

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

B724846029

FACILITY: FCA US LLC Sterling Heights Assembly plant		SRN / ID: B7248
LOCATION: 38111 Van Dyke, STERLING HTS		DISTRICT: Southeast Michigan
CITY: STERLING HTS		COUNTY: MACOMB
CONTACT: Adekunle Sanni, EH&S Environmental Specialist		ACTIVITY DATE: 07/16/2018
STAFF: Rem Pinga	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Level 2 Scheduled Inspection		
RESOLVED COMPLAINTS:		

On July 16-18, 2018, I conducted a level 2 inspection at FCA US LLC, Sterling Heights Assembly Plant (FCA-SHAP). The facility is located at 38111 Van Dyke Ave., Sterling Heights, Michigan 48312. 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, the facility's Renewable Operating Permit (ROP) No. MI-ROP-B7248-2014a and Permit to Install (PTI) No. 27-17B.

During the inspection, I was accompanied by FCA-SHAP Mr. Sanni Adekunle, Environmental Specialist and facility contact person. On July 16, 2018, I was accompanied by AQD Southeast Michigan District Supervisor, Joyce Zhu. Prior to conducting the walk-through inspection, we initially showed our credentials and stated the purpose of the inspection at the security/reception area. AQD District staff Lauren Magirl (2 days) and Adam Bogner (3rd day) also accompanied me during the additional inspection days.

On July 31, 2018, I conducted a follow-up inspection to discuss compliance with emission limits, monitoring, recordkeeping, and miscellaneous applicable requirements as contained in ROP No. MI-ROP-B7248-2014a and PTI No. 27-17B.

Fiat Chrysler Automobiles (FCA) owns and operates the Sterling Heights Assembly Plant (SHAP). FCA-SHAP is a complex automotive manufacturing facility which includes a stamping plant, an automotive paint line, and an assembly plant. The facility currently operates under the terms of the ROP No. MI-ROP-B7248-2014a. FCA-SHAP assembled the various versions of the Chrysler 200 sedan vehicles until December 2016. On October 20, 2016, FCA-SHAP obtained new source review (NSR) PTI No. 227-10D for an additional paint line to paint truck bed in preparation for the proposed shift of production at the facility from sedan to light duty trucks in 2017. On May 30, 2017, FCA-SHAP obtained PTI No. 27-17 to replace PTI No. 227-10D for the new truck bed paint line (South Paint Shop) and the addition of a spray-on truck bedliner (SOBL) facility and storage warehouse facility outside of the assembly facility complex. PTI No. 27-17A was issued on November 2, 2017, replacing PTI No. 27-17, for equipment changes in the truck bed paint line as well as modifications to equipment associated with SOBL and the warehouse. Subsequently, PTI No. 27-17B was issued on April 6, 2018, replacing PTI No. 27-17A, to modify the 2 emergency generators, located in the truck bed paint line, from

less than 500 Hp each into 770 Hp each. During walk-through inspection, I observed the Chrysler Laramie being built and other light duty trucks. The facility operates 24 hours/day but is currently not on full production yet. On 2/07/2018, AQD Warren District office received a notification from FCA-SHAP for start-up/trial operation of 1 of 2 lines for South (Box) Paint Shop.

The facility is considered a major source under the Clean Air Act of 1990, and operates under a Title V permit, ROP No. MI-ROP-B7248-2014a, initially issued in November 2014 and revised on January 15, 2015, and Permit to Install No. 27-17B. The ROP has 19 emission units and 15 flexible groups while the PTI has 6 emission units and 10 flexible groups.

**ROP No. MI-ROP-B7248-2014a** – includes the North Paint Shop for painting the cab component of light duty trucks to be manufactured at this facility, a regenerative thermal oxidizer (RTO) for VOC emissions control, 2 natural gas fired emergency generators, 3 natural gas fired boilers, 3 natural gas fired hot water generators, 2 fire pumps, emergency generators, storage tanks, the body shop, and the truck assembly operations. The applicable requirements in the ROP are contained in the following emission units and flexible groups:

**EU-WWASH&GASFIL** – this emission unit (EU) is located in the final line of the body shop building towards the end of assembly operations. Per ROP No. MI-ROP-B7248-2014a special condition (C)(EU-WWASH&GASFIL)(III.1), I observed the on board vapor recovery system at the fuel fill area. Mr. Sanni mentioned 100% vapor reclaim for this process.

**EU-DINACLEAN** - this emission unit was shut down in 2014. During the July 16 walk-through inspection, I verified that the equipment was removed from the facility.

**EU-SANDING** – this emission unit is for color prep and re-process spot repair operations. Color prep is for powder paint repair. Re-process spot repair is for repairs made after topcoat. The VOC for very minimal spraying that may take place under this EU to repair the coating would be recorded under EU-FLASHPRIME, per Mr. Sanni. Very light buffing compounds are used to remove any mars or blemishes from the clear coating. During the walk-through inspection, I verified filters in place for the booths and no gaps observed per ROP No. MI-ROP-B7248-2014a special condition (C)(EU-SANDING)(IV.1).

**EU-SEALERS & ADHESIVES-FBP** - this emission unit covers sealers applied in the Frame, Body and Paint (FBP) shop area of the facility. The sealers are all applied after the ecoat system and prior to the powder booths in the paint shop area. In the paint shop, sealer application system is split up into north and south manual (hand application) sealer decks followed by the respective robotic application booths before converging into another sealer booth and into a single sealer oven. Also, in the paint shop, under body seam sealer is applied with the car flipped up. Some of the sealers are applied in the body shop. In the past, all VOC emissions are released in-plant or uncontrolled. Due to opacity issues, emissions from the sealer oven, after the sealer application, are now ducted to the incinerator. On August 9, 2018, I was

at the facility to observe emissions testing for the South Paint Shop emergency generators (2 units). I requested Mr. Sanni to accompany me to the roof top of the North Paint Shop building to conduct visible emissions (VE) observations for all stacks including the 2 sealer oven stacks that had opacity issues in the past. I did not observe any VE for all stacks including the North Paint Shop RTO stack which was visible from the roof top. I observed a slight e-coat odor at the roof top.

EU-ECOAT – this emission unit consists of dip tank system followed by a curing oven. Truck cab bodies are primed in the enclosed electrocoat (e-coat) dip tank system. From the e-coat line, the coated part goes to either the north or south oven then to a sealer patch deck before going to either the north or south sealer deck. VOC emissions from the dip tanks and the ovens are controlled by a regenerative thermal oxidizer (RTO). Per ROP No. MI-ROP-B7248-2014a special condition (C) (EU-ECOAT)(IV.1), I took the RTO temperature readings as follows: Zone 1 = 1380°F; Zone 2 = 1388°F; Zone 3 = 1426°F; Zone 4 = 1432°F; Zone 5 = 1498°F; Zone 6 = 1454°F; Zone 7 was off line when I took the readings. These temperature readings were above the minimum temperature requirement of 1350°F. While outside at the RTO area, I did not observe any odors implying no leaks in the ductwork and the RTO system.

EU-FLASH PRIMER - this emission unit repairs defective e-coat coatings prior to entering the anti-chip powder coating and the topcoat system. The flash prime is controlled by dry filter particulate control. Per ROP No. MI-ROP-B7248-2014a special condition (C)(EU-FLASH PRIMER)(IV.1), I observed the filter system in place.

EU-TOPCOAT 1, 2, & 3 - these emission units consist of 3 parallel lines (Topcoat Lines 1, 2, & 3). Topcoat Lines 2 & 3 are similar while line Topcoat Line 1 is a little longer line to accommodate the tri-coat coating process. Each topcoat line consists of interior basecoat, exterior basecoat, heated flash, interior clearcoat, exterior clearcoat, and color oven zones. Topcoat Line 1 has an extra color 1 zone prior to the clearcoat zones to accommodate for tri-color coating.

The topcoat spray booths have a water wash system to control particulate overspray. Per ROP No. MI-ROP-B7248-2014a special condition (C)(EU-TOPCOAT 1, 2, & 3)(IV.1), I observed water in the water wash system at several points in the line. The wastewater from the water wash system cascades over a weir in the booth and goes to the sludge pit area where a polymer is added prior to the clarifier and filter system for solids removal. The sludge goes to a tank for outside disposal. The wastewater gets reclaimed and re-used in the water wash booth.

VOC emissions from the coating booths, the heated flash zones, and the cure ovens are ducted into the RTO. Per ROP No. MI-ROP-B7248-2014a special condition (C) (EU-TOPCOAT 1, 2, & 3)(IV.2 & IV.3) I verified during the walk-through inspection that the facility kept the RTO temperature above 1350°F as discussed above. I did not smell any solvent odors while at the booths, implying no leaks from the booths.

EU-TOUCH UP – this emission unit pertains to manual repairs and touch up painting on blemishes performed in the paint shop area (Finesse Deck) and VOC emissions are vented into the in-plant environment.

EU-BLACKOUT – this emission unit pertains to coating of wheel well (water base coating) operations which has not been conducted since the CY 2000 as per Mr. Sanni. FCA-SHAP is keeping this emission unit in the permit for potential future use.

EU-PAINT SPOT REPAIR - consist of stalls for either re-routing damaged vehicles back to the topcoat spray booth or for repair of small paint defects or parts which may be routed to a spot repair stall. Minor paint repair does not include full application of paint coating on the vehicles, only the impacted panels. I did not observe any visible emissions (VEs) while in the area.

EU-WIPE – this emission unit refers to auto bodies being manually wiped with solvents wipes during different phases of painting and assembly operations. The VOC emissions are vented into the plant. During inspection, I observed the area where rag wipes are being conducted on vehicles and did not notice any VEs. This area is next to the sealer system.

EU-PURGE CLEAN - this emission unit refers to purge, cleanup solvents, and non-production solvents used throughout the facility. Per ROP No. MI-ROP-B7248-2014a special condition (C)(EU-PURGE CLEAN)(I.1), records showed 41.40 tons per year (tpy) in December 2017 and 105.24 tpy in June 2018 for the monthly 12-month rolling total VOC emissions and less than the 223.2 tpy permit limit.

EU-AST 13, EU-NPS4, EU-NPS5 – these are storage tanks I did not conduct an inspection during the facility walk through inspection.

EU-DEADNER - this emission unit refers to sound deadening and foam application processes in various locations of the vehicle. Per Mr. Sanni, this process was uninstalled in October 2017.

EU-BODY SHOP – this emission unit pertains to natural gas-combustion (i.e. air make-up units, heaters, etc.) for space or process heating, tooling and equipment to assemble and hem vehicle panels including resistance spot welding, adhesive/sealer application, grinding and other related operations. Per ROP No. MI-ROP-B7248-2014a special condition (C)(EU-BODY SHOP)(II.1), the facility reported 2.16 MMCF monthly 12-month rolling total natural gas usage rate in June 2018 and less than the 718 MMCF/year permit limit.

FG-FACILITY - this flexible group covers all equipment used for automotive assembly and painting operations for the Sterling Heights Assembly Plant. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-FACILITY)(I.1), FCA-SHAP reported 41.40 tpy for December 2017 and 187.73 tpy for June 2018 monthly 12-month rolling total VOC emission rates and less than the 673.2 tpy emission rate limit. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-FACILITY)(I.2), FCA-SHAP reported no production for December 2017 and 1.80 #/job for June 2018 monthly 12-month rolling total VOC emission rate and less than the 4.5 #/job

emission rate limit. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-FACILITY)(I.3), FCA-SHAP reported 3.64 tpy for December 2017 and 10.8 tpy for June 2018 monthly 12-month rolling total PM10 emission rates and less than the 55.8 tpy emission rate limit. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-FACILITY)(I.4), FCA-SHAP reported 3.56 tpy for December 2017 and 6.77 tpy for June 2018 monthly 12-month rolling total PM2.5 emission rates and less than the 51.3 tpy emission rate limit. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-FACILITY)(I.5), FCA-SHAP reported 17.92 tpy for December 2017 and 27.47 tpy for June 2018 monthly 12-month rolling total NOx emission rates and less than the 72.0 tpy emission rate limit. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-FACILITY)(II.1), FCA-SHAP reported 693.06 MMCF for December 2017 and 1411.03 MMCF for June 2018 monthly 12-month rolling total natural gas usage rates and less than the 1914.0 MMCF/12 month usage rate limit. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-FACILITY)(IV.1), the spray coating booths have water wash particulate control system. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-FACILITY)(VI.2), FCA-SHAP conducts weekly visual inspections on the water wash and fabric filter particulate control systems.

FG-CONTROL – this flexible group refers to the regenerative thermal oxidizer (RTO) used for control of VOC emissions from the e-coat, paint spray booths, and curing ovens. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-CONTROL)(III.1), AQD staff obtained a copy of the MAP. As part of MAP, AQD staff obtained a copy of maintenance record conducted by Durr Company on the RTO including inspection of temperature thermocouple and replacement conducted last June 20-28, 2016. Due to shutdown for model change and the recent start-up of production, Durr is scheduled to conduct inspection and maintenance towards the end of FY 2018.

FG-BOILERS – this flexible group pertains to three natural gas fired boilers (EU-Boiler 1, 2, & 3) used to generate hot water for in-plant use. One has a heat input capacity of 85 MMBtu/hour and the other two each have a heat input capacity of 118 MMBtu/hour. Boilers 1, 2, and 3 are equipped with low NOx burner technology in compliance with ROP No. MI-ROP-B7248-2014a special condition (D)(FG-BOILERS)(III.1). These can be confirmed from the February 2018 stack test results wherein data showed 0.0898, 0.0621, and 0.0554 lb./MMBTU emission rates for NOx. In addition, this flexible group also includes EU-HWG 1, 2 & 3, each rated at 31.5 MMBtu/hr. natural gas fired hot water generator. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-BOILERS)(III.2 & III.3), the boilers and hot water generators only fire natural gas but not operating during the walk-through inspection. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-BOILERS)(III.5), I saw a copy of filled Initial Notification Form to USEPA Region 5 dated May 13, 2013. The report showed: type of boiler (Cleaver Brooks), manufacture date (2012), design capacity (31.5 MMBTU/hr.), type of fuel burned (natural gas), date of construction, (March/April 2013) and date of start-up (May/June 2013). I obtained natural gas usage records for Boilers 1, 2, & 3.

FG-CAM – refers to compliance assurance monitoring requirements for EU-ECOAT, EU-Topcoat 1, EU-Topcoat 2, EU-Topcoat 3 per 40 CFR Part 64 Federal Standard. These emission units are major for VOC emissions and are controlled by an RTO. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-CAM)(III.1), AQD staff verified during walk-through inspection, that the VOC emissions from the above emission units are ducted to the RTO. I took RTO temperature readings during inspection and provided the data earlier under EU-ECOAT. The temperature readings were above the 1350°F minimum temperature requirement for the North Paint Shop RTO for VOC emissions control. Mr. Sanni showed me during records review, the electronic temperature data recording system that shows instantaneous temperature monitoring and recording where a 3-hour average can be calculated. I obtained sample copies of the temperature recordings. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-CAM)(VI.1), I obtained a sample recordkeeping of dates and times when the damper is opened. In an emergency, an alarm system is set off for any incidental event that may occur related to the RTO. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-CAM)(VI.2), a continuous temperature monitoring is installed and data recording showed at least 15 minute intervals. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-CAM)(IX), Mr. Sanni mentioned that the RTO has an interlock system to shutdown the coating booths if the RTO temperature falls below the set point of 1450°F.

FG-AUTO MACT – this flexible group refers to each new, reconstructed, or existing affected source as defined in 40 CFR 63.3082, that is located at a facility which applies topcoat to new automobile or new light duty truck bodies or body parts, and that is a major source, is located at a major source, or is part of a major source of emissions of hazardous air pollutants (HAPs) except as provided in 63.3081(c) is subject to the requirements of 40 CFR 63 Subpart IIII. This includes equipment covered by other permits, grandfathered equipment, and exempt equipment. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-AUTO MACT)(I.1), FCA-SHAP submitted records that showed the organic HAP emission rate for the facility, in June 2018, was 0.132 #/GACS and less than the 0.30 #/GACS permit limit. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-AUTO MACT)(I.3), the same FCA-SHAP records showed the organic HAP emission rate of 0.00002 lb./lb. coating for Sealers and Adhesives is lower than the 0.01 lb./lb. coating permit limit. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-AUTO MACT)(III)(1 & 3), FCA-SHAP submitted a Work Practice Plan and I obtained a sample copy of a recordkeeping for a Work Practice Plan inspection/implementation. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-AUTO MACT)(III)(4, 5, 6, & 7), (V)(1, 2, & 3), FCA-SHAP does not take credit for a control device in the calculation for Organic HAP emissions, and the additional requirements do not apply to FCA-SHAP.

FG-OLD MACT – this flexible group refers to new, reconstructed, or existing Organic Liquid Distribution (OLD) (non-gasoline) operation that is located at, or is part of a major source of hazardous air pollutant (HAP) emissions. The affected sources comprise of storage tanks, transfer racks, equipment leak components associated with storage tanks, transfer racks and pipelines, transport vehicles, and all

containers while loading or unloading at transfer racks subject to this subpart.

Equipment that is part of an affected source under another NESHAP is excluded from the affected source per 40 CFR 63.2338(c)). These conditions specifically cover existing (construction pre-dates April 2, 2002) liquid storage tanks which hold more than 5,000 gallons but less than 50,000 gallons and/or new liquid storage tanks which hold more than 5,000 gallons but less than 10,000 gallons of methanol/windshield washer fill solvents that are dispensed to newly assembled vehicles. FCA-SHAP has an 8,000 gallon and 4,000 gallon tanks subject to this standard. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-OLD MACT)(VI.1), FCA-SHAP keeps records of vapor pressure for methanol and diethylene glycol monobutyl ether.

FG-BOILER MACT – this flexible group refers to the collection of industrial, commercial and institutional boilers and process heaters within a subcategory as defined in §63.7575 that is subject to the National Emission Standards for Hazardous Air Pollutants for Major Sources, 40 CFR Part 63 Subpart DDDDD. FCA-SHAP has three natural gas fired boilers used to generate hot water for in-plant use. One has a heat input capacity of 85 MMBtu/hour and the other two each have a heat input capacity of 118 MMBtu/hour. Boilers 2 and 3 are equipped with low NOx burner technology. Also, FCA-SHAP has three hot water generators, EU-HWG 1, 2 & 3, each rated at 31.5 MMBtu/hr., that have continuous oxygen trim systems. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-BOILER MACT)(III.1 & III.2), FCA-SHAP submitted documentation (attached) of initial tune-up and testing conducted by Grayton Control Services on December 14, 2015 which is less than 61 months from July 31, 2013 on Boilers 1, 2, & 3. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-BOILER MACT)(III.3), Mr. Sanni mentioned that the facility is ISO 50001 compliant and did not have to conduct this initial energy assessment requirement (facility conducts yearly energy assessment as part of ISO 50001 compliance requirement). Mr. Sanni also submitted documentation of initial notification report submitted to US EPA Region 5, dated June 13, 2013, pertaining to the 3 Hot Water Generators (natural gas fired and rated at 31.5 MMBTU/hr.).

FG – MACT ZZZZ – EXISTING EMERGENCY CI < 500 HP - this flexible group refers to the North and South Fire Pumps (diesel). Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG – MACT ZZZZ – EXISTING EMERGENCY CI < 500 HP)(III.4, III.5, & III.6), FCA-SHAP submitted documentation showing 17.05 total operating hours for North Fire Pump and 39.43 hours for South Fire Pump in CY 2017 which are less than the allowable 100 hours. Data submitted for June 2018 showed 21.80 hours for North Fire Pump and 40.40 hours for South Fire Pump. I also obtained recordkeeping of June 2018 weekly reading on North Fire Pump non-resettable hour meter at 119.50 hours and the South Fire Pump non-resettable hour meter showed 376.9 hours.

FG – MACT ZZZZ – NEW EMERGENCY CI > 500 HP - this flexible group refers to EU-ENG-DATACTR emergency generator. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG – MACT ZZZZ – NEW EMERGENCY CI > 500 HP)(III.1 & III.2), FCA-SHAP submitted documentation showing 13.00 total operating hours for

CY 2017 and 1.5 hours through June 2018 and less than the allowable 100 hours. The recordkeeping data for EU-ENG-DATACTR compression ignition (CI) emergency generator non-resettable hour meter showed 90.2 hours for June 2018.

FG – MACT ZZZZ – EXISTING EMERGENCY CI > 500 HP - this flexible group refers to EU-ENG-PAINTSHOP emergency generator. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG – MACT ZZZZ – EXISTING EMERGENCY CI > 500 HP)(III.1 & III.2), FCA-SHAP submitted documentation showing 1.0 total operating hour for CY 2017 and 0.5 hour through June 2018 and less than the allowable 100 hours. Mr. Sanni mentioned that this unit continues to be shutdown and only operates 30 minutes each twice a year for maintenance. The weekly recordkeeping for non-resettable hour meter was reported for June 2018 at 182 hours.

FG-NSPS IIII EMERGENCY PRE-2007<10 I/CYL - this flexible group refers to EU-ENG-DATACTR emergency generator. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-NSPS IIII EMERGENCY PRE-2007<10 I/CYL)(I.1), FCA-SHAP submitted documentation showing NO<sub>x</sub> emissions at 8.1 g/kW-hr and less than the permit limit of 9.2 g/kW-hr. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-NSPS IIII EMERGENCY PRE-2007<10 I/CYL)(I.2), FCA-SHAP submitted documentation showing HC emissions at 0.7 g/kW-hr and less than the permit limit of 1.3 g/kW-hr. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-NSPS IIII EMERGENCY PRE-2007<10 I/CYL)(I.3), FCA-SHAP submitted documentation showing CO emissions at 0.7 g/kW-hr and less than the permit limit of 11.4 g/kW-hr. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-NSPS IIII EMERGENCY PRE-2007<10 I/CYL)(I.4), FCA-SHAP submitted documentation showing PM emissions at 0.19 g/kW-hr and less than the permit limit of 0.54 g/kW-hr. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-NSPS IIII EMERGENCY PRE-2007<10 I/CYL)(III.2), FCA-SHAP submitted documentation showing 13.0 total operating hours for CY 2017 and less than the 100 hours/CY permit limit.

FG-NSPS JJJJ EMERGENCY>100 BUT<500 HP - this flexible group refers to EU-ENG-NEW PSHOP1 and EU-ENG-NEW BSHOP emergency generators. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-NSPS JJJJ EMERGENCY>100 BUT<500 HP )(III.1), FCA-SHAP submitted documentation showing 26.3 actual operating hours for EU-PSHOP1 and 16.7 hours for EU-ENG-NEW BSHOP for CY 2017 and less than the allowable 100 hours. These 2 - spark ignition (SI) engines have EPA Certificate of Conformity with approved manufacturer test emissions. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-NSPS JJJJ EMERGENCY>100 BUT<500 HP)(I.1), FCA-SHAP submitted documentation showing EU-ENG-NEW PSHOP1 NO<sub>x</sub> emissions at 2 g/HP-hr and meets the permit limit of 2 g/HP-hr. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-NSPS JJJJ EMERGENCY>100 BUT<500 HP)(I.2), FCA-SHAP submitted documentation showing EU-ENG-NEW PSHOP1 CO emissions at 4 g/HP-hr and meets the permit limit of 4 g/HP-hr. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-NSPS JJJJ EMERGENCY>100 BUT<500 HP)(I.3), FCA-SHAP submitted documentation showing EU-ENG-NEW PSHOP1 VOC emissions at



1 g/Hp-hr and meets the permit limit of 1 g/Hp-hr. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-NSPS JJJJ EMERGENCY>100 BUT<500 HP)(I.1), FCA-SHAP submitted documentation showing EU-ENG-NEW BSHOP NO<sub>x</sub> emissions at 2.0 g/Hp-hr and meets the permit limit of 2 g/Hp-hr. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-NSPS JJJJ EMERGENCY>100 BUT<500 HP)(I.2), FCA-SHAP submitted documentation showing EU-ENG-NEW BSHOP CO emissions at 4.0 g/Hp-hr and meets the permit limit of 4 g/Hp-hr. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-NSPS JJJJ EMERGENCY>100 BUT<500 HP)(I.3), FCA-SHAP submitted documentation showing EU-ENG-NEW BSHOP VOC emissions at 0.47 g/Hp-hr and meets the permit limit of 1 g/Hp-hr. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-NSPS JJJJ EMERGENCY>100 BUT<500 HP)(IV.1), FCA-SHAP submitted documentation showing EU-ENG-NEW BSHOP non-resettable hour meter reading for June 2018 at 108.6 hours and EU-ENG-NEW PSHOP1 non-resettable hour meter reading for June 2018 at 200.7 hours.

FG-NSPS JJJJ EMERGENCY>500 HP - this flexible group refers to EU-ENG-NEW PSHOP2 spark ignition emergency generator. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-NSPS JJJJ EMERGENCY>500 HP)(III.1), FCA-SHAP submitted documentation showing 18.9 actual operating hours for CY 2017 and less than the allowable 100 hours. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-NSPS JJJJ EMERGENCY>500 HP)(IV.1), FCA-SHAP submitted documentation showing EU-ENG-NEW PSHOP2 non-resettable hour meter reading for June 2018 at 264.6 hours. This SI engine has to test for emissions due to uncertified engine. The most recent data were from the tests conducted on 10/03/2016. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-NSPS JJJJ EMERGENCY>500 HP)(I.1), FCA-SHAP submitted documentation showing EU-ENG-NEW PSHOP2 test results of NO<sub>x</sub> emissions at 0.93 g/Hp-hr. and less than the 2 g/Hp-hr. emission limit. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-NSPS JJJJ EMERGENCY>500 HP)(I.2), FCA-SHAP submitted documentation showing EU-ENG-NEW PSHOP2 test results of CO emissions at 1.30 g/Hp-hr. and less than the 4 g/Hp-hr. emission limit. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-NSPS JJJJ EMERGENCY>500 HP)(I.3), FCA-SHAP submitted documentation showing EU-ENG-NEW PSHOP2 test results of VOC emissions at 0.27 g/Hp-hr. and less than the 1 g/Hp-hr. emission limit.

FG-RULE 290 - this flexible group refers to EU-ENG PAINTSHOP and EU-ENG-DATACTR emergency generators. FCA-SHAP MAERS submitted documentation showing 34.51 lb. total VOC emissions for CY 2017 for EU-ENG-DATACTR and 9.86 lb. VOC emission for EU-ENG PAINTSHOP.

FG-RULE 287(c) – this flexible group refers to EU-FINAL REPAIR. Per ROP No. MI-ROP-B7248-2014a special condition (D)(FG-RULE 287(c))(II.1), Mr. Sanni mentioned that this emission unit did not operate in CY 2017. As of June 2018, Mr. Sanni reported 8.6 gallons usage and less than the 200 gallons per month permit limit.

**Permit to Install No. 27-17B** – was issued to FCA-SHAP on April 6, 2018 for emission units that includes the South Paint Shop - for painting the box component of light duty trucks to be manufactured at this facility, 2 natural gas fired emergency generators, 3 natural gas fired hot water generators, the Spray-on Bedliner (SOBL), and an external warehouse. The SOBL and warehouse facilities are located outside but near the truck manufacturing facility complex. The applicable requirements in PTI No.27-17B are contained in the following emission units and flexible groups:

**EU-PHOSPHATE BOX** – pertains to a series of dip tanks and rinses for the surface treatment of light duty truck boxes. Per PTI No. 27-17B special condition EU-PHOSPHATE BOX (II.1), Mr. Sanni reported no VOC or HAP in the phosphate application process. I have to verify compliance at a future date.

**EU-E COAT BOX** – pertains to electrodeposition coating process consisting of a series of dip tanks, rinses, followed by a curing oven and a sanding booth. Small amounts of flash (spot) prime may be used to repair e-coated defects in the sand booth. Emissions from the E-coat tanks are directed to the oven. VOC emissions from the oven are controlled by a newly built Regenerative Thermal Oxidizer (RTO) exclusively serving the South (box) Paint Shop. Per PTI No. 27-17B special condition EU-E COAT BOX (I.1), FCA-SHAP reported VOC emission rate of 0.019 lb./GACS in June 2018 from initial start-up notification of February 2, 2018. This VOC emission rate is less than the permit limit of 0.04 lb./GACS. Per PTI No. 27-17B special condition EU-E COAT BOX (I.2), FCA-SHAP reported the combined VOC, Acetone, etc. emission rate at 0.469 ton as of June 2018 and less than the permit limit of 2.32 tons/year (tpy). Since the South Paint Shop only started in February 2018, the emission rate was reported as total emissions from initial start-up and not monthly 12-month rolling totals as required by the permit. Per PTI No. 27-17B special condition EU-E COAT BOX (II.1), Mr. Sanni mentioned that none of the coatings used in E-coat process contain any lead or lead compounds. Per PTI No. 27-17B special condition EU-E COAT BOX (IV.1), I verified that VOC emissions from this emission unit are controlled by the RTO. During the 7/16/2018 walk-through inspection, I noted the following firebox zone temperature readings: Zone 1 = 1527°F; Zone 1/2 = 1543°F; Zone 2/3 = 11605°F; Zone 3/4 = 1539°F; Zone 4/5 = 1546°F; and Zone 5 = 1524°F. These temperature readings were in compliance with the 1500°F minimum temperature requirement in the permit. FCA-SHAP is currently utilizing 95% control efficiency credit in calculating for VOC emissions until testing is conducted. A test protocol was already submitted and testing is proposed for the week of November 7, 2018. Per PTI No. 27-17B special condition EU-E COAT BOX (IV.2), I observed filters in the E-coat sanding booth area. Per PTI No. 27-17B special condition EU-E COAT BOX (V.2), the proposed testing appeared to be within 365 days of saleable vehicle production.

**EU-SEALER BOX** – pertains to manual and robotic applicators used to apply seam sealer, deadener and underbody sealer to light duty truck boxes. A portion of the sealers will be cured during baking in the sealer oven. Per PTI No. 27-17B special condition EU-SEALER BOX (I.1), FCA-SHAP reported the highest VOC content of 0.15 lb./gallon minus water as applied for sealer coatings used and less than the

0.25 lb./gallon permit limit. Per PTI No. 27-17B special condition EU-SEALER BOX (I.2), FCA-SHAP reported the combined VOC, Acetone, etc. emission rate at 0.11 ton as of June 2018 and less than the permit limit of 17.3 tpy. Since the South Paint Shop only started in February 2018, the emission rate was reported as total emissions from initial start-up and not monthly 12-month rolling totals as required by the permit.

EU-POWDERCOAT BOX – pertains to an electrostatically applied powder anti-chip coating which includes the application of a colored powder basecoat for tutone truck boxes. The powder spray application is controlled by a particulate filtration system which is vented inside the plant. Per PTI No. 27-17B special condition EU-POWDER BOX (IV.1), I observed a filter system that is closed loop system and tries to achieve 100% material reclaim according to Mr. Sanni. During walk-through inspection, I observed gray powder coating application into the box line. Per PTI No. 27-17B special condition EU-POWDER BOX (V.1), FCA-SHAP contracts an outside vendor to conduct once a week visible emission (VE) readings and performs Method 9 Opacity readings by a certified reader when a VE is observed. Submitted data showed no exceedance of 20% opacity per AQD Administrative Rule 301 was observed. During walk-through inspection, I went up the roof of the South Paint Shop building with Mr. Sanni to conduct VE observations on the powder oven stacks and other emission stacks including the RTO stack. I did not observe any VE in all stacks at that time.

EU-MISC SOLVENTS BOX – pertains to various solvent body wipes, cleaning solvents and purge solvents used in the manufacturing of light duty truck boxes. VOC emissions from the purge solvents used within topcoat booths are controlled by the RTO except when manifested in the waste collection system. Per PTI No. 27-17B special condition EU-MISC SOLVENTS BOX (I.1), FCA-SHAP reported the combined VOC, Acetone, etc. emission rate at 0.51 ton as of June 2018 and less than the permit limit of 82.6 tpy. Per PTI No. 27-17B special condition EU-MISC SOLVENTS BOX (I.2), FCA-SHAP reported the combined VOC emission rate per 1000 saleable truck boxes at 0.047 ton as of June 2018 and less than the permit limit of 0.2 tons per 1000 saleable truck boxes permit limit. Since the South Paint Shop only started in February 2018 and the data compiled did not total 12 months so far, the above emission rates were reported not based on monthly 12-month rolling totals as required by the permit. Per PTI No. 27-17B special condition EU-MISC SOLVENTS BOX (III.1), I observed coating and waste coating containers closed in the paint kitchen area. Per PTI No. 27-17B special condition EU-MISC SOLVENTS BOX (IV.2), I verified that VOC emissions from the topcoat purging operations are controlled by the RTO. As discussed earlier in this report, I noted all firebox zone temperature readings were above the 1500°F minimum temperature requirement in the permit during the 7/16/2018 walk-through inspection. Also, FCA-SHAP is currently utilizing 95% control efficiency credit in calculating for VOC emissions until testing is conducted. A test protocol was already submitted, and testing is proposed for the week of November 7, 2018.

EU-WAREHOUSE NAT GAS BOX – pertains to a natural gas-fired space heating equipment to provide comfort heating at a storage warehouse. The building is located in an industrial park north and across 17 Mile Road, approximately one-half mile north of the main assembly plant complex. The equipment has a total combined maximum heat input capacity of 6.5 MMBtu/hr and are equipped with low NO<sub>x</sub> burners. I conducted a walk-through inspection of the building which serves as sequencing center for FCA-SHAP frames. Per facility contact, there are safety issues to try to access the equipment (at roof top). The facility itself presents a safety issue to walk around due to high stacks of frame stackers all over the building. Per PTI No. 27-17B special condition EU-WAREHOUSE NAT GAS BOX (III.2), Mr. Sanni showed me natural gas usage of 5.28 MMCF as of June 2018 and less than the 45 MMCF permit limit. As discussed above, the usage is the total from start of operation and not based on monthly 12-month rolling totals at this time since the operation has not gone through a 12 month cycle yet.

FG-TOPCOAT BOX – pertains to a color preparation sanding booth (topcoat sand), heated flash zones, 2 parallel topcoat lines - each consisting of a water-borne basecoat application followed by a solvent borne clearcoat, and 2 topcoat cure ovens. All paint application will be performed by robotic and bell applicators (except in emergency back-up situations). A heated flash zone separates the basecoat and clearcoat sections. Once clearcoat application is complete, the light duty truck box proceeds to the main bake oven. VOC emissions from the water-borne basecoat booths, the heated flash zone, the clearcoat spray booths and the topcoat cure oven are controlled by the South Paint Shop RTO. Per PTI No. 27-17B special condition FG-TOPCOAT BOX (I.1), FCA-SHAP reported a VOC emission rate at 1.97 lb./GACS as of June 2018 and less than the permit limit of 2.32 lb./GACS permit limit. Per PTI No. 27-17B special condition FG-TOPCOAT BOX (I.2), FCA-SHAP reported the combined VOC, Acetone, etc. emission rate at 46.68 tpy as of June 2018 and less than the permit limit of 105.7 tpy. Since the South Paint Shop only started in February 2018 and the data compiled did not total 12 months so far, the above emission rates were reported not based on monthly 12-month rolling totals as required by the permit. Per PTI No. 27-17B special condition FG-TOPCOAT BOX (I.3-7), the PM, PM<sub>10</sub>, and PM 2.5 emission rates will be determined through stack testing. A test protocol was already submitted by FCA-SHAP and testing is proposed for the week of October 15, 2018. Per PTI No. 27-17B special condition FG-TOPCOAT BOX (III.1 & 2), I observed coating and waste coating containers closed in the paint kitchen area and the booths appeared to have positive flow. Per PTI No. 27-17B special condition FG-TOPCOAT BOX (IV.1), I verified that VOC emissions from the topcoat operations are controlled by the RTO. As discussed earlier, I noted all firebox zone temperature readings were above the 1500°F minimum temperature requirement in the permit during the 7/16/2018 walk-through inspection. FCA-SHAP is currently utilizing 95% control efficiency credit in calculating for VOC emissions until testing is conducted. A test protocol was already submitted, and testing is proposed for the week of November 7, 2018. Per PTI No. 27-17B special condition FG-TOPCOAT BOX (IV.2), I verified filters in the topcoat sanding booth. Per PTI No. 27-17B special condition FG-TOPCOAT BOX (IV.3), I

verified a water wash particulate control system in the topcoat booths. Per PTI No. 27-17B special condition FG-TOPCOAT BOX (V.2, 3, & 4), FCA-SHAP proposed stack testing dates appeared to be within 365 days from initial start-up. Testing for transfer, capture, and destruction efficiencies are proposed for the week of November 5 through 16, 2018.

FG-REPAIR BOX – pertains to spot and final repair operations for the South Paint Shop. Per Mr. Sanni, this process has not operated and no coating/VOC were recorded.

FG-NG BOX – pertains to 3 natural gas fired hot water generators equipped with low NOx burners with a maximum heat input of up to 18 MMBtu/hr each. This flexible group also includes natural gas fired air supply houses, space heaters, heated flash, cure ovens, emergency generators and the RTO. All air supply houses are direct fire units. Per PTI No. 27-17B special condition FG-NG BOX (I.1), the NOx emission rate was reported at 0.003 ton in June 2018 as total emissions and not based on monthly 12-month rolling totals since start-up in February 2018. During inspection, I observed the name plate at the hot water generator includes a “low NOx burner” tag and 18 MMBTU/hr. rated heat capacity per PTI No. 27-17B special condition FG-NG BOX (IV.1 & 2). Per PTI No. 27-17B special condition FG-NG BOX (III.1 & 2), FCA-SHAP uses only pipeline quality natural gas. The total natural gas usage as of June 2018 was 212.82 MMCF and less than the 1,068 MMCF permit limit. As in earlier discussions, this data is not based on monthly 12-month rolling totals due to less than 12 months of operations since start-up. Per PTI No. 27-17B special condition FG-NG BOX (IV.3), FCA-SHAP conducts daily meter reading and keeps recordkeeping of daily natural gas usage as required by 40 CFR Part 60 Subpart Dc.

FG-CONTROL – pertains to the Regenerative Thermal Oxidizer (RTO), the dry filter particulate control systems and the water wash particulate control system in South Paint Shop. Per PTI No. 27-17B special condition FG-CONTROL (III.1), FCA-SHAP submitted a Malfunction Abatement Plan (MAP). Per PTI No. 27-17B special condition FG-CONTROL (VI.1, 2 - 6), FCA-SHAP monitors the combustion chamber temperature continuously at least once every 15-minute interval and keeps records of the temperatures, any inspection, and maintenance activities. FCA-SHAP conducts weekly VEs and keeps records of VE readings. In an emergency, an alarm system is set off for any incidental event that may occur related to the RTO. Mr. Sanni also mentioned that the new RTO has an interlock system to shutdown the coating booths if the RTO temperature falls below the set point.

FG-AUTO MACT – this flexible group refers to each new, reconstructed, or existing affected source as defined in Title 40 of the Code of Federal Regulations (CFR), Part 63.3082, that is located at a facility which applies topcoat to new automobile or new light duty truck bodies or body parts for new automobiles or new light duty trucks; and/or in which you choose to include, pursuant to 40 CFR 63.3082(c), any coating operations which apply coatings to new other motor vehicle bodies or body parts for new other motor vehicles; parts intended for use in new automobiles, new light duty trucks or new other motor vehicles; or aftermarket repair or replacement parts for

automobiles, light duty trucks or other motor vehicles; and that is a major source, is located at a major source, or is part of a major source of emissions of hazardous air pollutants (HAPs) except as provided in 63.3081(c). This includes equipment covered by other permits, grandfathered equipment, and exempt equipment. Per PTI No. 27-17B special condition FG-AUTO MACT(I.1), FCA-SHAP submitted records that showed the organic HAP emission rate for the facility, in June 2018, was 0.143 lb./GACS and less than the 0.30 lb./GACS permit limit. Per PTI No. 27-17B special condition FG-AUTO MACT(I.3), FCA-SHAP is claiming no HAP for sealers and adhesives used in South Paint Shop. Per PTI No. 27-17B special condition FG-AUTO MACT(III)(1 & 3), FCA-SHAP submitted a Work Practice Plan and a sample copy of a recordkeeping for a Work Practice Plan inspection/implementation as required in ROP No. MI-ROP-B7248-2014a special condition (D)(FG-AUTO MACT)(III).

FG-BOILER MACT 5D – pertains to Gas 1 fuel subcategory requirements for new Boilers/Process Heaters at major sources of Hazardous Air Pollutants per 40 CFR Part 63, Subpart DDDDD. This regulation may apply to the 3 new hot water generators such as tune-ups, inspections, and gas usage. Currently, FCA-SHAP conducts daily gas usage readings. I will determine compliance in the next inspection.

FG-PAINT SHOP BOX LINE – pertains to all process equipment associated with the new paint line/paint shop used for painting truck boxes (South Paint Shop). Per PTI No. 27-17B special condition FG- FG-PAINT SHOP BOX LINE (III.1), FCA-SHAP submitted records showing 79,928 truck boxes produced as of June 2018 and less than 407,000 permit limit. As discussed above, the data is reported as total units produced from start-up. After 12 months of production, the data will be reported monthly based on 12-month rolling totals. Per PTI No. 27-17B special condition FG- FG-PAINT SHOP BOX LINE (III.2), FCA-SHAP submitted records showing EU-ENG BOX GEN1 operated at 5.6 hours and EU-ENG BOX GEN2 operated at 14.0 hours as of June 2018 and less than the allowable 500 hours for each engine. The total combined hours of 19.6 hours are less than the allowable 600 hours per year.

FG-RTO and POWDER OVEN PM – pertains to the flexible group for PM, PM10 and PM2.5 emissions from the RTO and powder coat oven. The emissions limit applicable requirements under this flexible group will be determined during stack testing currently proposed to be conducted by FCA-SHAP during the week of November 5, 2018.

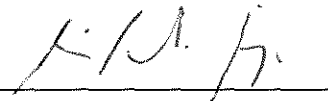
FG-NSPS JJJJ – pertains to emergency generators subject to 40 CFR Part 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines. New/Reconstructed emergency engines greater than 500 HP constructed on or after January 1, 2009. The South Paint Shop has 2 emergency generators subject to this regulation, EU-ENG BOX GEN1 and EU-ENG BOX GEN2. Per PTI No. 27-17B special condition FG-NSPS JJJJ (I.1, 2, & 3), compliance with the emission limits under this flexible group were determined during emissions testing for the 2 reciprocating internal combustion engines (RICE)

conducted last August 28-29, 2018, since the engines are not EPA certified engines. FCA-SHAP has not submitted the official test results at this time.

FG-SOBL – pertains to the Spray-on Bedliner (SOBL) facility where fully assembled and painted trucks from the main assembly plant will be routed into one of several booths in which bedliner materials will be robotically sprayed onto the truck beds. Raw materials include cleaning solvents, a bonding agent, and a two (2) part polyurethane resin. Natural gas-fired equipment will be used for process and space heating. This equipment is located at 7566 Metropolitan Parkway, directly across the street from the Box Paint Shop at the main assembly plant. Per PTI No. 27-17B special condition FG-SOBL (I.1), FCA-SHAP reported the total VOC emission at this facility as of June 2018 at 4.63 tons and less than the 8.8 tpy permit limit. Per PTI No. 27-17B special condition FG-SOBL (III.5), FCA-SHAP reported the total natural gas usage at this facility as of June 2018, at 54.33 MMCF and less than the 176.00 MMCF/year permit limit. Per PTI No. 27-17B special condition FG-SOBL (IV.1), I observed filters in place in the 5 operating spraybooths. I observed a total of 7 booths. The bedliner process starts from the back end where a truck come in, gets washed, undergoes prep work, then goes into one of 5 operating booths to spray a bedliner. Additional post-work is conducted to the bedliner, etc. and then goes out through the front and stored outside the lot. Per facility contact, the facility is owned by FCA MOPAR who sub-contracts Grand Effects (owns the equipment and technology) to spray/install the bedliner for FCA.

Overall, I did not find any non-compliance issues during inspection.

NAME



DATE

9/27/2018

SUPERVISOR

