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

B286939436

FACILITY: FORD MOTOR COMPANY - ROMEO ENGINE PLANT		SRN / ID: B2869
LOCATION: 701 E. 32 MILE RD., ROMEO		DISTRICT: Southeast Michigan
CITY: ROMEO		COUNTY: MACOMB
CONTACT: Nick Broggi , Plant Manager		ACTIVITY DATE: 06/07/2017
STAFF: Rem Pinga	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Level 2 Target Inspection		
RESOLVED COMPLAINTS:		

On June 7, 2017, I conducted an FCE inspection at Ford Motor Company - Romeo Engine Plant located at 701 East 32 Mile Road, Romeo, Michigan 48065. I conducted an initial level 2 inspection on April 18, 2017. 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 Clean Air Act of 1990, Title V, Renewable Operating Permit (ROP) No. MI-ROP-B2869-2016. During the inspection, I was accompanied by Ms. Lori Brinkman, Environmental Compliance Engineer and current facility contact person. At the pre-inspection conference, I showed my ID Badge and stated the purpose of my visit.

The Ford Motor Company - Romeo Engine Plant facility manufactures several lines of automobile engines. The facility conducts machining operations on engine components such as engine blocks, engine heads, main bearing caps, crankshafts, and camshafts. The machined components are assembled into the designated engines and tested for quality assurance. The facility is permitted to operate two engine test cells and the air emissions from the cells are controlled by a thermal oxidizer. The other processes at the facility include inking stations, cold cleaners, storage tanks, and a wastewater treatment plant.

The company's potential Carbon Monoxide (CO) emissions facilitywide are greater than 100 tons per year making the facility subject to the Clean Air Act of 1990, Title V, Renewable Operating Permit program. The facility has applied and obtained a Title V permit which is currently enforceable as ROP No. MI-ROP-B2869-2016. The facility has accepted federally enforceable restrictions for single Hazardous Air Pollutant (HAP) and aggregate HAPs to be considered a synthetic minor/opt-out facility for HAPs.

The facility's current and effective Title V permit, ROP No MI-ROP-B2869-2016, includes several emission units and flexible groups. The RO permit includes 3 individual emission units (EUs) with applicable requirements (ARs) namely: EU-RICEPH1, EU-AST, AND EU-DYNO01. The ROP also contain 7 flexible groups namely: FG-OTHERMACHINES, FG-205-87A, FG-DRYCRANK, FG-DRYBLOCKS5-9, FG-EMERGENCY RICE<500 HP, FGRULE287(c) , and FGRULE290.

SOURCE-WIDE CONDITIONS – as mentioned above, the facility took individual Hazardous Air Pollutant (HAP) and combined HAPs restrictions to make the facility synthetic minor for HAPs. Per ROP No. MI-ROP-B2869-2016(B)(SOURCE-WIDE CONDITIONS)(I)(1), the highest FY 2016 individual HAP monthly 12-month rolling total emission occurred in December 2016 at 0.85 ton for Bisphenol A-Epichlorohydrin which

is also less than the 9 tons/year permit limit. Per ROP No. MI-ROP-B2869-2016(B) (SOURCE-WIDE CONDITIONS)(I)(2), the highest FY 2016 aggregate HAPs monthly 12-month rolling total emissions showed for January 2016 at 5.0 tons and less than the 22.5 tons permit limit. In December 2016, the monthly 12-month rolling total aggregate HAPs showed 1.61 tons.

EU-RICEPH1 – refers to a natural gas fired generator (Penthouse 1) <500 HP. This unit was re-permitted to non-emergency generator due to a malfunction that caused the unit to run nonstop for 230 hours in April 2015. Per facility contact, this unit did not operate in 2016. Per ROP No. MI-ROP-B2869-2016(C)(EU-RICEPH1)(III)(2), the facility conducts oil and filter change, and inspects spark plugs, hoses, and belts annually. The next inspection was scheduled for June 2017. Per ROP No. MI-ROP-B2869-2016(C)(EU-RICEPH1)(VI)(1 & 2), the facility keeps records of monthly inspections, maintenance conducted, and non-resettable hour meter readings. The recorded hour meter showed 865 hours for March 31, 2017 and the monthly 12-month rolling total operating hours were reported at 5.1 hours.

EU-AST – per Ms. Brinkman, this unit was never installed.

EU-DYNO01 – per Ms. Brinkman, this unit was removed in October 2016.

FG-OTHERMACHINES – refers to
machining operations with associated oil mist collection
units and exempt from permit to install (R 336.1201) requirements by R 336.1285(2)(l)(vi)(c). Currently,EU-ALBLOCKTRANS, EU-HEAD, and EU-CRANKSHAFT are included in this flexible group. EU-CAMSHAFT30 was removed last July 8, 2016. Per ROP No. MI-ROP-B2869-2016(D)(FG-OTHERMACHINES)(IV)(1), the facility operates a 2 stage filter control system. Stage 1 is Munter pre-filter control system to knock out heavy particles. Stage 2 is HEPA filter particulate control. Per ROP No. MI-ROP-B2869-2016(D)(FG-OTHERMACHINES)(IV)(2), the HEPA filter system is equipped with pressure drop gage. The facility conducts filter change when the pressure nears 7" wg even though the manufacturer alleges that the filter can perform effectively up to 10" wg. Per ROP No. MI-ROP-B2869-2016(D)(FG-OTHERMACHINES)(VI), the facility reads the pressure drop once per week and keeps records of readings, dates of inspections, and control unit identification. The FY2016 pressure readings range from 5.0 to 0.1 inches wg.

FG-205-87A - refers to machining operations with associated oil mist collection units originally covered under PTI 205-87A. This flexible group includes EUCONNROD and EUCYLHEADBLOCK. EU-2VCRANKSHAFT and EU-CAMSHAFT21 were removed in July 2016. Per ROP No. MI-ROP-B2869-2016(D)(FG-205-87A)(I)(1), the facility utilizes 0.007 grains/dscf as emission factor from a previous stack test contained in Ford Memo 51-A. Per facility contact, Ms. Brinkman, a worse case calculation utilizing the above factor would result in 0.00135 lb./1000 lb. exhaust gases of PM emission rate and less than the 0.007 lb./1000 lb. exhaust gases emission limit. Per ROP No. MI-ROP-B2869-2016(D)(FG-205-87A)(I)(2), the facility calculated a maximum PM emission rate of 0.48 lb./hr. for wet machining operations and less than the 13.5 lb./hr. permit limit. Per ROP No. MI-ROP-B2869-2016(D)(FG-205-87A)(I)(3), the facility calculated the maximum yearly PM emission rate at 2.1 tons and less than the 59.1 tpy emission limit. Per ROP

No. MI-ROP-B2869-2016(D)(FG-205-87A)(IV)(1), the facility operates a 2 stage oil mist filter control system. Stage 1 is Munter pre-filter control system to knock out heavy particles/oil. Stage 2 is HEPA filter particulate control system. The oil mist collector/particulate control system appeared to be operating properly as I did not observe any visible emissions inside the facility during walk through inspection. Per ROP No. MI-ROP-B2869-2016(D)(FG-205-87A)(IV)(2), I conducted a random observation of pressure drops. The pressure drop gauge of the MOM3 2-stage mist collector indicated 0.3"/0.3" wg. Per ROP No. MI-ROP-B2869-2016(D)(FG-205-87A) (VI)(1 & 2), the facility reads and records weekly pressure drops and issues work orders for filter changes when the readings approach 7" wg. The maximum manufacturer recommended pressure drop is 10" wg.

FG-DRYCRANK – refers to dry machining of cranks and handling of chips produced by the machining operations that include associated exhaust systems and common baghouse dust collector, DDC1. This flexible group includes EU-DRYCRANK1-3. Per ROP No. MI-ROP-B2869-2016(D)(FG-DRYCRANK)(I)(1), the facility utilizes 0.002 grains/dscf as emission factor from a previous stack test contained in Ford Memo 51-A. Per Ms. Brinkman, a worse case calculation utilizing the above factor would result in 0.0038 lb./1000 lb. exhaust gases of PM emission rate and less than the 0.004 lb./1000 lb. exhaust gases emission limit. Per ROP No. MI-ROP-B2869-2016(D)(FG-DRYCRANK)(I)(2), the facility calculated a maximum PM10 emission rate of 0.26 lb./hr. for dry machining operations and less than the 0.27 lb./hr. permit limit. Per ROP No. MI -ROP-B2869-2016(D)(FG-DRYCRANK)(VI)(1), the facility reads and records weekly pressure drops across the bag filter system and issues work orders for filter changes when the readings approach 7" wg. Per ROP No. MI-ROP-B2869-2016(D)(FG-DRYCRANK)(IV)(1 & 2), the filters appeared to be operating properly as I did not observe visible emissions during walk through inspection. I observed a pressure drop of 1.9" wg at that time.

FG-DRYBLOCKS5-9 – refers to dry machining of engine blocks and handling of chips produced by the machining operations that include associated exhaust systems and common baghouse dust collector, DDC5-DDC9. This flexible group includes EU-DRYBLOCK5-9. Per ROP No. MI-ROP-B2869-2016(D)(FG-DRYBLOCK5-9)(I)(1), the facility utilizes 0.002 grains/dscf as emission factor from a previous stack test contained in Ford Memo 51-A just like in FG-DRYCRANK. Similarly, a worse case calculation utilizing the above factor would result in 0.0038 lb./1000 lb. exhaust gases of PM emission rate and less than the 0.004 lb./1000 lb. exhaust gases emission limit. Per ROP No. MI-ROP-B2869-2016(D)(FG-DRYBLOCK5-9)(I)(2, 3..6), the facility calculated the PM10 emission rates for EU-DRYBLOCK5, 6..9 as follows: 0.26, 0.19, 0.29, 0.26, and 0.085 lb./hr. respectively and less than the 0.27, 0.2, 0.3, 0.27, and 0.10 lb./hr. corresponding permit limits. Per ROP No. MI-ROP-B2869-2016(D)(FG-DRYBLOCK5-9)(III)(1), I did not observe visible emissions during walk through inspection and in compliance with the 5% opacity limit. Per ROP No. MI-ROP-B2869-2016(D)(FG-DRYBLOCK5-9)(VI)(1), the facility reads and records weekly pressure drops across the bag filter system and issues work orders for filter changes when the readings approach 7" wg. Per ROP No. MI-ROP-B2869-2016(D)(FG-DRYBLOCK5-9) (IV)(1), the filters appeared to be operating properly as I did not observe visible emissions during walk through inspection and the weekly inspection ensures proper maintenance of the baghouse filter system.

FG-EMERGENCY RICE<500 HP – refers to emergency reciprocating internal combustion engines (RICE) < 500 brake horsepower (e.g., generators, fire pumps, etc.) subject to 40 CFR 63 Subpart ZZZZ when applicable. This flexible group includes EU-EMERGRICEFP1, EU-EMERGRICEFP2, EU-EMERGRICEFP3, EU-EMERGRICEFP4; EU- EMERGRICEPH2, EU-EMERGRICEPH3, EU-EMERGRICEPH4, EU-EMERGRICEPH5, EU-EMERGRICEPH6, and EU-EMERGRICEPH7. The above engines comprise of 4 diesel fired Fire Pumps and 6 natural gas fired emergency generators. Per ROP No. MI-ROP-B2869-2016(D)(FG-EMERGENCY RICE<500 HP)(III)(1-4), the facility conducts annual inspections for hoses, belts, air cleaner, spark plugs, and oil and filter changes, as applicable (for either CI or SI engines). Per ROP No. MI-ROP-B2869-2016(D)(FG-EMERGENCY RICE<500 HP)(III)(5-6), submitted records showed all engines ran less than 50 hours based on monthly 12-month rolling totals. Per ROP No. MI-ROP-B2869-2016(D)(FG-EMERGENCY RICE<500 HP)(IV)(1), the random units I inspected showed non-resettable hour meter installed and readings were taken and included in the RICE engine spreadsheet submitted by the facility.

FG-RULE287(c) – refers to EU-INKSTATION1-2 exempt from Rule 201 pursuant to Rule 278 and 287(2)(c). Per Ms. Brinkman, the facility used about 3 gallons of ink for FY2016. Submitted spreadsheet showed about 17.7 lb. of VOC emitted. FY2017 ink usage through June 2017 was 2 gallons.

FGRULE290 – refers to PTI exempt equipment/processes pursuant to AQD Rules 278 and 290. The emission units included are: EU-RTV and EU-ALC. EU-RTV refers to adhesives used in the engine assembly area. One adhesive is located in the PV8 Assembly area and utilizes a robotic applicator. Two adhesives are applied by hand in the Niche line. Emissions are exhausted indoors. Per ROP No. MI-ROP-B2869-2016 (D)(FGRULE290)(VI)(1), facility evaluates ITSL/IRSL for each adhesive annually. Monthly adhesive usages are entered into a Rule 290 spreadsheet and into an Excel monthly spreadsheet. Cumene, Acetaldehyde, and 1,4-Dioxane are components of the adhesives with IRSL values that fall under 0.04 ug/m3 and 2.0 ug/m3 with 20 lb./month limit uncontrolled. For FY2016 and through June 2017, records showed that the monthly emission rates for each substance were less than 1.0 lb. and meets the < 20 lb./month limit to be exempt from permit to install requirements per Rule 290. EU-ALC refers to denatured alcohol used to clean gages throughout the plant and applied by hand. There are no ITSL/IRSLs associated with denatured alcohol and the Rule 290 limit is 1000 lb./month. The facility submitted records showing the annual usage of alcohol was about 92 gallons. At 6.65 lb./gallon and 100% volatile, the annual VOC emission was 611.8 lb. and even less than the monthly 1000 lb. limit.

EU-COLDCLEANERS – per Ms. Brinkman, the only parts washer (Safety Kleen unit) at the facility was removed in July 2016. I did not observe a Safety Kleen parts washer during inspection.

At the time of the inspection, I did not observe any noncompliance issues.

NAME [redacted] DATE 7/27/2017 SUPERVISOR [redacted]