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

B177126899

FACILITY: FORD MOTOR COMPANY-VAN DYKE PLANT		**SRN / ID:** B1771
LOCATION: 41111 VAN DYKE AVE, STERLING HTS		**DISTRICT:** Southeast Michigan
CITY: STERLING HTS		**COUNTY:** MACOMB
CONTACT: DAVID LEWIS , ENGINEER FACILITY CONTACT		**ACTIVITY DATE:** 06/20/2014
STAFF: Rem Pinga	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Unannounced Level 2 Target Inspection		
RESOLVED COMPLAINTS:		

On 6/20/2014, I conducted a level 2 unannounced target inspection at Ford Motor Company – Van Dyke Plant located at 41111 Van Dyke Road, Sterling Heights, Michigan 48314. The purpose of the inspection was to determine the facility's compliance with the requirements of the federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), the administrative rules, and the facility's Permit to Install No. 280-96. During the inspection, I was accompanied by Mr. David Lewis, facility contact. During the pre-inspection meeting, I showed my ID Badge, stated the purpose of my visit, and gave Mr. Lewis a copy of the pamphlet "Environmental Inspections: Rights and Responsibilities".

The facility manufactures transmissions, transmission components, and suspension components for automobiles and light duty trucks. During the inspection, I observed that the facility currently manufactures 4F27E, 6F, 6F50N, 6FMR, and HF35 transmissions. The other operations are support facilities such as press shop, fabrication shop, maintenance and parts storage, powerhouse, wastewater treatment process, and administrative offices.

The production process starts with main parts coming from external foundry and heat treat facilities and brought to Ford Van Dyke facility to finish and assemble. The processes involve machining of parts, welding, pressing, cutting, turning, drilling, and other miscellaneous assembly work. The main dip coating process was removed prior to 2001. The facility operates a maintenance spray booth, parts washers, wastewater treatment process that has fume scrubber control system for the treatment tanks, 2 natural gas fired boilers, and the machining/assembly operations. Since October 2006, the older machining equipment have been removed and replaced with newer self-contained dry machining equipment called MQL machining equipment. MQL is acronym for minimum quantity lubrication. These machines use less coolant, lubricating oils, and create less smoke indoors. The machines also have built in caustic aqueous line to remove chips and serve as corrosion inhibitor. The

aqueous solution has very little VOC and no Hazardous Air Pollutant (HAP) emissions. As a result, several coolant pits/storage tanks have been removed and the area cleaned or remediated. Currently, the machining equipment of 4F50N transmission production lines utilize the old coolant system which causes smoke, odor, and dirty spills in-plant. The machining equipment for the HF35 and the other lines utilize the MQL machines that are self-contained, use less coolant, produce more solid wastes (metal fines in chalk) for reclaim in cement facilities, and cause hardly any odor to outside air.
The bigger aluminum cutting/drilling wastes are sent directly to secondary aluminum reclaim facilities.

Permit to Install No. 280-96 was issued to the facility in 1997 with emission limit restrictions/permit conditions to opt the facility out from being a major source of HAPs.
This makes the permit a synthetic minor permit and opt the facility out of the Clean Air Act of 1990, Title V, Renewable Operating Permit (ROP) program requirements. During the inspection, I looked at the facility's compliance with PTI No. 280-96 applicable requirements.

Per PTI No. 286-96, Special Condition 13, the total plant wide VOC emissions reported for FY2013 were 19.43 tons based on 12 month running total as calculated for the month of December 2013. Through April 2014, the highest rolling 12 month monthly emissions in 2014 occurred in April 2014 at 23.70 tons. These emissions were less than the 99 tons per year emission limit. As mentioned earlier, the paint dip line has been removed in 2001 and the limits no longer apply.

Per PTI No. 286-96, Special Condition 14(A), the highest monthly total emission for single HAP in FY2013 was emitted as Methyl Isobutyl Ketone in October 2013 at 0.0334 ton. The
highest single HAP 12 month rolling total emission occurred in November 2013 by Methyl Isobutyl Ketone at 0.114 ton. The highest monthly emission for single HAP from January through April 2014 was emitted as N-Hexane in January 2014 at 0.0365 ton. The highest single HAP 12 month rolling total emission from January through April 2014 was emitted in March 2014 as N-Hexane at 0.189 ton. These emissions were below the 9.7 tons per year permit limit.
Per PTI No. 286-96, Special Condition 14(B & C), the highest monthly and 12 month rolling total for combined HAPs for FY2013 were emitted in October 2013 at 0.0748 ton and
November 2013 at 0.469 ton respectively. From January through April 2014, the highest monthly and 12 month rolling total for combined HAPs were emitted in January 2014 at 0.0815 ton and April 2014 at 0.550 ton respectively. These emissions were less than the 2.5 tons per month and 24 tons per year emission limit for combined HAPs.

Per PTI No. 286-96, Special Conditions 15, 18, & 19, Boiler 1 (90,000 lb/hr steam rate) can only fire natural gas (fuel oil line welded shut) and Boiler 2 was

decommissioned late 2007.
Boiler 3 (34,000 lb/hr steam rate) replaced Boiler 2 as a natural gas fired boiler with a rated capacity of 41 MMBTU per hour. This boiler appeared to be exempt from permit to install requirements per AQD Rule 282(b)(i) for having a rated heat input capacity of less than 50 MMBTU per hour. Boiler 3 is subject to NSPS. Per 40 CFR 60.48c and 40 CFR 60.7, the facility has sent the construction and start-up notification requirements dated September 17,
2007. Construction date was September 18, 2007 while start-up date was November 1, 2007. Per 40 CFR 60.48c(g)(2), the facility keeps record of natural gas usage. During inspection, only Boiler 3 was operating at 6,624 lb/hr.

Per PTI No. 286-96, Special Condition 16, the facility's highest monthly and 12 month rolling total emissions for NOx in FY2013 were emitted at 2.22 tons in December 2013 and
13.61 tons also in December 2013 respectively. The highest monthly and 12 month rolling total emissions for NOx from January through May 2014 were emitted in January 2014 at 2.82 tons and March 2014 at 15.94 tons respectively. These emissions were below the 19 tons per month and 99 tons per year permit limit.

Per PTI No. 286-96, Special Condition 17, the company reported the highest monthly 12 month rolling FY2013 plant wide natural gas consumption that included Boilers 1 & 3 at 185.26 MMCF. From January through May 2014, the highest monthly 12 month rolling
FY2013 plant wide natural gas consumption was reported for March 2014 at 210.38
MMCF. These figures were below the permit limits of 960 MMCF/year for the boilers as well as the plant wide natural gas usage of 1,019 MMCF/year.

Per PTI No. 286-96, Special Condition 20, I did not observe any visible emissions at the facility during inspection.

Per PTI No. 286-96, Special Condition 22, the facility kept separate records for applicable emission units as specified in provisions A, B, C, & D under this requirement.

Per PTI No. 286-96, Special Condition 23, the facility kept monthly records of natural gas usages as reported under PTI No. 286-96, Special Conditions 17 & 19. As mentioned earlier, the facility is no longer capable of firing fuel oil in Boiler 1 as the facility welded shut the fuel oil line, removed the No. 6 fuel oil storage tank a few years back and no longer stores fuel oil for boiler usage.

Per PTI No. 286-96, Special Condition 24, the facility kept records of monthly and 12 month rolling total data and calculations for NOx and SO2. In addition, similar records and calculations were conducted for PM, CO, and VOC.

Per PTI No. 286-96, Special Condition 25, I did not observe visible emissions from the sludge cooking tank with fume scrubber. The sludge cooking tank, process

tanks 7, 8, 9,
& 10, and 3 – 200,000 gallon tanks are located in the Wastewater Treatment process area towards the southwest end of the facility property and separated from the main facility building.

Per PTI No. 286-96, Special Conditions 26 & 27, the sludge cooking tank was not operating during the inspection but the fume scrubber appeared to operational. I observed a pH
of 11.4, water flow rate of 185 gallons per minute. I was informed that the scrubber operates 24 hours per day.

Per PTI No. 286-96, Special Condition 29, all process tanks were closed and ducted to the fume scrubber. Tanks 7 (out) & 8 (receiving tank from plant) are 100,000 gallon tanks while tanks 9 (used oil) & 10 (skim tank) are 50,000 gallon tanks. The cook tank has 16,000 gallons capacity.

Per PTI No. 286-96, Special Condition 30, I observed filters in place at the maintenance spray booth and the company kept monthly records of coating usage. From January 2013
through May 2014, the highest month coating usage was recorded for October 2013 at 14.25 gallons and less than the 200 gallons/month limit under DEQ-AQD Administrative Rule 287(c) permit to install exemption. The maintenance spray booth was located in the Fabrication Shop area along with the Carpentry Shop. I observed Carpentry Shop equipment ducted into Torit dust collectors and exhausted indoors.

The facility has several parts washers (safety kleen) located at different locations exempt from Rule 201 pursuant to Rule 278 and Rule 281(h) or Rule 285(r)(iv). I inspected a few parts washers and observed covers were closed and safety instructions were posted at or near the equipment. The company keeps records of parts washers in service, material usages, and VOC emissions.

The facility operates 8 reciprocating internal combustion engines (RICE) as either emergency generators (5) or fire pumps (3). Mr. Lewis submitted the attached tables of the engines' specifications. The 3 fire pumps are diesel fired (compression ignition) 385 rated HP each and purchase date of 6/1/1995. These engines are less than 500 Hp each and subject to 40 CFR 63 Subpart ZZZZ, as an area source RICE MACT. The other 5 engines are natural gas fired with rated HPs of 139.4, 139.4, 171.58, 85.79, & 139.4 and purchase dates of 10/27/2005, 10/27/2005, 9/11/2003, 8/12/2004, & 3/29/2010 respectively. These engines are also less than 500 Hp each and subject to 40 CFR 63 Subpart ZZZZ, as an area source RICE MACT and/or SI NSPS (40 CFR 60 Subpart JJJJ). The engines appeared to be exempt from initial notification requirements.

Overall, I did not find any noncompliance issues during the inspection.

NAME Kim Fi DATE 9/15/2014 SUPERVISOR CTE