for exhaust systems. They test different aspects of durability, fit, form, function, and acoustics for their exhaust systems.

We proceeded to inquire about what kind of processes are at the facility. Matt explained that they have one chassis dynamometer (dyno), 6 engine dynos, shaker labs, a flow room, and a fabricating area. He said that there are no emergency generators at the facility, but there is one boiler and 2 aqueous-based parts cleaners.

Matt explained that he had conducted a facility inventory to determine what process equipment they have that could release air contaminants. He showed us a spreadsheet where he was keeping track of the facility's processes and where he was calculating emissions for each process. We indicated that this was a good start, and we requested he send us this spreadsheet as part of our information request.

Onsite Inspection

Safety glasses and steel-toed boots are required. Hearing protection is required in some parts of the facility. No photos can be taken.

We began the facility tour by heading out to the facility's test track. Matt explained that they use the test track to test the acoustics of the exhaust systems.

From there, we went over to see the boiler. The boiler is located inside of the water tower that is on-site. Matt explained that the boiler is used to heat the water for the water tower, and the water tower is for fire-suppression. It is a natural gas powered, Honeywell 600 Btu/hour boiler, built in 2017.

Next, we entered the Durability Building. This is where the exhaust system is run through numerous types of durability testing, including heat, salt sprays, water submergence, and shaking. Matt referred to this building as the "shake and bake" testing because they are heating the exhaust system parts to temperatures that they may experience in the "real world" and running them through the physical performance tests to determine how well they stand up. In order to conduct these tests, the exhaust system is attached to a portable natural gas test furnace that heats the system. We observed 5 shaker tables in the shaker lab, a separate room where additional shaker tests are performed, and a "component fatigue room". The component fatigue room has equipment that heats and shakes the exhaust system at the joints in order to see how the joints hold up, as opposed to the shaker lab that is shaking the whole exhaust unit. There are also 6 non-heated shaker processes that test the durability of unheated exhaust systems.

We then asked Matt to show us where the portable natural gas test furnaces exhaust to, as we had noticed that they were ducted outside. Matt walked us outside where we observed 3 larger stacks on the south side of the building and 2 smaller stacks on the north side. Each of these stacks was equipped with a muffler to limit noise because, as Matt explained, they had received noise complaints from their neighbors when running their durability tests.

Next, as we walked to the next building, Matt pointed out 3 large buildings that he explained were all used for storage.

We then stopped to look at the storage tanks that they have for their gasoline and diesel fuels. They have three above-ground tanks, one for gasoline and two for diesel. Matt was unsure of the size of each tank, but he said he would provide that information to us along with the other requested information. These tanks are used to store the fuel for the engine dyno testing, and the fuel is pumped from these

tanks to portable cabinets. Matt explained that all chassis that are tested in the chassis dyno are sent to the local gas station for fueling, so they do not utilize the fuel that is stored on-site. Diane explained to Matt the possibility of the facility being subject to federal regulations based on gasoline distribution for testing.

At this point we were joined by Mark Kortz, Manager of the Grass Lake Prototype and Facility Operations.

We then proceeded into the fabricating building. This building houses the machine shop and fabricating equipment for building the total exhaust system. Matt explained that the catalyst comes to them already created, all they do is build the sheet metal around the catalyst. All materials used here are stainless steel. Matt explained that most of what they do is welding and cold bending of metal. They have 4 welding stations that vent to one control unit that, Matt said, has an efficiency control of 99.5%.

At this point, Matt asked when the complaint was received. I explained that U.S. EPA received the complaint in April, but it wasn't forwarded to EGLE until July. Matt explained that the facility underwent a repaving project in the Spring, repaving parking lots and the test track. He indicated that this may be where the blue smoke was coming from but said he couldn't be sure.

We then observed the chassis test cell. Matt and Mark indicated that this test cell is only used for acoustic testing.

From there we proceeded to observe the flow lab. Matt explained that they have two flow labs, one full lab and one mini lab. The flow lab is where they conduct their emission testing. In these labs they use only natural gas to simulate an engine. No actual engines are used. Matt explained that they use these lab cells to simulate different types of emissions going through the exhaust system.

We then observed the engine dyno cells. None of the cells were currently operating. Matt explained that each cell has the capability to run either gasoline or diesel fuel. He also said that he keeps records about the overall fuel usage at the facility, but he does not keep records based on the fuel usage of each dyno cell. He also stated that they use mostly light and heavy-duty vehicle engines, but they do sometimes test John Deere, Caterpillar, marine, and rail engines.

We began by observing Cell 1. Matt explained that Cell 1 is not currently used, but he showed us how Cell 1 is connected to another room next door with removable paneling. This room next door, called Exhaust Chamber 1, is a room that is designed for acoustic-type testing. Only the exhaust system is located in this room, and they are checking for pings and pops from the exhaust system. There is also a portable natural gas heating unit in Exhaust Chamber 1. Matt and Mark explained that they generally use the natural gas unit to heat the exhaust system for the test, but if necessary, they can remove the paneling between Cell 1 and Exhaust Chamber 1 to be able to run the engine in Cell 1 and test the exhaust in Exhaust Chamber 1.

We then observed Cell 2, which had, from what Matt and Mark could guess, a gasoline motor in it. Matt and Mark were unsure of the exact motor and size located in each cell, though some of the motors appeared very large.

Next, we visited Cell 3, which had, from what Matt and Mark could guess, a turbo diesel motor in it. Here we were able to see one of the portable fuel cabinets. Matt explained that the fuel cabinet pulls the fuel from the storage tanks outside.

Then, we came to Exhaust Chamber 2. Matt explained that this used to be an exhaust chamber like Exhaust Chamber 1, but they have converted it to an environmental chamber. This is where they do some testing for their NOx abatement products.

We then viewed Cell 4, Cell 5, and Cell 6. These each had engines in them. From what Mark and Matt could guess, they appeared to be diesel engines.

Recordkeeping Review

We requested that Matt submit the spreadsheet he has for the facility's emission inventory and emission calculations along with a facility-wide potential to emit (PTE) calculation. Additionally, we asked for information regarding the size of the storage tanks at the facility, information regarding the maximum capacity for each dyno, the installation dates for each dyno cell, a diagram of the facility's stacks, and

the monthly throughput for their fuel. Matt and Mark indicated that they would discuss sending the emission inventory list with others at Tenneco before sending it along to us.

On September 10th, Matt submitted descriptions of the dyno cells and the facility's air emissions based upon their gasoline and diesel consumption. He also submitted a PowerPoint that included slides describing the after treatment systems. These documents can be found with this report in the facility's file. The emission inventory spreadsheet and the facility-wide PTE were not submitted.

Overall, it appears that the following processes observed at the facility could meet a PTI exemption:

The welding operations could meet exemption Rule 285(2)(i).

The cold metal bending operations could be exempt per Rule 285(2)(l)(i).

The two aqueous-based parts washers could be exempt per Rule 285(2)(k).

The Honeywell boiler could be exempt per Rule 282(2)(b)(i).

The fuel storage tanks could be exempt per Rule 284(2)(g)(iii).

Post-Inspection Meeting

Upon completion of the inspection, we held a post-inspection discussion with Mark and Matt. We discussed the requested records and when they would be expected by. Diane explained how AQD has historically handled engine dynos and permitting. We explained that, without having viewed the records, we couldn't make any definite determinations, but it would appear that the facility might need, at the least, a PTI for the dynos or, at the most, a Renewable Operating Permit for the Title V program. We explained how this would all depend on the facility's PTE and the installation date of each dyno.

Matt and Mark then inquired about what could possibly happen from an enforcement perspective. Diane explained AQD's enforcement process and how a facility would become subject to different aspects of the enforcement process based upon the violation. We informed Matt and Mark that we would know more about possible enforcement actions for this facility once we were able to review the records.

We thanked them for their cooperation and assistance and departed the facility at approximately 1:00 PM.

On September 12th, I called Matt to get clarification on some of the information he had given us. He explained that the information at the top of each dyno information sheet is the dynamometer capacity and the year of the actual dynamometer. He indicated that these are the dynamometers that are normally found in the given cell, though they do have some dynos on standby and dynos can be moved between cells.

At this point, I explained to Matt that a violation notice (VN) would be issued and it would outline the website where permitting information could be found.

Compliance Summary

Based upon the facility inspection and the information received from Tenneco, it appears that Tenneco is in violation of operating a process without a permit. A violation notice for Rule 201 will be sent. Additionally, since AQD's experience with dynamometers is that of them having high PTE values, Rule 210 will also be cited in the violation notice.

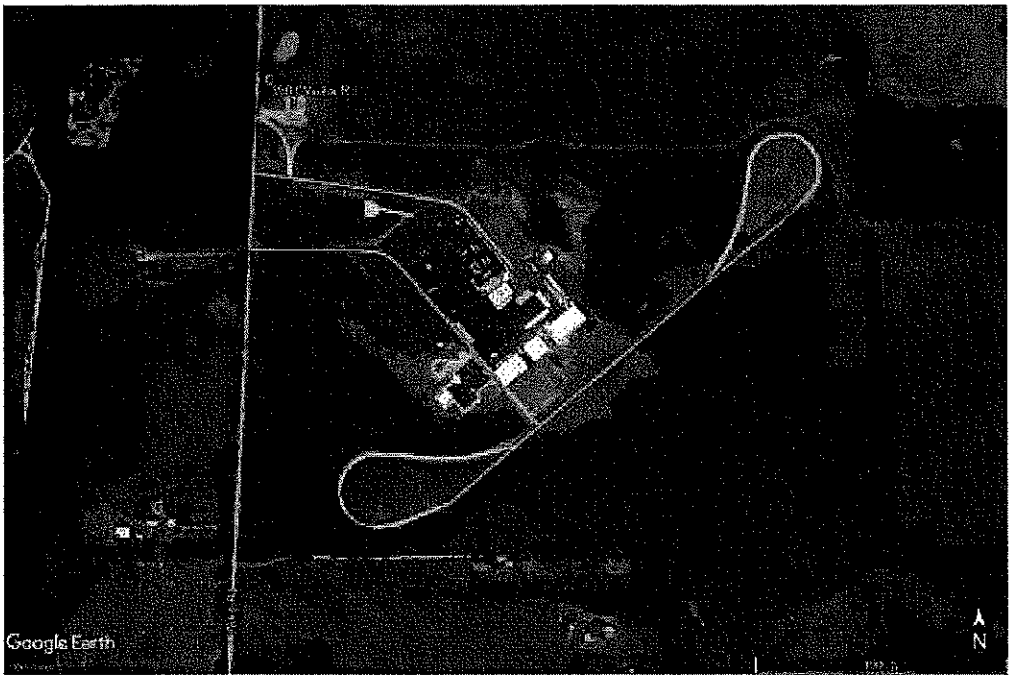

Image 1(1) : Aerial view

NAME Steph Weem DATE 9·12·19 SUPERVISOR