B3350

MANUAL

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

B335028048

FACILITY: CHRYSLER TRENTON ENGINE		**SRN / ID:** B3350
LOCATION: 2000 VAN HORN RD, TRENTON		**DISTRICT:** Detroit
CITY: TRENTON		**COUNTY:** WAYNE
CONTACT: Amy Berendt , Environmental Specialist		**ACTIVITY DATE:** 12/15/2014
STAFF: Todd Zynda	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: FY 2015 Targeted Inspection		
RESOLVED COMPLAINTS:		

REASON FOR INSPECTION: Targeted Inspection
INSPECTED BY: Todd Zynda, AQD
PERSONNEL PRESENT: Amy Berendt, Environmental Specialist; Duane Denher; Plant Engineer
FACILITY PHONE NUMBER: (734) 783-2242
FACILITY WEBSITE: chrysler.com

FACILITY BACKGROUND

Chrysler Group LLC (Chrysler) owns and operates the Trenton Engine Complex (TEC) located at 2300 Van Horn Road, Trenton, Wayne County, Michigan. The facility consists of two contiguous engine manufacturing operations (Trenton Engine [North] Plant and Trenton South Plant) located on 136 acres. The Trenton South Plant encompasses 822,000 square feet, while the Trenton Engine Plant encompasses 2.1 million square feet. Manufacturing at TEC includes engine component machining, assembly, and testing of engines. At the time of this report the south plant produces the 3.6-liter V-6 Pentastar engine. The north plant currently produces the four-cylinder Tigershark engine.The boundaries of the facility are as follows. To the south is the Trenton Wastewater Treatment Plant; to east is a storage yard and residential area; to the southwest is a commercial business (landscaping/nursery); to the west is a storage yard and residential areas; and to the immediate north is green space.

The facility currently has 1,445 employees. The south plant operates two 10 hour shifts, five days a week. The north plant currently operates one 10 hour shift, four days a week. Additional hours are possible depending on production demand.

Chrysler TEC is subject to Title 40 of the Code of Federal Regulations (CFR), Part 70, because the potential to emit carbon monoxide (CO) exceeds 100 tons per year. No emissions units at the facility are currently subject to the Prevention of Significant Deterioration (PSD) regulations of Part 18, Prevention of Significant Deterioration of Air Quality of Act 451, because at the time of New Source Review permitting the potential to emit of CO was less than 250 tons per year. However, the facility is a major stationary source under PSD due to the facility wide potential emissions of CO greater than 250 tons per year.

PROCESS OVERVIEW

TEC operates five gasoline engine dynamometers, three natural gas fired engine hot test stands, two boilers, three emergency generators, miscellaneous combustion equipment (heating and ventilation units, heaters, hot water generators, steam generators), wet machining equipment (boring, grinding using various cutting oils and lubricants), and dry machining (boring, grinding) equipment under renewable operating permit (ROP) MI-ROP-B3350-2014, which was issued on January 10, 2014.

On January 31, 2014 permit to install (PTI) 179-99E was issued to the facility for the installation of a third natural gas hot test stand.

COMPLAINT/COMPLIANCE HISTORY

Between April 7 and April 9, 2009, three complaints were received regarding "musty" odors from the facility. The facility was notified of the complaints. As a result of the complaints, the facility cleaned three washers, and determined that four exhaust stacks could be improved by cleaning. The odor issue was considered resolved.

During August 5, 2009, August 26, 2011, and January 29, 2013, the facility was inspected and was determined to be in compliance permit conditions and applicable federal and state regulations.

OUTSTANDING CONSENT ORDERS

None

OUTSTANDING VIOLATION NOTICES

None

INSPECTION NARRATIVE

On December 15, 2014 the Michigan Department of Environmental Quality (MDEQ) Air Quality Division (AQD) inspector, Mr. Todd Zynda, conducted a level 2 unannounced inspection of Chrysler TEC at 2300 Van Horn Road, Trenton, Michigan. During the inspection, Ms. Amy Berendt, Environmental Specialist, and Mr. Duane Denher, Plant Engineer provided information and a tour of facility operations relating to air quality permits. The inspection was conducted to determine the facility's compliance with the Natural Resources and Environmental Protection Act (NREPA), Act 451, Part 55, and ROP No. MI-ROP-B3350-2014.

At 10:45 AM, Mr. Todd Zynda (AQD) arrived onsite and performed outside observations. No visible emissions were observed at the facility. A strong (level 4) fecal/sewer odor was documented in the parking lot located south of TEC. Winds were out of the south indicating that the odors were likely originating from the City of Trenton Wastewater Treatment Plant that is located south of TEC along Van Horn Road. At 10:55 AM Mr. Zynda entered the facility, stated the purpose for the inspection, and was greeted by Ms. Berendt.

During the opening meeting the facility operations and MI-ROP-B3350-2014 conditions were discussed. Mr. Berendt provided a brief overview of facility operations. Ms. Berendt stated that the north plant is now producing the Tigershark engine. During the opening meeting an inspection checklist outlining ROP requirements (Attachment A), was discussed. Ms. Berendt and Mr. Dehner provided examples of records maintained to demonstrate compliance with conditions within MI-ROP-B3350-2014. During review of the records, it was agreed that records would be emailed to AQD by December 23, 2014. Records were provided via email on December 23, 2014 (Attachment B).

During review of records, Mr. Dehner provided a demonstration of the Total Maintenance System (TMS) which is used to track and schedule maintenance on particulate control equipment at the TEC. TMS tracks each piece of equipment individually, and records the date and time of any action performed on the equipment, along with the employee's name performing the maintenance.

Additionally during the opening meeting the fugitive dust plan for the facility was discussed. Mr. Dehner provided a map and a copy of the fugitive dust plan (Attachment C). According to Mr. Dehner, outside sweeping is conducted on a monthly basis at a minimum.

Following the opening meeting, a tour of the facility was provided. During the inspection the both the north and south plant were observed. The inspection began with observation of the north plant. While in the north plant, machining lines and particulate control equipment were observed. Pressure drop is monitored on each particulate control unit. The normal operating range of inches of water is indicated on each pressure gauge. During the inspection, the inches of water on control unit pressure gauges indicated that the equipment was operating within "normal" ranges.

Following observation of the north plant, the south plant was observed. The south plant contains the hot test stands and dynamometers. During the inspection the hot test stands were not in operation. According to Ms. Berendt, the third hot test stand (permitted under PTI 179-99E) was installed in April 2014. Natural gas usage for the three hot test stands is metered through one gauge. PTI No. 179-99E allowed for a third hot test stand (EU-HOT_TEST3), but the special conditions for FG-HOT_TEST were not modified (i.e. the same emission and material limits). The facility was notified that AQD will evaluate if a modification is necessary to the current ROP. After evaluation, it was determined that the installation of the third hot test stand requires a ROP minor modification. The facility was notified via email that a ROP minor modification is required (Attachment D).

Following observation of the hot test stands, the dynamometers were observed. During the inspection all five

dynamometer test cells were in operation. Observations were made from the exterior dynamometer test cell windows, as doors to operating cells cannot be opened. The stacks and gasoline storage tanks were observed from the outside. Each dynamometer exhausts individually through a dedicated stack. The five dynamometers use gasoline from one 3,000 gallon above ground storage tanks located adjacent to the dynamometers cells on the exterior wall.

Following observation of the dynamometers, the filter head gallery was observed. Chips produced by machining operations are handled at this location and are controlled by an oil mist collector. Similar to the other particulate control equipment at the facility, the pressure drop is monitored by a pressure gauge that is marked for normal operation conditions.

The tour concluded with observation of the south plant machining operations and particulate control equipment.

Facility boilers and emergency engines were not observed during the inspection. Both the boilers and emergency engines were observed during a pre-ROP application inspection/meeting on January 29, 2013. At that time, it was verified that Boilers 1 and 5 operate exclusively on natural gas. According to the facility there have not been any significant modifications to the boilers. During the pre-ROP inspection it was verified that emergency engines are equipped with a non-resettable hour meter.

APPLICABLE RULES/PERMIT CONDITIONS

ROP No. MI-ROP-B3350-2014

MI-ROP-B3350-2014 special conditions (SC) are listed as appropriate. For brevity, permit conditions and the language of federal and state rules have been paraphrased.

EU-YARD

SC I. 1. **IN COMPLIANCE**. Visible emissions from all truck traffic shall not exceed 5 percent opacity. During the inspection visible emissions were not observed.

SC III. 1. **IN COMPLIANCE**. Shall operate EU-YARD in compliance with fugitive emissions control plan for all plant roadways, the plant yard, etc. The facility currently operates EU-YARD in accordance to the fugitive dust plan. According to Mr. Denher, the fugitive dust plan is updated annually as necessary to reflect current operations at the facility.

FG-WETMACHINE

SC I. 1. and 2. **IN COMPLIANCE**. PM10 emission shall not exceed 0.0018 grains per dry standard cubic foot (dscf) or 1.21 pounds per hour (pph). Compliance with these emission limits is demonstrated through monitoring and record keeping requirement under SC VI. During the inspection the facility demonstrated that the oil mist collectors are maintained through the Total Maintenance System (TMS). Within the TMS, maintenance on each piece of equipment is recorded and scheduled. During the inspection, Mr. Denher provided a demonstration on how the software works, and the records that are maintained.

SC VI. **IN COMPLIANCE**. Shall keep records on control device (ID, inspection date, maintenance activities, etc.). The facility maintains the required records through the TMS software.

FG-HOT_TEST

The hot test stands at the facility are not subject to 40 CFR 63 Subpart PPPPP for Engine Test Cells/Stands because the facility is not a major source of HAPs.

SC I. 1. **IN COMPLIANCE**. The 12-month rolling NOx emissions shall not exceed 1.42 tons per year (tpy). The maximum 12-month rolling NOx emission from January 2013 to November 2014 was 0.62 tons (Attachment E). Emission calculations were verified. Emissions are calculated using MI-ROP-B3350-2014, Appendix 7 emission calculations.

SC II. 1. **IN COMPLIANCE**. Natural gas usage shall not exceed 1.0 million cubic feet (MMCF) per 12-month rolling time period. The maximum 12-month rolling natural gas usage from January 2013 to November 2014 was 434,439 cubic feet (Attachment E).

SC VI. 1. **IN COMPLIANCE.** Shall keep in a satisfactory manner, monthly and previous 12-month natural gas use records. The appropriate records are maintained (Attachment E).

SC VI. 2. **IN COMPLIANCE.** Shall keep in a satisfactory manner, monthly and previous 12-month NOx emission records. The appropriate records are maintained (Attachment E).

FG-DYNOS

The dynamometers at the facility are not subject to 40 CFR 63 Subpart PPPPP for Engine Test Cells/Stands because the facility is not a major source of HAPs.

SC I. 1 and SC V. 1. **COMPLIANCE.** The CO emission rate shall not exceed 3.12 pound per gallon of fuel (lb/gal). Verification of CO emission rates shall be conducted no later than one year prior to permit renewal. Testing has not been conducted since MI-ROP-B3350-2014 was issued. However, testing was conducted on May 22, 2011 to satisfy 180 day testing requirements of PTI 179-99D. Stack testing results indicate that CO emissions are 1.166 lb/gal.

SC I. 2. **IN COMPLIANCE.** The 12-month rolling CO emissions shall not exceed 210.6 tons per year. The maximum 12-month rolling CO emission from January 2013 to November 2014 was 148.7 tons. (Attachment E).

SC I. 3 and SC V. 1. **COMPLIANCE.** The NOx emission rate shall not exceed 0.300 lb/gal. Verification of NOx emission rates shall be conducted no later than one year prior to permit renewal. Testing has not been conducted since MI-ROP-B3350-2014 was issued. However, testing was conducted on May 22, 2011 to satisfy 180 day testing requirements of PTI 179-99D. Stack testing results indicate that NOx emissions are 0.098 lb/gal.

SC I. 4. **IN COMPLIANCE.** The 12-month rolling NOx emissions shall not exceed 20.25 tons per year. The maximum 12-month rolling NOx emission from January 2013 to November 2014 was 14.30 tons. (Attachment E).

SC II. 1. **IN COMPLIANCE.** Gasoline shall usage shall not exceed shall not exceed 48 gallons per hour. Compliance with this limit is demonstrated with monthly record keeping prorated to an hourly rate. The maximum gallons per hour rate between January 2013 and November 2014 was 5 gallons per hour (Attachment E).

SC II. 1. **IN COMPLIANCE.** Gasoline shall usage shall not exceed shall not exceed 135,000 gallons per 12-month rolling time period. The maximum 12-month rolling gasoline usage from emission from January 2013 to November 2014 was 95,344 gallons. (Attachment E).

SC III. 1. **IN COMPLIANCE.** Shall not operate more than five dynamometer engine test cell at one time. The facility only has five test cells installed.

SC III. 2. **IN COMPLIANCE.** Shall burn only unleaded gasoline in FG-DYNOS. Correspondence from the fuel provider on August 7, 2013 and the Material Safety Data Sheet (MSDS) demonstrate that the gasoline is unleaded (Attachment F).

SC V. 1. **NOT APPLICABLE.** One year prior to permit renewal, permittee shall verify CO and NOx emission rates. The facility has not conducted the required testing at this time. The testing is required to be performed by January 10, 2018.

SC VI. 2. **IN COMPLIANCE.** Shall maintain the following records: days of operation, gallons of unleaded gasoline used per month, and monthly/12-month rolling CO and NOx emissions. The facility maintains the required records (Attachment E).

SC VI. 4 and 5. **IN COMPLIANCE.** Shall maintain lead content and sulfur content of fuel. The company is demonstrating compliance with these conditions through the manufacturer's certification and MSDS provided (Attachment F).

SC VII. **IN COMPLIANCE.** Exhaust stacks for DYNO1 through DYNO5 shall not exceed 33 inches in diameter and shall be at least 35.4 feet above ground surface. During the inspection, the exact measurements were not obtained, but the stack appeared to be in compliance with design restrictions. Each dynamometer test cell is exhausted through an individual stack.

FG-COMBUSTION

SC I. 1. **IN COMPLIANCE**. The 12-month rolling NOx emissions shall not exceed 72.14 tons per year. The maximum 12-month rolling NOx emission from January 2013 to November 2014 was 14.51 tons. (Attachment E).

SC I. 2. **IN COMPLIANCE**. The 12-month rolling CO emissions shall not exceed 60.60 tons per year. The maximum 12-month rolling 60 emission from January 2013 to November 2014 was 9.33 tons. (Attachment E).

SC 1.2. **IN COMPLIANCE**. Natural gas usage shall not exceed 1,374 million cubic feet (MMCF) per 12-month rolling time period. The maximum 12-month rolling natural gas usage from January 2013 to November 2014 was 217,840,153 cubic feet. (Attachment E).

FG-BLR1&BLR5

Boilers 1 and 5 are not subject to any New Source Performance Standard (NSPS). Boiler 1 (60 MMBtu/hr) was installed in 1953 and Boiler 5 (180 MMBtu/hr) was installed in 1969. Boiler 1 is not considered subject to 40 CFR Part 60, Subpart Dc as the change from a coal burning boiler to a natural gas/no.2 fuel oil boiler does not constitute as a modification as defined in §60.2. Similarly, Boiler 5 is not considered subject to 40 CFR Part 60, Subpart Db, as the change from coal to natural gas/no.2 does not constitute as a modification as defined in §60.2.

> *"Modification* means any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted."

At the time of permitting (PTI No. 179-99) Boilers 1 and 5 were considered not subject to any NSPS. The change in fuel type does not qualify as a modification as defined under Part 60, and Boilers 1 and 5 are not subject to Subpart Dc or Db, respectively.

At this time the facility has not conducted the required testing to demonstrate compliance with CO and NOx emission limits outlined in SC I. Per SC V. 1, the testing should be completed once during the term of the ROP. The remaining conditions under FG-BLR1&BLR5 when burning fuel oil are not applicable. The facility did not combust fuel oil in the last two years.

EU-BOILER1 and EU-BOILER5 are subject to the Maximum Achievable Control Technology (MACT) standards under the National Emission Standards for Hazardous Air Pollutants for Area Sources for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR Part 63 Subpart JJJJJJ, promulgated on March 21, 2011. The facility demonstrates compliance with the Subpart JJJJJJ by recording hours that liquid fuel is combusted.

SC IX. 1. **IN COMPLIANCE**. If any boiler combusts liquid fuel during periodic testing of boiler operation on liquid fuel or discretionary boiler operation using liquid fuel (i.e., not associated with periods of natural gas curtailment, gas supply interruption, or startups) for greater than a combined total of 48 hours during any calendar year, the boiler will no longer be considered a "gas-fired boiler" under the definition in 40 CFR Part 63.11237. The permittee will subsequently comply with all applicable requirements under 40 CFR Part 63 Subpart JJJJJJ (the "Boiler MACT for Area Sources") for the boiler." At the time of this report the facility has not combusted liquid fuel for the last two years (Attachment E).

FG-GAS-DISP

Storage tanks under FG-GAS-DISP are not subject to the NSPS 40 CFR 60 Subpart Kb as the tanks are less than 75 cubic meter (m3) or 19,812.9 gallons in size. The largest gasoline storage tank at the facility is 3,000 gallons.

The special conditions for FG-GAS-DISP were obtained from MACT standards under the National Emissions Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities promulgated in 40 CFR, Part 63, Subparts A and CCCCCC.

The facility maintains gasoline throughput for EU-GAS_TANK1 and EU-GAS_TANK2 (Attachment E). According to the records the maximum throughput from January 2013 through November 2014 was 9,031 gallons, which is less than the 10,000 gallon threshold. Therefore the requirements for a gasoline dispensing facility (GDF) with a throughput less than 10,000 gallons, is applicable.

SC III. 1.a. through e. **IN COMPLIANCE**. Shall comply with the requirements for a GDF with throughput less than 10,000 gallons. The facility appears to be in compliance with items a. through e. During the inspection the above ground storage tanks and gasoline loading area were observed.

SC VI. 1. **IN COMPLIANCE**. Shall maintain a record of gasoline throughput. The facility maintains monthly gasoline records (Attachment E).

FG-EMERG-RICE

Equipment under FG-EMERG-RICE is not subject to the NSPS 40 CFR 60 Subpart IIII- Standards of Performance for Stationary Compression Ignition Internal Combustion Engines or Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines due to the date of the installation is prior to the affected date. The special conditions for FG-EMERG-RICE were obtained from MACT standards under the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines promulgated in 40 CFR, Part 63, Subparts A and ZZZZ.

SC III. 2. **IN COMPLIANCE**. Shall comply with the following requirements:

For combustion ignition (CI) Engines (EU-FIRE_PUMP1 and EU-FIRE_PUMP2)

a) **IN COMPLIANCE**. Change oil and filter every 500 hours of operation or annually, whichever comes first. Records provided demonstrate that oil and oil filter are changed twice a year (Attachment G).
b) **IN COMPLIANCE**. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first. Records provided demonstrate that the air clean is inspected twice a year (Attachment G).
c) **IN COMPLIANCE**. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. Records provided demonstrate that the all hoses and belts are inspected twice a year (Attachment G).

For spark ignition (SI) engines (EU-EMERG_IWTP)

a) **IN COMPLIANCE**. Change oil and filter every 500 hours of operation or annually, whichever comes first. Records provided demonstrate that oil and oil filter are changed annually (Attachment G).
b) **IN COMPLIANCE**. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first. Records provided demonstrate that spark plugs are inspected annually (Attachment G).
c) **IN COMPLIANCE**. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. Records provided demonstrate that hoses and belts are inspected annually (Attachment G).

SC III. 5. **IN COMPLIANCE**. Shall not allow engines to exceed 100 hours per year for maintenance and readiness testing. Records provided demonstrate that hours of operation are recorded for each engine and do not exceed 100 hours per year (Attachment G). Reported hours of operation during 2014 for each engine are as follows: EU-FIRE_PUMP1 – 19 hours; EU-FIRE_PUMP2 – 40.5 hours; EU-EMERG_IWTP – 0.2 hours.

FG-OTHERMACHINGLINES

SC I. 1. **IN COMPLIANCE**. PM emission rate shall not exceed 0.1 pounds per 1,000 pounds of exhaust gases calculated on a dry basis. The company has demonstrated during the ROP application correspondence that the machines are designed to meet the above limit (see ROP correspondence on May 2, 2013 for calculations). The facility demonstrates compliance with the above limit by implementing proper maintenance and operation of the equipment. During the inspection the facility demonstrated that equipment is maintained through the TMS. Within the TMS, maintenance on each piece of equipment is recorded and scheduled. During the inspection, Mr. Denher provided a demonstration on how the software works, and the records that are maintained. The facility also operates the equipment through a Preventative Maintenance Plan (PMP).

SC IV. 1. **IN COMPLIANCE**. Shall not operate FG-OTHERMACHININGLINES unless the particulate control equipment is installed and operating properly. During the inspection, particulate control equipment was observed on the "blocks line" in the north plant and the "head filter gallery" of the south plant. Equipment

appeared to be operating properly. Pressure drop is monitored on each unit. The normal operating range of inches of water is indicated on each pressure gauge. During the inspection, the inches of water on pressure gauges indicated that the equipment was operating within "normal" ranges.

SC IV. 2. **IN COMPLIANCE**. Shall not operate equipment unless the approved PMP is implemented and maintained. The facility operates under the PMP that was provided in the ROP application. The demonstration of the TMS during the inspection confirmed that the equipment is maintained according the PMP.

SC VI. 1. and 2. **IN COMPLIANCE**. Shall implement and maintain a routine check to ensure proper operation of the control equipment for each emission per the PMP. Shall keep an updated record of all emission units subject to Rule 331. The facility maintains compliance with SC VI. 1. and 2. through the TMS.

SC VI. 3. **IN COMPLIANCE**. Shall maintain calculations on file that demonstrate compliance with particulate emission limit. The facility provided calculations on May 2, 2013 as part of the initial ROP correspondence.

FG-RULE 290

The facility provided Rule 290 tracking sheets that demonstrate compliance with Rule 290 VOC emission limits. The facility tracks VOC emissions for adhesives, production inks, methanol, and isopropyl alcohol used on a monthly basis (Attachment H). VOC emissions for subject emission limits are less than the applicable Rule 290 monthly threshold.

FG-FACILITY

S I. 1. **IN COMPLIANCE**. The 12-month rolling CO emissions shall not exceed 271.4 tons per year. The maximum 12-month rolling CO emission from January 2013 to November 2014 was 157.6 tons. (Attachment E).

SC I. 2. **IN COMPLIANCE**. The 12-month rolling NOx emissions shall not exceed 93.8 tons per year. The maximum 12-month rolling NOx emission from December 2011 to March 2013 was 16.6 tons. (Attachment E).

APPLICABLE FUGITIVE DUST CONTROL PLAN CONDITIONS:

The facility currently operates under a fugitive dust plan as described above in EU-YARD. The fugitive dust plan outlines monthly sweeping activities and dust suppressant application as necessary. Currently, all roadways and parking lots are swept monthly. The unpaved trailer area is swept as needed. During the inspection fugitive dust was not observed. At the time of the inspection the facility was determined to be in compliance with conditions of EU-YARD and the fugitive dust control plan.

MAERS REPORT REVIEW:

The 2013 MAERS report was submitted on time. The MAERS audit conducted in March 2014 was passed.

FINAL COMPLIANCE DETERMINATION:

At this time, this facility appears to be in compliance with MI-ROP-B3350-2014 and federal and state regulations. The facility is required to submit form M-001 for a ROP minor modification for the third hot test stand installed in April 2014.

NAME _____ DATE 1/13/15 SUPERVISOR JK