DEPARTMENT OF ENVIRONMENTAL QUALITY AIR QUALITY DIVISION ACTIVITY REPORT: On-site Inspection

B724873878				
FACILITY: FCA US LLC Sterling Heights Assembly plant		SRN / ID: B7248		
LOCATION: 38111 Van Dyke, STERLING HTS		DISTRICT: Warren		
CITY: STERLING HTS		COUNTY: MACOMB		
CONTACT: Adekunle Sanni, Environmental Specialist		ACTIVITY DATE: 07/24/2024		
STAFF: Iranna Konanahalli	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR		
SUBJECT: ROP CMS scheduled FY 2	024 inspection of FCA US LLC, Sterling Heights	Assembly Plant (SHAP) ("FCA SAHP" or "SHAP")		
located at 38111 Van Dyke Ave., Sterli	ng Heights, Michigan 48340-2920.			
RESOLVED COMPLAINTS:				

FCA US LLC SHAP (B7248)

Sterling Heights Assembly Plant (SHAP)

Owned by FCA US LLC of Auburn Hills, Michigan

38111 Van Dyke Ave.

Sterling Heights, Michigan 48340-2920

Contacts:

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- 3. Gary Mansolf (Phone: 248-320-8645; E-mail: Mansolf@gfxLTD.com),

NAICS: North American Industry Classification System (NAICS) Code: 336111 Automobile Manufacturing.

ROP: MI-ROP-B7248-2020. Effective: December 4, 2020. Expiration: December 4, 2025. Application Due Between June 4, 2024, and June 4, 2025.

ROP Minor Mod (MM): MI-ROP-B7248-2020 → MI-ROP-B7248-2020a. The Minor Modification (MM) was done pursuant Rule 336.1216(2) by Caryn Owens of EGLE-AQD. Minor Modification (MM) No. 202200110 was to incorporate PTI No. 17-22 into the ROP. The MM was to update the PM10 and PM2.5 emission limits for the combined stack from EU-SPOT-REPAIR1-SOUTH (BOX) and EU-SPOT-REPAIR2-SOUTH (BOX) from 0.052 pounds per hour (pph) to 0.25 pph (increase in the limits to resolve VN). There was change to neither the physical configuration of the process nor to any other existing emission limits. To accomplish this increase in emissions limits, PTI No. 17-22 placed an operational limit, recordkeeping requirement, and stack/vent restrictions to the emergency engines in FG-ENG-FIREPUMP, FG-NSPS JJJJ EMERGENCY > 100 BUT < 500 HP, and FG-NSPS JJJJ EMERGENCY > 500 HP. PTI No. 17-22 limited each emergency engine to 8 hours per calendar day for nonemergency purposes.

In summary the permit (PTI No. 17-22) was to change the PM10 and PM2.5 emission limits for the combined stack from EU-SPOT-REPAIR1-SOUTH (BOX) and EU-SPOT-REPAIR2-SOUTH (BOX) from 0.052 pounds per hour (pph) to 0.25 pph.

Except spot repair booths (South) and operating hours restriction (8 hours per day) for emergency engines, all other ROP conditions remain the same. The engines hardly operate except for testing and maintenance.

VN: AQD issued the August 9, 2021, Violation Notice (VN) for failure to meet the emissions limits. On May 19-21, 2021, a stack test was conducted on FCA US LLC Sterling Heights Assembly Plant (SHAP) South Paint Shop (FG-REPAIR BOX). The results exceeded the 0.052 lb./hr. allowable emission rate specified in PTI No. 27-17C, Special Conditions FG-REPAIR BOX (I.4 & I.5). The permit (PTI No. 17-22) revised the limits for PM10 and PM2.5 to 0.25 pounds per hour (pph) from 0.052 pph. The revised limits were incorporated into the ROP (MI-ROP-B7248-2020a)

Per revised stack test results dated July 30, 2021, actual PM10 / PM2.5 emission rate of 0.161 <0.25 pounds per hour measured while FG-REPAIR BOX was operating; and the 0.083 lb./hr. actual emission rate measured while FG-REPAIR BOX was not operating.

PTIs: PTI Nos. 227-10D for CAB (north, original car [Chrysler 200] plant converted to truck CAB) and 27-17B for BOX (South, new truck BOX plant). PTI No. 17-22 was merely to revise PM10 & PM2.5 limits as stated above.

Not Subject to (cold-cleaners): NESHAP/ MACT T, area source National Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning (40 CFR, Part 63, Subpart T; NESHAP/ MACT T); Correction; 29484 Federal Register / Vol. 60, No. 107 / Monday, June 5, 1995 / Rules and Regulations; amended National Air Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning (40 CFR, Part 63, Subpart T); Final Rule; Page 25138 Federal Register / Vol. 72, No. 85 / Thursday, May 3, 2007 / Rules and Regulations. FCA SHAP does NOT use the MACT T listed halogenated HAP solvents (>5%w: methylene chloride (CAS No. 75-09-2), perchloroethylene (CAS No. 127-18-4), trichloroethylene (CAS No. 79-01-6), 1,1,1trichloroethane (CAS No. 71-55-6), carbon tetrachloride (CAS No. 56-23-5), and chloroform (CAS No. 67-66-3)) in the cold-cleaners.

FCA US LLC (Chrysler) owns and operates the Sterling Heights Assembly Plant (SHAP), located at 38111 Van Dyke Road, Sterling Heights, Michigan. In June of 2006, SHAP was issued a flexible permit PTI No. 82-06. That flexible permit was rolled into MI-ROP-B7248-2008a. As a part of the flexible permit, PTI No. 82-06, Chrysler was permitted to replace the existing paint shop with a new one. However, FCA never installed the new paint shop.

Flexible permit No. PTI 82-06 was the second flexible permit issued by AQD.

Under the PTI No. 227-10 application, Chrysler (now Stellantis FCA) was seeking a permit for the installation of the new paint shop to replace their existing one. Chrysler requested that it maintains the same emission limit structure contained in flexible PTI No. 82-06 (a combined facility wide mass VOC limit, a mass VOC limit for purge and cleanup activities, and a pounds of VOCs per vehicle produced limit for all operations, except purge and cleanup) but not the operational flexibility contained in that permit (i.e. the ability to make changes under the flexible permit without first getting a new or modified permit). Chrysler also proposed to reduce the combined facility wide mass VOC limit and the mass VOC limit for purge and cleanup activities to levels that allow this PTI No. 227-10 application to avoid PSD under the actual to projected actual test. By not including the operational flexibility, the permit would not be a flexible one.

Under this PTI No. 227-10, SHAP would continue to remain subject to the federal New Source Performance Standard (NSPS) for Automobile and Light Duty Truck Manufacturers, 40 CFR 60 Subpart MM. The requirements of the NSPS are inherent in the 4.5 pounds of VOC per car (without purge and cleanup) and the 673.2 tons of VOC per year limits. Compliance with PTI No. 227-10 VOC limits constitutes compliance with the NSPS MM. SHAP would continue to remain subject to the federal National Emissions Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks (Auto MACT 4I), 40 CFR 63 Subpart IIII and Organic Liquid Distribution (OLD) (non-gasoline), 40 CFR 63 Subpart EEEE (OLD MACT 4E). As a part of the PTI No. 227-10 application package, Chrysler provided a Rule 336.1702 BACT analysis evaluating the proposed VOC emissions from the new paint shop and associated equipment. Traditionally BACT for automotive paint shops has been expressed in terms of both a tons per year mass VOC limit and a pounds of VOCs per gallon of applied coating solids (lbs VOCs/GACS) or pounds of VOCs per gallon of coating minus water as applied (lbs VOCs/gal) basis for each emission unit or flexible group being permitted. The tons per year mass limits are often arrived at based upon the add-on cost control element of the BACT analysis. The lbs VOCs/GACS and lbs VOCs/gal limits are thought of as a performance standard.

Rather than this traditional approach, Chrysler requested that BACT for this facility be expressed in terms of a single facility wide mass VOC emission limit; a pounds of VOCs minus purge and cleanup per vehicle produced basis; and a mass VOC emission limit for purge and cleanup operations. The purge and cleanup mass values were included in the overall single facility wide mass VOC limit. The pounds of VOCs per vehicle produced are carried through of as a performance standard.

A permit of this type is referred to by the AQD as a flexible permit. The only specific requirements included in a permit of this type is that the applicant operates the addon VOC control equipment specified in the permit. Other than that, the applicant is free to achieve compliance with the limits (both overall mass VOC limit and pounds of VOCs per vehicle produced limit) in any way they choose. The permit does not mandate that specific coatings and/or application equipment be used. Nor does it limit the amount or location of solvent usage (including purge and cleanup solvents). Finally, it does not limit the mass emissions from individual emission units and/or flexible groups. A permit of this type provides the applicant with much greater operational flexibility than a traditional type of permit and it should reduce the number of future modifications required to the permit.

A normal flexible permit also allows the company to replace or modify existing equipment as long as all of the emission limits are meet without getting a new permit. This permit would not include that flexibility.

Chrysler proposed flexible limits for VOCs of 4.5 pounds of VOCs minus purge and cleanup per vehicle produced, 673.2 tons per year total from the new paint shop (north) and associated activities, and 223.2 tons per year from purge and cleanup activities.

Mod PTI No. 227-10 → PTI No. 227-10A: This Mod was to replace the body shop (EU-NEWBODYSHOP). No other change.

Mod PTI No. 227-10A \rightarrow 227-10B: The Mod was to modify special conditions dealing with the thermal oxidizers (installation of one RTO instead of originally proposed two RTOs for north paint shop) and change in stack parameters. Also, SHAP requested

to revise some special condition languages, specially dealing with the testing requirement.

Mod PTI No. 227-10B \Rightarrow 227-10C: The Mod was for a minor change requested to delete the stack/vent restriction for the new body shop that says all emissions shall be to the in-plant environment. Emissions from approximately 14 MMBtu/hr of the natural gas fired processes of the combined 111 MMBtu/hr that were installed with the original project are exhausted to the ambient air. This does not change the underlying processes, process equipment or the amount of actual or potential emissions as was previously reviewed. No increase in emissions.

Mod PTI No. 227-10C \Rightarrow 227-10D: This Mod was for a new paint line (south, BOX) installed at the existing automotive manufacturing plant operated by FCA US LLC, (formerly Chrysler Group LLC) Sterling Heights Assembly Plant (SHAP). The new line would be used to paint the truck box for light duty trucks (Dodge Ram). The existing paint line (north, cab) would paint the truck cab. The facility at that time manufactured Chrysler 200. The existing paint line was designed to handle various model vehicles in the FCA portfolio; however, it was not designed to manufacture the full trucks (truck CAB and BOX) in a manner that would meet consumer demand, which is why the new paint line was added at the facility. Since the project emissions for VOCs are major, this project was considered a major modification at an existing major PSD source (PSD for VOCs and PM2.5). No increase in emissions would occur from the changeover of manufacturing Chrysler 200 to manufacturing the truck cab. The existing line (north) was not modified as defined by PSD regulations.

For those units subject to PSD BACT for VOCs, Rule 702(a) BACT is met. FCA has proposed PSD BACT for each process for VOCs either through the use of add on control (RTO) or through work practice standards (good combustion practices for natural gas fired equipment). The control proposed to comply with PSD BACT for VOCs deemed to comply with Rule 702.

The new paint line (box, south) is subject to the NSPS MM for Surface Coating of Automobiles and Light Duty Trucks, 40 CFR Part 60 Subpart MM. Specifically, the E-coat process is subject to a limit of 1.34 pounds of VOC per gallon applied coating solids (lbs VOC/GACS) and the topcoat process is subject to a limit of 12.27 lbs VOC/GACS. FCA proposed limits of 0.04 lbs VOC/GACS for the E-coat process and 2.0 lbs VOC/GACS for the topcoat process which are well below the respective NSPS limits.

The new paint shop (box, south) is subject to the NESHAP / MACT 4I Surface Coating of Automobiles and Light Duty Trucks for 40 CFR Part 63 Subpart IIII. The existing paint shop (north) at FCA is subject to the standard and complies without the use of add-on control devices. The new coating line for the truck bed (south) would also

comply with the standards for new sources without the use of add-on control devices.

Top-down PSD BACT: FCA proposed a limit of 0.04 lbs VOC/GACS for the E-coat process and the use of an RTO to control VOC emissions from the E-coat tank and oven with emissions vented directly from the tank to the oven and then to the RTO. This meets the requirements of PSD BACT for VOCs because FCA selected the most effective control option and the limit proposed is the lowest limit that has been proposed in BACT determinations for similar processes. Additionally, FCA accepted a VOC limit of 2.32 tpy on a 12-month rolling time period basis, as determined at the end of each calendar month for the E-coat process. The ton per year limit is a combined limit of VOC, acetone, methyl acetate, and tertiary butyl acetate.

It should also be noted that AQD determined that a limit of 2.32 lbs/GACS for the topcoat process was deemed BACT for VOCs. This limit was based on the types of basecoat and clearcoats to be used in the topcoat process by FCA and is clearly lower than any BACT limit found in the RBLC. PSD BACT for VOCs for the topcoat process is set at 2.32 lbs/GACs along with the use of the RTO to control the basecoat application zone, the heated flash-off zone, clearcoat application zone, and topcoat bake oven. The RTO is the most efficient emission reduction technique available in terms of add-on controls.

PTI No. 27-17 was for Spray Bedliners (SOBL) and issuance of that permit resulted in voiding PTI No. 227-10D. PTI No. 27-17B incorporates south plant and seeks to streamline the ROP.

Spray-on bedliner (SOBL) facility would be located at 7566 Metropolitan Parkway, Sterling Heights, Michigan, directly across the street from the main plant. SOBL operation consists of the use of cleaning solvents, and natural gas-fired space heating equipment. It should be noted that the SOBL facility will be operated by a third-party company. However, it is a support facility operation that would not exist but for FCA SHAP's main assembly plant. Therefore, it is part of the same stationary source.

For particulate emissions from the SOBL facility, it was assumed that PM = PM10 = PM2.5. FCA calculated an emission rate of 0.43 tpy of PM (SOBL), which is based on the assumption that all solid portions of the polyurethane resin and bonding agent will be exhausted through the stack after the 2-stage filtration removing at least 99% of particulate.

For SOBL facility, FCA SHAP quantified the maximum hourly (lb/hour) emissions from the use of the two-part polyurethane resin material, the bonding agent and the

solvents materials used for cleaning and prepping. This was based on a maximum production rate of 42 vehicles/hour for the entire SOBL facility.

The south paint line (BOX) and SOBL together are subject to the NSPS for Surface Coating of Automobiles and Light Duty Trucks, 40 CFR Part 60 Subpart MM. Specifically:

- E-coat process of south paint line (BOX): 1.34 pounds of VOC per gallon applied coating solids (lbs VOC/GACS) >> limits of 0.04 lbs VOC/GACS for the E-coat process
- 2. Topcoat process of south paint line (BOX): 12.27 lbs VOC/GACS >> limit of 2.0 lbs VOC/GACS for the topcoat process.
- 3. The SOBL material is a topcoat. Since it is a two-part reactive polyurethane resin, the only VOC is from trace amounts of methylene diphenyl diisocyanate (MDI). The MDI emission rate from the SOBL process is 4.67x10⁻⁸ lb/GACS, which is well below the NSPS limit of 12.27 lb/GACS for topcoats.

There were three Emission Units which have been dismantled/removed from the facility and since then have been removed from the ROP. They include:

- 1. **EU-DINACLEAN** this EU was dismantled on December 17, 2013, and physically removed from the facility in December 2016.
- 2. **EU-BLACKOUT** the Black-out booth was never constructed.
- 3. EU-DEADNER: does not exist anymore

FG-CAM: Two (2) Regenerative Thermal Oxidizers:

- 1. RTO-NORTH (CAB) or north RTO &
- 2. RTO-SOUTH (BOX) or south RTO.

Auto Protocol: "Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light Duty Truck Topcoat Operations", EPA-450/3-88-018 or as amended. FCA US (Chrysler) follows the protocol procedures for both NSPS MM values have impact on PSD & NSPS emissions rates because the emissions rates are expressed in pounds (kilograms) per gallon (liter) of coatings solids applied or deposited; in other words, solids overspray is accounted for in this type of emissions rate unit.

Subject to (opt-out of control device requirements via use of HAP compliant coatings): Auto MACT, NESHAP / MACT 4I, 40 CFR, Part 63, Subpart IIII—National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks (Federal Register / Vol. 69, No. 80 / Monday, April 26, 2004 / Rules and Regulations/ Final Rule). Because FCA US (Chrysler) opted out of the post –11/15/90 NSPS (Auto NSPS MM was promulgated before 1990) or NESHAP / MACT federal regulations for control devices (e.g., RTO,) via compliance with Auto MACT by coatings formulations, the control devices are only subject to CAM regulations (VOC).

Subject to: Compliance Assurance Monitoring (CAM) (40 CFR Part 64) for VOC control devices (e.g., RTO: north RTO & south RTO). CAM is a part of enhanced monitoring and compliance certification for ROP / Title V sources under the Clean Air Act. Obviously, if the control devices (e.g., RTO) were subject the auto MACT monitoring, the devices would not be subject to CAM monitoring and the MACT's monitoring would be the presumptive CAM. FCA US (Chrysler), like other Automanufacturers, chose to comply with the Auto MACT via coatings formulations without use of thermal oxidizers. Coating processes are subject to the federal Compliance Assurance Monitoring (CAM) rule under 40 CFR, Part 64. These emission units have a control device and potential pre-control emissions of VOCs greater than the major source threshold level (100 tpy VOC). The monitoring for the control device(s) is continuous temperature monitoring, bypass monitoring, and inspections and maintenance of the control devices at a minimum of every 18 months. In brief, VOC CAM plan for one south RTO and one north RTO consists of continuous temperature monitoring and recording (accuracy: ± 2.5 °C; minimum temperature readings: every 15 minutes), annual replacement or calibration of thermocouples, inspection and maintenance (I&M), repair activities, bypass monitoring, etc. The minimum operating temperatures are established by VOC destruction efficiency testing.

Subject to Major Source Boiler MACT 5D (reconsidered [2011] MACT 5D: Annual Tune-up or Pentennial / Quinquennial (1/5Yr) Tune-up if boiler is equipped with oxygen trim system, one time Energy Assessment (EA) or ISO 50001): Major Source Boiler NESHAP / MACT 5D, 40 CFR Part 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, All FCA SHAP's natural gas boilers (six small and three large boilers), are equipped with Oxygen Trim Systems. An Oxygen Trim System is a system of monitors that is used to maintain excess air (EA) at the desired level in a combustion device. A typical system consists of a flue gas analyzer for oxygen (O2) and / or carbon monoxide (CO) and a feedback signal to the combustion controller. In other words, an Oxygen Trim System is designed to continuously measure and maintain optimum air-to-fuel ratio in the combustion zone. If such system exists, annual tune-up is not required; however, pentennial / quinquennial (1/5Yr) tune-up is required. FCA does follow ISO 50001, Energy Management System for continuous improvement of energy performance, energy efficiency, energy consumption and for reduction of energy use, energy costs, greenhouse gas emissions (GHG), etc. If ISO 50001 is followed properly, one-time energy assessment (EA) is not required.

Subject to (EU-AST13): OLD NESHAP / MACT EEEE/ MACT 4E, 40 CFR Part 63, Subpart EEEE, National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (OLD)(Non-Gasoline).

Subject to: Prevention of Significant Deterioration (PSD) (40 CFR 52.21) or Rule 336.1220 (during LAER review) / Rule 336.2902 (now) Major Offset Source depending upon attainment status.

Subject to: 40 CFR, Part 60, Subpart MM (NSPS MM or 2M)—Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations (NSPS MM) (45 FR 85415, December 24, 1980). NSPS MM applies to an automobile/ light duty truck assembly plant constructed or modified after October 05,1979. The permits were issued in 1984. In case FCA SHAP, NSPS MM emission rates using Table TE values have been subsumed into PSD / LAER limits in terms of pounds of VOC per vehicle or per Gallon of Applied Coating Solids.

Subject to: Rule 336.1610. The Rule 610 compliance calculations must be done pursuant to "Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light Duty Truck Topcoat Operations", EPA-450/3-88-018 or as amended. FCA US does not perform NSPS MM calculations separately. Instead, the Auto Protocol calculations are used to satisfy NSPS MM emission limits. It is allowed because the tested lower TE values (60s) are used instead of NSPS 2M Table values (90s). However, the PSD permits (north and south) issued to FCA SHAP subsume NSPS MM and Rule 336.1610 requirements.

NSPS Dc: NSPS Dc, New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units (40 CFR, Part 60, Subpart Dc). Fuel oil is never used in the boilers. Only boilers installed after June 9, 1989 (e.g., EU-BOILER1, EU-HWG1, EU-HWG2, EU-HWG3, EU-HWG4, EU-HWG5 & EU-HWG6), are subject to NSPS Dc. The NSPS Dc revisions simplified the natural gas usage recordkeeping. ROP and MAERS natural gas recordkeeping satisfies NSPS Dc.

2024 Environmental Audit Notification: AQD received Environmental Audit Notification (Section 14809(7) of Part 148 of the Natural Resources and Environmental Protection Act, PA 451 of 1994; MCL 324.14801 et seq) dated May 07, 2024, from Mario Macandog (Phone: 248-980-6976), EHS Audit Manager, FCA USA. The audit (Air, Water, Waste, Storage Tanks, SARA, TSCA, etc.) was scheduled to begin on May14, 2024. EGLE is not involved in the audit.

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July 2019 North RTO & PM tests (EU-TOPCOAT3-NORTH (CAB))
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Apex Companies, LLC (Apex) conducted air emissions testing for North RTO (CAB) Destruction Efficiency (DE) on July 31,2019; and for PM, on July 30, 2019. DE tests showed 95.4 percent > 95 percent control efficiency at 1,450°F. (MI-ROP-B7248-2020a, EU-TOPCOAT3-NORTH (CAB), IV.2 (≥ 95% DE) & 3 (≥ 1,350°F)).

Basecoat Zone PM (July 30, 2019) = 0.27 pounds per hour

Clearcoat (CC) Observation Deck PM (July 30, 2019) = 0.25 pounds per hour

North RTO PM 1.4 pounds per hour

Note: PM10 & PM2.5 is measured as total PM in pounds per hour.

The testing followed United States Environmental Protection Agency (USEPA) Reference Methods 1 through 5, 25A, 202, and 205. Since only total PM was measured using USEPA Method 5, the PM10 and PM2.5 fractions were assumed to be equivalent to the PM measured, as agreed upon with EGLE-AQD.

September 11, 2019, NSPS 4J Emergency SI RICE Engine test

On September 11, 2019, Apex Companies, LLC (Project No. 11019-000056.00 Report dated October 31, 2019) of Novi, Michigan 48375-4710, conducted stack of NSPS 4J Spark Ignition (SI) Reciprocating Internal Combustion Engine (RICE) (natural gas fired engine known as EU-ENG-NEW PSHOP2) for Nitrogen oxides (NOx), Carbon monoxide (CO) & Volatile organic compounds (VOCs). The engines fire exclusively pipeline quality natural gas (NG). The sampling was conducted in accordance with

United States Environmental Protection Agency Reference Methods (EPA RM)1A, 2, 3A, 4, 7E, 10, 25A, and 205. The results of the test are as follows:

1. NOx = 25.7 < 160 ppmvd @ 15% 02 = 0.44 < 2.0 g/hp-hr

2. CO = 75.9 < 540 ppmvd @ 15% 02 = 0.80 < 4.0 g/hp-hr

3. VOC = 20.9 < 86 ppmvd @ 15% 02 = 0.42 < 1.0 g/hp-hr

(MI-ROP-B7248-2020a, FG-NSPS JJJJ EMERGENCY > 500 HP, I.1-3 limits: stated above after "<")

The tested engine: EU-ENG-NEW PSHOP2-A 701-horsepower Cummins Model GTA28CC natural-gas-fired stationary emergency spark ignition (SI) reciprocating internal combustion engine (RICE). Natural gas was used to fuel the emergency RICE. The emergency RICE was operated within 10% of the highest achievable load during testing. The rated capacity of the process is a maximum of 5,890 cubic feet of natural gas per hour at 450 kilowatts (kW). While onsite during testing, a representative from Cummins indicated that engine power of the emergency RICE was 413 kW while the testing was being conducted.

May 19-21, 2021. FCA SHAP - SOUTH PAINT SHOP: REPAIR BOOTH COMPLIANCE - PARTICULATE TESTING

RWDI USA LLC (RWDI #2102556 Report dated July 19, 2021) of Rochester Hills MI 48309, completed compliance source testing at the FCA US LLC (FCA) Sterling Heights Assembly Plant (SHAP)- South Paint Shop (SPS) per MI-ROP-B7248-2020a, FG-REPAIR-SOUTH (BOX Spot and final repair operations) (including 1 exhaust for 2 repair booths). The results are as follows (PM Filterable Particulate Matter):

- 1. Repair Booth (Operating) = 0.00031 gr/dscf = 0.161 pound per hour (each spot repair booth)
- Repair Booth ((Background / Not) = 0.00015 gr/dscf = 0.083 pound per hour (combined spot repair booths)

MI-ROP-B7248-2020a, FG-REPAIR-SOUTH (BOX), I.3-5 limits: 0.00312 pounds of PM per 1,000 pounds of wet exhaust gas, 0.25 pph pounds of PM10 per hour & 0.25 pph pounds of PM2.5 per hour.

Triplicate 240-minute tests were completed while the Repair Booth was being operated, and triplicate 240-minute tests were completed while the Repair Booth was not operating (no repairs or operations in Repair booths). The repair booths consist of sanding, spot painting, and panel swap out operations. EU-SPOT REPAIR 1 BOX and EU-SPOT REPAIR 2 BOX emissions are combined into one (1) stack (SV-SPOT REPAIR 1 BOX SPOT REPAIR 2 BOX).

MI-ROP-B7248-2020a ROP Minor Mod incorporated PTI No. 17-22 into the ROP. The MM was to update the PM10 and PM2.5 emission limits for the combined stack from EU-SPOT-REPAIR1-SOUTH (BOX) and EU-SPOT-REPAIR2-SOUTH (BOX) from 0.052 pounds per hour (pph) to 0.25 pph (increase in the limits).

August 9, 2021, VN (PTI # 27-17C, PM10/PM2.5 from FG-REPAIR BOX are 0.161 lb./hr. and 0.083 lb./hr. > 0.052 lb./hr.) is resolved based on PTI No. 17-22 which upgraded the limit to 0.25 pph.

August 5, 2021, and August 17, 2021, testing for SPS NSPS 4J Engines (2).

RWDI USA LLC (RWDI #2104170 Report dated OCTOBER 4, 2021) of Rochester Hills MI 48309, completed compliance source testing at the FCA US LLC (FCA) Sterling Heights Assembly Plant (SHAP)- South Paint Shop (SPS) per MI-ROP-B7248-2020a. Two NSPS 4J engines were tested on August 5, 2021, and August 17, 2021: EU-ENG-GEN1-SOUTH & EU-ENG-GEN2-SOUTH: The test results are as follows:

EU-ENG-GEN1-SOUTH

Nitrogen oxides (NOx): 66 < 160 ppmvd and 0.91 < 2.0 g/HP-hr

Carbon Monoxide (CO): 116.3 < 540 ppmvd and 1.05 < 4.0 g/HP-hr

Volatile Organic Compounds (VOCs): 32.3 < 86 ppmvd and 0.46 < 1.0 g/HP-hr

EU-ENG-GEN2-SOUTH

Nitrogen oxides (NOx): 21.9 < 160 ppmvd and 0.25 < 2.0 g/HP-hr

Carbon Monoxide (CO): 103 < 540 ppmvd and 0.74 < 4.0 g/HP-hr

Volatile Organic Compounds (VOCs): 1.43 < 86 ppmvd and 0.02 < 1.0 g/HP-hr

Note: ppmvd corrected to 15% oxygen. The emissions are significantly less than the NSPS 4J limits. The tri-annual (1/3Yr) testing is required because the engines are not certified.

August 11, 2022, NPS NSPS 4J Engine (EU-ENG-PSHOP-NC-701 HP) testing.

RWDI USA LLC (RWDI #2201099 Report dated October 6, 2022) of Rochester Hills, MI 48309, completed compliance source testing at the FCA US LLC (FCA) Sterling Heights Assembly Plant (SHAP)- North Paint Shop (NPS) per MI-ROP-B7248-2020a. One NSPS 4J engine was tested on August 11, 2022.: EU-ENG-PSHOP-NC-701 HP: The test results are as follows:

Nitrogen oxides (NOx): 51.1 < 160 ppmvd and 0.86 < 2.0 g/HP-hr

Carbon Monoxide (CO): 166.5 < 540 ppmvd and 1.70 < 4.0 g/HP-hr

Volatile Organic Compounds (VOCs): 2 < 86 ppmvd and 0.03 < 1.0 g/HP-hr

Note: ppmvd corrected to 15% oxygen. The emissions are significantly less than the NSPS 4J limits. The tri-annual (1/3Yr) testing is required because the engines are not certified.

January 17 and 18, 2023 FG-BOILERS (EUBOILER1, EUBOILER2, AND EUBOILER3) testing

RWDI USA LLC (RWDI #2307877 Report dated March 6, 2023) of Rochester Hills, MI 48309, completed compliance source testing at the FCA US LLC (FCA) Sterling Heights Assembly Plant (SHAP)- FG-BOILERS per MI-ROP-B7248-2020a. Three boilers were tested on January 17 and 18, 2023: FG-BOILERS (EU-BOILER1 85 MM Btu/hr, EU-BOILER2 118 MM Btu/hr, EU-BOILER3 118 MM Btu/hr). Boiler Nos. 2 and 3 are equipped with low NOx burner technology. The test results are as follows:

BOILER1

PM = 0.29 pound per hour = 0.0062 pound per MM BTU

PM10	= 0.23 pound per hour = 0.0050 pound per MM BTU
PM2.5	= 0.20 pound per hour = 0.0043 pound per MM BTU
NOx	= 4.6 pounds per hour = 0.085 pound per MM BTU
BOILER2	
PM	= 0.22 pound per hour = 0.0044 pound per MM BTU

PM10	= 0.19 po	und pe	er hou	r = 0.0038 po	und p	er MM BTU
	A 4 A					

PM2.5	= 0.18 pound per nour = 0.0035 pound p	Der Mim BIU

NOx = 2.4 pounds per hour = 0.046 pound per MM BTU

BOILER3

PM	= 0.24 pound per hour = 0.0051 pound per MM BTU
PM10	= 0.22 pound per hour = 0.0047 pound per MM BTU
PM2.5	= 0.19 pound per hour = 0.0041 pound per MM BTU
NOx	= 2.6 pounds per hour = 0.055 pound per MM BTU

The emissions are discharged via SVST-BLR-001, SVST-BLR-002 & SVST-BLR-003.

RWDI also completed flue gas velocity measurements and moisture content measurements for each NOx and Particulate Matter (PM10 and PM2.s) test. RWDI utilized the United States Environmental Protection Agency (U.S. EPA) Reference Methods (EPA RM) 1, 2, 3A, 4, 7E, 201A, and 202. For NOx, three (3) 120-minute tests were completed on EU-BOILER3; and single 120-minute tests were completed on both EU-BOILER1 and EU-BOILER2. For Particulate Matter (PM, PM10 and PM2.5), three (3) 120-minute test runs were completed on EU-BOILER3; and single 120minute tests were completed on both EU-BOILER1 and EU-BOILER2.

October 22, 2018, CE & TE testing at North Paint Shop (NPS)

RWDI USA LLC (RWDI # 1803869 Report dated January 24, 2019) of Rochester Hills, MI 48309, completed compliance source testing at the FCA US LLC (FCA) Sterling Heights Assembly Plant (SHAP)- North Paint Shop (NPS) EU-TOPCOAT1thru3-

NORTH (CAB) per MI-ROP-B7248-2020a. The purpose of the test program was to complete paint solids transfer efficiency (TE) and Capture Efficiency (CE) testing of the Topcoat operations (North (CAB) EU-TOPCOAT 1 or EU-TOPCOAT 2 or EU-TOPCOAT 3). The test results are as follows:

Transfer Efficiency (TE) Results Summary in percentage

Basecoat (White Solid Basecoat) = 82.4

Basecoat (Granite Metallic) = 68.9

Clearcoat = 73.9

Capture Efficiency (CE) Results Summary in percentage

Basecoat (White Solid Basecoat) = 63.4

Basecoat (Granite Metallic) = 33.1%

Clearcoat = 85.2

Captured basecoat flash zone and bake oven VOC emission are directed to regenerative thermal oxidizer (RTO-NORTH) for VOC abatement. SHAP has two RTOs: RTO-SOUTH & RTO-NORTH. The TE and CE tests are required by MI-ROP-B7248-2020a, EU-TOPCOAT1thru3-NORTH (CAB) and FG-FACILITY-NORTH V.1 (TESTING/SAMPLING) using U.S. EPA "Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operations," September 2008, EPA-453/R-08-002, as amended. 40 CFR 51 Appendix M and 40 CFR 60 Appendix A. The permit has neither limit for CE nor TE, but the values go into the calculations to show compliance with 4.5 pounds of VOC per job (quasi flexible permit).

October 3 and 4, 2023, CE & TE testing at North Paint Shop (NPS) (CAB)

RWDI USA LLC (RWDI # 2306844 Report dated November 20. 2023) of Rochester Hills, MI 48309, in cooperation with JLB Industries, LLC., completed compliance source testing at the FCA US LLC (FCA) Sterling Heights Assembly Plant (SHAP)-North Paint Shop (NPS) one (1) representative (EU-TOPCOAT2-NORTH) Topcoat Booth (EU-TOPCOAT1-NORTH or EU-TOPCOAT2-NORTH or EU-TOPCOAT3-NORTH) (CAB) per MI-ROP-B7248-2020a. The purpose of the test program was to complete paint solids transfer efficiency (TE) and Capture Efficiency (CE) testing of the Topcoat operations for one (1) representative Topcoat Booth (EU-TOPCOAT1-NORTH or EU-TOPCOAT2-NORTH or EU-TOPCOAT3-NORTH) (CAB)). The test results are as follows:

Transfer Efficiency (TE) Results Summary in percentage

Metallic Basecoat (Black) = 74.5

Solid Basecoat (White) = 69.8

Clearcoat = 75.7

Capture Efficiency (CE) Results Summary in percentage

Metallic Basecoat (Black) = 69.2

Solid Basecoat (White) = 59.7

Clearcoat = 88.1

Captured VOC emission from basecoat and clearcoat booth, flash zone and bake oven are directed to a north regenerative thermal oxidizer (RTO-NORTH) (CAB) for VOC abatement. SHAP has two RTOs: RTO-SOUTH & RTO-NORTH. The TE and CE tests are required by MI-ROP-B7248-2020a, EU-TOPCOAT1thru3-NORTH (CAB) and FG-FACILITY-NORTH V.1 (TESTING/SAMPLING) using U.S. EPA "Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operations," September 2008, EPA-453/R-08-002, as amended. 40 CFR 51 Appendix M and 40 CFR 60 Appendix A. The permit has neither limit for CE nor TE, but the values go into the calculations to show compliance with 4.5 pounds of VOC per job (quasi flexible permit).

November 7 & 8 December 21 & 22, 2023, RTO-SOUTH (BOX) DE and PM testing

RWDI USA LLC (RWDI # 2306854 Report dated January 5, 2024) of Rochester Hills, MI 48309, completed compliance source testing at the FCA US LLC (FCA) Sterling Heights Assembly Plant (SHAP)- South Paint Shop (BOX). The purpose of the test program was to complete RTO-SOUTH (BOX) Destruciton Efficiency (DE) testing of the Topcoat operations for FG-TOPCOAT-SOUTH (BOX), EU-TOPCOAT1-SOUTH (BOX) & EU-TOPCOAT2-SOUTH (BOX).

PM, PM10 and PM2.5 testing at SV-BASE COAT OBSV 1, SV-BASE COAT OBSV 2, SV -CLEAR COAT OBSV 1, SV-CLEAR COAT OBSV 2, & SV-RTO-SOUTH.

Destruciton Efficiency (DE) testing RTO-SOUTH: one RTO outlet SV-RTO-SOUTH and 3 RTO Inlets - Top at Booth, Topcoat Ovens, and E-Coat Oven. RTO-SOUTH temperature during DE test was 1500 °F (≥ 1500°F). DE was 98.5 (DE ≥ 95%), percent. (MI-ROP-B7248-2020a, FG-TOPCOAT-SOUTH (BOX), IV.1 design/equipment parameter(s))

Verification of negative pressure w.r.t. the surroundings at E-coat, i.e. air flow is inward flow into the enclosure for EU-E-COAT-SOUTH.

For PM10 & PM2.5:

SV-BASE COAT OBSV 1	0.0022 lb/1000 < 0.00312 lb wet exhaust	1.26 lb/hr
SV-BASE COAT OBSV 2 & PM2.5	0.0014 lb/1000 < 0.00312	0.039 & 0.027 lb/hr PM10
SV-CLEAR COAT OBSV 1	0.0008 lb/1000 < 0.00312	0.15 lb/hr
SV-CLEAR COAT OBSV 2 PM10 & PM2.5	0.0011 lb/1000 < 0.00312	0.12 & 0.093
SV-RTO-SOUTH.	0.0022 lb/1000 < 0.00312	1.26 lb/hr

MI-ROP-B7248-2020a, FG-TOPCOAT-SOUTH (BOX), I.3-7 limits:

3. PM10 = 0.00312 pound per 1,000 pounds of exhaust gas FG-TOPCOAT-SOUTH (BOX) (each observation zone)

4. PM10 = 0.11 pound per hour per zone FG-TOPCOAT-SOUTH

(BOX) base coat observation zone (each line has 1 base coat observation zone)[121]

5. PM10 = 0.19 pound per hour per zone FG-TOPCOAT-SOUTH (BOX) clear coat observation zone (each line has 1 clear coat observation zone)

6. PM2.5 = 0.11 pound per hour per zone FG-TOPCOAT-SOUTH (BOX) base coat observation zone (each line has 1 base coat observation zone)[122]

7. PM2.5 = 0.19 pound per hour per zone FG-TOPCOAT-SOUTH (BOX) clear coat observation zone (each line has 1 clear coat observation zone)

On July 24, 2024, I, Iranna Konanahalli, accompanied by Dr. Jill Cellini of AQD-SEMI-DO-Warren, conducted a level-2 ROP CMS scheduled FY 2024 inspection of FCA US LLC, Sterling Heights Assembly Plant (SHAP) ("FCA SAHP" or "SHAP") located at 38111 Van Dyke Ave., Sterling Heights, Michigan 48340-2920. The inspection was conducted to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994, PA 451; Michigan Department of Environment, Great Lakes and Energy, Air Quality Division (EGLE-AQD) administrative rules; and ROP (MI-ROP-B7248-2020a).

During the inspection, SAKIRU SANNI, Environmental Engineer, assisted me.

FCA US LLC - Sterling Heights Assembly Plant (FCA SHAP or SHAP; fka Chrysler) currently operates automobile painting and assembly operations for truck products at Sterling Heights in Macomb County, Michigan. The painting operations of the truck products take place at north paint shop for truck cabin (NORTH CAB) and south paint shop for truck box (SOUTH BOX). These operations consist of various emission units (EUs).

FCA SHAP manufactures, or assembles, light-duty trucks. As stated previously, truck cabs are painted at north paint shop (NPS), where VOC emissions are controlled by north regenerative thermal oxidizer (RTO-NORTH), and truck boxes are painted at south paint shop (SPS), where VOC emissions are controlled by south regenerative thermal oxidizer (RTO-SOUTH). Body paint overspray particulate emissions are controlled by two separate downdraft water-wash systems (north water-wash system

for north coating operations and south water-wash system for south coating operations) and effluent is routed to the onsite wastewater treatment facility. Upon separation of suspended overspray paint solids (paint solids sludge is centrifuged and disposed of according RCRA), water is recycled or reused in the booths. Particulate emissions from processes such as repair and sanding operations are controlled by dry filter systems. Prior to coating, the truck bodies are cleaned and pretreated (including phosphate treatment as a foundation for subsequent coatings or painting) to prepare vehicle bodies for painting. The principal emissions from coating operations are volatile organic compounds (VOC), including hazardous air pollutants (HAPs), from the coating operations:

- Prime painting consists of two (2) electro-deposition (e-coat) coating lines (EU-E-COAT-NORTH (CAB)) and EU-E-COAT-SOUTH (BOX)) followed by powder coating. Cathodic electrostatic application, with charged powder particles and grounded vehicle body, is performed to increase transfer efficiency (TE). Overspray powder coating particles are collected and recycled/reused resulting in nearly 100 percent transfer efficiency (≈ 100% TE).
- 2. Five (5) (three (3) identical lines at north paint shop and two (2) identical lines at south paint shop) topcoat coating lines (EU-TOPCOAT1-NORTH (CAB), EU-TOPCOAT2-NORTH (CAB), EU-TOPCOAT3-NORTH (CAB), EU-TOPCOAT1-SOUTH (BOX) and EU-TOPCOAT2-SOUTH (BOX)) are present. Each coating operation consists of a water-borne basecoat (water-based BC) application followed by a solvent borne clearcoat (solvent-based CC). A heated flash zone separates the basecoat (BC) and clearcoat (CC) sections. Electrostatic application, with charged paint particles and grounded vehicle body, is performed to increase transfer efficiency (TE). Higher TE reduces paint waste and associated emissions by minimizing paint overspray and also saving costs. All overspray paint particles are controlled by downdraft water-wash system, which is integral to paint spray process such that high quality paint finish can be obtained. Hence, the downdraft water-wash system may be deemed to be part of the paint process.
- Sealers are applied to prevent corrosion due to water infiltration that supports galvanic corrosion especially in presence of electrolytes such as road salt (EU-SEALER-SOUTH (BOX) and EU-SEALERS and ADHESIVES-FBP-NORTH (FRAME, BODY and PAINT; CAB)). Sealers contribute a negligible amount (measured against overall emissions) of uncontrolled VOC.
- 4. Miscellaneous solvents are used to wipe the bodies. Purge solvents are used in the topcoat booths, and VOC emissions from purge operations are controlled by the corresponding RTOs (RTO-NORTH & RTO-SOUTH), (EU-WIPE-NORTH (CAB), EU-MISC-SOLVENTS-SOUTH (BOX) and EU-PURGE-CLEAN-NORTH (CAB)). Purge solvents are sent out for eventual recycling / reuse.

Repair operations (EU-PAINT-SPOT-REPAIR-NORTH (CAB) and FG-REPAIR-SOUTH (BOX) (EU-SPOT-REPAIR1-SOUTH (BOX), EU-SPOT-REPAIR2-SOUTH (BOX) and EU-HEAVY-REPAIR-SOUTH (BOX)) are conducted. Repair VOC emissions are **not** controlled. Customarily, particulates due to paint overspray are controlled by dry filter system.

Almost all VOC emissions (except miscellaneous solvents, sealers, repairs, etc.) are controlled by two regenerative thermal oxidizers (2 RTOs): RTO-NORTH (CAB) and RTO-SOUTH (BOX).

Natural gas is used for hot water, process steam, space heating, emergency electric power generators, etc. Ultra-Low Sulfur Diesel (15 ppm sulfur ULSD) or pipeline quality natural gas (NG) is used for emergency power generators and emergency fire pumps.

RTO Operating Temperatures

RTO-South

Based upon the random RTO-South temperature data / graph the RTO is operating at ≈1520 °F (Set point = 1475) (1475 °F (November 8-9, 2018, test) ≤ 1,500°F (Permit).[/23]

RTO-North

Based upon the RTO-North temperature data / graph (May 2024) the RTO is operating at \approx 1500 °F > 1450 °F (July 2019 test) \geq 1,350°F (Permit). North Regenerative Thermal Oxidizer Destruction Efficiency was 95.4 percent (North RTO DE 95.4% \geq 95%) at 1450 °F according to the test conducted on 7/31/19. (MI-ROP-B7248-2020a, EU-E-COAT-NORTH (CAB), IV.1: \geq 95% DE and \geq 1,350°F)

MI-ROP-B7248-2020a, Emissions Units (EUs)

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-FINAL-REPAIR	Topcoat low-bake repair process consisting of spray	11/08/1988	
	stalls equipped with dry filter systems. Rule 336.1287 exempt		FG-FACILITY-NORTH
	repair booth.		FG-RULE287(2)(c)
EU-WWASH&GASFIL	Windshield washer fill and Gasoline fill stations. Each vehicle is equipped with an Onboard Re-fueling Vapor Recovery (ORVR) system.	11/08/1998	FG-FACILITY-NORTH
EU-BOILER1	Natural Gas burning boiler with	11/09/1990	FG-BOILERS
	million BTU per hour.		FG-FACILITY-NORTH
			FG-BOILER-MACT- 5D
EU-BOILER2	One natural gas fired steam	11/15/1995	FG-BOILERS
	million BTU per hour.		FG-FACILITY-NORTH
			FG-BOILER-MACT- 5D
EU-BOILER3	One natural gas fired steam	11/15/1995	FG-BOILERS
	million BTU per hour.		FG-FACILITY-NORTH
			FG-BOILER-MACT- 5D
EU-SANDING-NORTH	Color prep and reprocess spot repair operations. Color prep is for powder paint repair and re- process spot repair is for repairs made after topcoat.	08/01/2013	FG-FACILITY-NORTH
	Sealers and adhesives used in	08/01/2013	FG-AUTOMACT
-FBP-NORTH	applied to the vehicles (truck cab). These sealers are ones that can generally be subject to the high heat that the vehicle is		FG-FACILITY-NORTH
PAINT; CAB)	exposed to in the paint shop		

	Emission Unit Description	Installation	
Emission Unit ID		Date/	Flexible Group ID
(including Process Equipme Control Device(s))	(Including Process Equipment & Control Device(s))	Modification Date	
	ovens. Emissions are released uncontrolled.		
EU-ECOAT-NORTH	Auto bodies (truck cab) are	08/01/2013	FG-FACILITY-NORTH
	electrocoat dip tank system followed by a curing oven. The		FG-CONTROLS- NORTH
	one regenerative thermal		FG-AUTOMACT
	-NORTH).		FG-CAM
EU-FLASH-PRIMER-	North paint shop flash primer	08/01/2013	FG-FACILITY-NORTH
NORTH	coating and prior to topcoat.		FG-AUTOMACT
EU-TOPCOAT1-NORTH	Topcoat is applied to vehicles (truck cab) automatically and	08/01/2013	FG-FACILITY-NORTH
	manually in the booths. Vehicles pass through associated curing oven(s). The emissions are controlled		FG-CONTROLS- NORTH
			FG-AUTOMACT
	by One regenerative thermal oxidizer (one north RTO or RTO -NORTH).		FG-CAM
EU-TOPCOAT2-NORTH	Topcoat is applied to vehicles	08/01/2013	FG-FACILITY-NORTH
	(truck cab) automatically and manually in the booths. Vehicles pass through associated curing oven(s). The emissions are controlled by		FG-CONTROLS- NORTH
			FG-AUTOMACT
	one regenerative thermal oxidizer (one north RTO or RTO -NORTH).		FG-CAM
EU-TOPCOAT3-NORTH	Topcoat is applied to vehicles	08/01/2013	FG-FACILITY-NORTH
	manually in the booths. Vehicles pass through associated curing oven(s). The emissions are controlled by		FG-CONTROLS- NORTH
			FG-AUTOMACT
	oxidizer (one north RTO or RTO -NORTH).		FG-CAM

		Installation	
Emission Unit ID	Emission Unit Description	Date/	Elexible Group ID
	(Including Process Equipment & Control Device(s))	Modification Date	
EU-TOUCH-UP-NORTH	Blemished areas on vehicles	08/01/2013	FG-FACILITY-NORTH
	repaired. This process is performed manually in the north paint shop area (Finesse Deck) and emissions are vented into the in-plant environment.		FG-AUTOMACT
EU-FINAL-SEALER	Sealers and adhesives are	04/19/1985	FG-FACILITY-NORTH
	applied to auto bodies manually and robotically. These sealers are ones that are not exposed to high heat. Also included in this emission unit is windshield and rear window glass installation. The sealer and adhesives are air cured, and the exhaust is vented in the plant.		FG-AUTOMACT
EU-PAINT-SPOT-	The north paint shop spot	04/19/1985	FG-FACILITY-NORTH
KEPAIK-NUK I H	stalls (not booths) for either re- routing damaged vehicles back to the topcoat spray booth or for repair of small paint defects or parts 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. Stacks are used for exhaust.		FG-AUTOMACT
EU-WIPE-NORTH	Auto bodies (truck cab, north)	08/01/2013	FG-FACILITY-NORTH
	solvents wipes during different phases of painting and assembly. The emissions are vented into the in-plant environment or through a stack.		FG-AUTOMACT
EU-PURGE-CLEAN-	Purge, cleanup solvents, and	08/01/2013	FG-FACILITY-NORTH
	throughout the north facility (CAB).		FG-AUTOMACT

	Emission Unit Description	Installation	
Emission Unit ID		Date/	Flexible Group ID
	(Including Process Equipment 8 Control Device(s))	Modification Date	
EU-AST1	6,000-gallon above grour gasoline storage tank.	d 04/30/1997	FG-FACILITY-NORTH
EU-AST2	6,000-gallon above grour diesel storage tank	d 04/30/1997	FG-FACILITY-NORTH
EU-AST3	8,000-gallon above grour automatic transmission flu storage tank.	id 04/30/1997 id	FG-FACILITY-NORTH
EU-AST4	8,000-gallon above grour diesel fuel storage tank.	d 04/30/1997	FG-FACILITY-NORTH
EU-AST5	8,000-gallon above grour motor oil storage tank.	d 04/30/1997	FG-FACILITY-NORTH
EU-AST6	8000-gallon above grour brake fluid storage tank.	d 04/30/1997	FG-FACILITY-NORTH
EU-AST7	15,000-gallon above grour automatic transmission flu storage tank.	id 04/30/1997 id	FG-FACILITY-NORTH
EU-AST8	15,000-gallon above grour antifreeze/coolant storage tan	d 04/30/1997 «.	FG-FACILITY-NORTH
EU-AST9	10,000-gallon above grour gasoline storage tank.	d 04/30/1997	FG-FACILITY-NORTH
EU-AST10	10,000-gallon above grour gasoline storage tank.	d 04/30/1997	FG-FACILITY-NORTH
EU-AST11	10,000-gallon above grour gasoline storage tank.	d 04/30/1997	FG-FACILITY-NORTH

1 age 23 01 / 6	Page	25	of	78	
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		Installation	
Emission Unit ID	Emission Unit Description	Date/	Elevible Group ID
	(Including Process Equipment & Control Device(s))	Modification Date	
EU-AST12	10,000-gallon above ground diesel fuel storage tank.	04/30/1997	FG-FACILITY-NORTH
EU-AST13	8,000-gallon above ground methanol storage tank.	04/30/1997	FG-FACILITY-NORTH FG-OLD-MACT
EU-AST14	5,000-gallon above ground backup storage tank.	04/30/1997	FG-FACILITY-NORTH
EU-DC1	5000-gallon underground diesel fuel storage tank.	10/30/1996	FG-FACILITY-NORTH
EU-NPS3	6,000-gallon above ground virgin phosphate storage tank.	08/01/2013	FG-FACILITY-NORTH FG-AUTOMACT
EU-NPS4	7,000-gallon above ground virgin E-coat pigment storage tank.	08/01/2013	FG-FACILITY-NORTH FG-AUTOMACT
EU-NPS5	15,000-gallon above ground virgin E-coat resin storage tank.	08/01/2013	FG-FACILITY-NORTH FG-AUTOMACT
EU-NPS7	7,000-gallon above ground waste solvent storage tank.	08/01/2013	FG-FACILITY-NORTH FG-AUTOMACT
EU-BODY-SHOP- NORTH	North body shop including 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.	08/01/2013	FG-FACILITY-NORTH FG-AUTOMACT

Page	26	of	78	
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	Emission Unit Description	Installation	
Emission Unit ID	(Including Process Equipment & Control Device(s))	Date/	Flexible Group ID
		Modification Date	
EU-HWG1	A natural gas fired hot water	05/13/2013	FG-FACILITY-NORTH
	input of 31.5 million BTU per		FG-BOILERS
	hour.		FG-BOILER-MACT- 5D
EU-HWG2	A natural gas fired hot water	05/13/2013	FG-FACILITY-NORTH
	input of 31.5 million BTU per		FG-BOILERS
	nour.		FG-BOILER-MACT- 5D
EU-HWG3	A natural gas fired hot water	05/13/2013	FG-FACILITY-NORTH
	generator with a maximum heat input of 31.5 million BTU per		FG-BOILERS
	hour.		FG-BOILER-MACT- 5D
EU-HWG4	A natural gas fired <i>hot water</i> generator with a maximum heat input of 18 million BTU per hour.	10/23/2017	FG-NG-SOUTH
			FG-BOILER-MACT- 5D
			FG-FACILITY-SOUTH
EU-HWG5	A natural gas fired <i>hot water</i> generator with a maximum heat input of 18 million BTU per hour.	10/23/2017	FG-NG-SOUTH
			FG-BOILER-MACT- 5D
			FG-FACILITY-SOUTH
EU-HWG6	A natural gas fired <i>hot water</i> generator with a maximum heat input of 18 million BTU per hour.	10/23/2017	FG-NG-SOUTH
			FG-BOILER-MACT- 5D
			FG-FACILITY-SOUTH
EU-ENG-PH1	FG-ENG-FIREPUMP: 40 CFR Part 60, Subpart IIII – New Source Performance Standards, for, new emergency, compression ignition (CI) reciprocating internal combustion engines	04/24/2002	FG-ENG-FIREPUMP

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
	(RICE), that have a maximum site rating of less than 500 brake hp. The emergency engines are for the fire pumps located in the pump house. The two engines are certified.		
	294 < 500 HP, diesel fueled, emergency reciprocating internal combustion engine (CI RICE, Em).		
EU-ENG-PH2	FG-ENG-FIREPUMP: 40 CFR Part 60, Subpart IIII – New Source Performance Standards, for, new emergency, compression ignition (CI) reciprocating internal combustion engines (RICE), that have a maximum site rating of less than 500 brake hp. The emergency engines are for the fire pumps located in the pump house. The two engines are certified.	04/24/2002	FG-ENG-FIREPUMP
	335 < 500 HP, diesel fueled, emergency reciprocating internal combustion engine (CI RICE, Em).		
EU-ENG-DATACTR	4,091 > 500 HP, diesel fueled, emergency reciprocating internal combustion engine (CI RICE, Em). (Built date: 12/05/2006)	09/02/2007	FG-RULE 290 FG-NSPS IIII EMERGENCY PRE- 2007 < 10 I/CYL FG-ENG-DATACTR
EU-ENG-GENASSY	2,345 > 500 HP, diesel fueled, emergency reciprocating internal combustion engine (CI RICE, Em).	01/01/1996	FG-RULE 290 FG-MACT-ZZZZ- EXISTING- EMERGENCY CI > 500 HP

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-ENG-NORTH- PSHOP1	 383 HP, natural gas fueled, emergency reciprocating internal combustion engine. (383 HP, certified, NG SI RICE NSPS 4J, EM). 	05/01/2013	FG-NSPS JJJJ EMERGENCY > 100 BUT < 500 HP
EU-ENG-NORTH- BSHOP	 335 HP, natural gas fueled, emergency reciprocating internal combustion engine. (335 HP, certified, NG SI RICE NSPS 4J, EM). 	05/01/2013	FG-NSPS JJJJ EMERGENCY > 100 BUT < 500 HP
EU-ENG-PSHOP-NC- 701HP	 701 HP, natural gas fueled, emergency reciprocating internal combustion engine. (701 > 500 HP, 5/1/13, SI RICE NSPS 4J, non-certified, every 8,760 or triennial (1/3 years), whichever occurs first, operating hours emissions testing). 	05/01/2013	FG-NSPS JJJJ EMERGENCY > 500 HP
EU-ENG-GEN1-SOUTH	Emergency engine subject to 40 CFR Part 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines. A new/reconstructed emergency engine greater than 500 HP constructed on or after January 1, 2009.	01/19/2018	FG-NSPS JJJJ EMERGENCY > 500 HP FG-FACILITY-SOUTH
EU-ENG-GEN2-SOUTH	(SI RICE NSPS 4J, > 500 HP, EM). Emergency engine subject to 40 CFR Part 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines. A new/reconstructed emergency engine greater than 500 HP	01/19/2018	FG-NSPS JJJJ EMERGENCY > 500 HP FG-FACILITY-SOUTH

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s)) constructed on or after January 1, 2009.	Installation Date/ Modification Date	Flexible Group ID
EU-PHOSPHATE- SOUTH	A series of dip tanks and rinse tanks for the surface treatment of light duty truck boxes at the south paint shop. None of the materials used in EU- PHOSPHATE-SOUTH (BOX) contains VOC or HAP that are emitted from the process.	12/27/2017	FG-FACILITY-SOUTH
EU-E-COAT-SOUTH	An electrodeposition coating process (E-coat) consisting of a series of dip tanks, rinse tanks, followed by a curing oven and a sanding booth. Small amounts of flash (spot) prime may be used to repair defects in the E- coat in the sand booth. Emissions from the E-coat process are directed to the oven. VOC emissions from the oven are controlled by a south Regenerative Thermal Oxidizer (RTO-SOUTH or south RTO).	12/17/2017	FG-CONTROL- SOUTH FG-CAM FG-AUTOMACT FG-FACILITY-SOUTH FG-RTO- SOUTH&POWDER- OVEN-PM
EU-SEALER-SOUTH	Manual and robotic applicators are 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.	12/12/2017	FG-AUTOMACT FG-FACILITY-SOUTH
EU-POWDERCOAT- SOUTH	A powder anti-chip coating which is electrostatically applied. The spray booth also includes the application of a	12/12/2017	FG-AUTOMACT FG-FACILITY-SOUTH

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s)) powder basecoat for tu-tone truck boxes. The powder spray application is controlled by a particulate filtration system which is vented inside the plant.	Installation Date/ Modification Date	Flexible Group ID FG-RTO- SOUTH&POWDER- OVEN-PM
EU-TOPCOAT1-SOUTH	At south paint shop, a color preparation sanding booth (topcoat sand), followed by two (2) identical and parallel topcoat lines (TOPCOAT1 and TOPCOAT2), each consisting of: A water-borne basecoat application followed by a solvent borne clearcoat. The paint applications will be performed by robotics with 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 a south Regenerative Thermal Oxidizer (RTO-SOUTH).	12/12/2017	FG-TOPCOAT- SOUTH FG-AUTOMACT FG-FACILITY-SOUTH FG-CONTROL- SOUTH FG-CAM FG-RTO- SOUTH&POWDER- OVEN-PM
EU-TOPCOAT2-SOUTH	At south paint shop, a color preparation sanding booth (topcoat sand), followed by two (2) identical and parallel topcoat lines (TOPCOAT1 and TOPCOAT2), each consisting of: A water-borne basecoat application followed by a solvent borne clearcoat. The paint applications will be performed by robotics with bell applicators (except in emergency back-up situations). A heated flash	12/12/2017	FG-TOPCOAT- SOUTH FG-AUTOMACT FG-FACILITY-SOUTH FG-CONTROL- SOUTH FG-CAM FG-RTO- SOUTH&POWDER- OVEN-PM

	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation	
Emission Unit ID		Date/	Elexible Group ID
		Modification Date	
	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 a south Regenerative Thermal Oxidizer (RTO-SOUTH).		
EU-MISC-SOLVENTS- SOUTH	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.	12/12/2017	FG-CONTROL- SOUTH
			FG-CAM
			FG-AUTOMACT
			FG-FACILITY-SOUTH
			FG-RTO- SOUTH&POWDER- OVEN-PM
EU-SPOT-REPAIR1-	A dry filter spot repair booth. The booths are equipped with air atomized applicators or equivalent technology with comparable or better transfer efficiency.	08/01/2018	FG-REPAIR-SOUTH
SOUTH			FG-AUTOMACT
			FG-CONTROL- SOUTH
			FG-FACILITY-SOUTH
EU-SPOT-REPAIR2- SOUTH	A dry filter spot repair booth. The booths are equipped with air atomized applicators or equivalent technology with comparable or better transfer efficiency.	08/01/2018	FG-REPAIR-SOUTH
			FG-AUTOMACT
			FG-CONTROL- SOUTH
			FG-FACILITY-SOUTH

MI-ROP-B7248-2020 → MI-ROP-B7248-2020a. The Minor Modification (MM) was done pursuant Rule 336.1216(2) by Caryn Owens of EGLE-AQD. Minor Modification (MM) No. 202200110 was to incorporate PTI No. 17-22 into the ROP. The MM was to update the PM10 and PM2.5 emission limits for the

	Enviroine Unit Decemination	Installation	
Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Date/	Flexible Group ID
		Modification Date	· · · · · · · · · · · · · · · · · · ·
combined stack from EU- 0.052 pounds per hour (pr	SPOT-REPAIR1-SOUTH (BOX) and EU oh) to 0.25 pph (increase in the limits)	-SPOT-REPAIR	2-SOUTH (BOX) from
HEAVY-REPAIR-	A dry filter repair booth used	02/19/2018	FG-REPAIR-SOUTH
	work prior to painting. No		FG-AUTOMACT
	painting occurs in this area.		FG-CONTROL- SOUTH
			FG-FACILITY-SOUTH
EU-AST-PURGE	An above ground 10,000-gallon-	12/12/2017	FG-AUTOMACT
SOUTH	or-less waste purge solvent storage tank.		FG-FACILITY-SOUTH
EU-SOBL- APPLICATION	Multiple bays in which bedliner materials will be robotically sprayed onto fully assembled and painted trucks from the main assembly plant Spray-on Bedliner (SOBL)). Raw materials include cleaning solvents, a bonding agent, and a two (2) part polyurethane resin. This equipment is located at 7566 Metropolitan Parkway, directly across the street from the South Paint Shop (BOX) at the main assembly plant.	02/12/2018	FG-AUTOMACT FG-SOBL
EU-SOBL-NAT-GAS	Natural gas-fired space heating equipment to provide comfort and process heating for the spray-on bedliner (SOBL) facility. The equipment has a total combined maximum heat input capacity of 23.3 MMBtu/hr. This equipment is located at 7566 Metropolitan Parkway, directly across the street from the South Paint Shop at the main assembly plant.	02/12/2018	FG-SOBL

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-WAREHOUSE-NAT- GAS	Natural gas-fired space heating equipment to provide comfort heating at a storage warehouse, which is located across 17 Mile Road, approximately one-half mile north of the northern boundary of the main assembly plant. The equipment has a total combined maximum heat input capacity of 6.5 million BTU per hour. The heaters are equipped with low NOx burners	02/01/2018	ΝΑ

North Paint Shop (NPS (CAB)) December 2023 Operating Data

NPS-PROD. DAYS = 21 (395 hours)

CAB Painted =21,945

Vehicles Built = 18,673

South Paint Shop (SPS (BOX) December 2023 Operating Data

SPS-PROD. DAYS = 21 (395 hours)

BOX Painted =21,741

Vehicles Built = 18,673

CY 2023 Boxes painted: 348,810

CY 2023 Cabs painted: 303,010

CY 2023 vehicles painted: 274,814

Dry filters: All filters are inspected by contractor and replaced if necessary.

MI-ROP-B7248-2020a, EU-WWASH&GASFIL (CAB)

EU-WWASH&GASFIL (FG-FACILITY-NORTH): Windshield washer fill and Gasoline fill stations.

VOC Control: Onboard Re-fueling Vapor Recovery (ORVR) system

An ORVR carbon-filled canister (required by Clean Air Act, Mobile Sources) is designed to capture fuel vapors displaced while refueling, and then to inject them into the intake manifold later on, so that they are burned along with the regular fuel, during normal engine operation. On May 9, 2012, the U.S. Environmental Protection Agency (EPA) determined that the use of onboard refueling vapor recovery (ORVR) for capturing gasoline vapor when gasoline-powered vehicles are refueled is in widespread use throughout the highway motor vehicle fleet. Stage II vapor recovery system is not necessary.

Dispensing equipment for filling of brake fluid, anti-freeze, windshield washer fluid, and fuel fill are located in the same area/line. ORVR is required by federal law for all vehicles.

MI-ROP-B7248-2020a, EU-SANDING-NORTH

EU-SANDING-NORTH (CAB) (FG-FACILITY-NORTH): Color prep and reprocess spot repair operations at north paint shop. Color prep is for powder paint repair and reprocess spot repair is for repairs made after topcoat.

PM Control: Dry Filter System

The color prep tack-off booth, main color spot process tack-off booth, and the rerun booth are equipped with their respective dry filter particulate control systems. The filters are inspected monthly and replaced if necessary.

The particle emissions after dry filter system are discharged via SVST-CLRPREP (Color Prep) and SVST-RPRCS (Reprocess).

MI-ROP-B7248-2020a, EU-SEALERS&ADHESIVES-FBP-NORTH (FRAME, BODY & PAINT; CAB)

EU-SEALERS&ADHESIVES-FBP-NORTH (FRAME, BODY & PAINT; CAB) (FG-FACILITY-NORTH and FG-AUTOMACT): Sealers and adhesives used in frame/body and paint are applied to the vehicles (truck cab). These sealers are ones that can generally be subject to the high heat that the vehicle is exposed to in the paint shop ovens. The uncontrolled emissions are released to in-plant environment.

VOC content is determined via formulation information.

The sealers are all applied after the e-coat 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 were released either in-plant or outdoor but uncontrolled. Due to opacity issues, emissions from the sealer oven, after the sealer application, are now ducted to the corresponding RTO (north and south).

December 2021: 3.72 tons per year VOC generated in BODY AND PAINT SEALER APPLICATION-NORTH PAINT SHOP.

December 2023: 17.3 tons per year VOC generated in BODY AND PAINT SEALER APPLICATION-NORTH PAINT SHOP.

MI-ROP-B7248-2020a, EU-E-COAT-NORTH (CAB)

EU-E-COAT-NORTH (CAB) (FG-FACILITY-NORTH, FG-CONTROLS-NORTH, FG-AUTOMACT and FG-CAM): Auto bodies (truck cab) are primed in an enclosed electrocoat (e-coat) dip tank system followed by a curing oven.

VOC Control: One regenerative thermal oxidizer (one north RTO or RTO-NORTH (truck cab)) controlling both the e-coat tank and oven.

Anodic e-coat (7-stage) operates with charged paint particles and grounded vehicle body resulting in electrostatic forces of attraction. The paint bath consists of 23% solids. Anodes charge paint particles.

Based upon the RTO-North temperature data / graph (May 2024) the RTO is operating at ≈1500 °F > 1450 °F (July 2019 test) ≥ 1,350°F (Permit). North Regenerative Thermal Oxidizer Destruction Efficiency was 95.4 percent (North RTO DE 95.4% ≥ 95%) at 1450 °F according to the test of 7/31/19. (MI-ROP-B7248-2020a, EU-E-COAT-NORTH (CAB), IV.1: ≥ 95% DE and ≥ 1,350°F)

CY2020: 271,602 vehicles painted

CY2021: 310,891 vehicles painted

CY2023: 282,725 vehicles built, and 330,562 vehicles painted.

December 2021:425 pounds VOC generated ELECTROECOAT-NORTH PAINT SHOP-EMISSION ID: EU-ECOAT. 0.018 (W/OUT DE) pounds of VOC per gallon of applied coating solids.

December 2023: 513 pounds VOC generated ELECTROECOAT-NORTH PAINT SHOP 0.018 (W/OUT DE) pounds of VOC per gallon of applied coating solids.

CY 2021: 569,424 gallons of e-coat paint per year North Paint Electro coat Dip tank system followed by a curing oven

CY 2023: 395,961 gallons of e-coat paint per year North Paint Electro Coat Dip tank system followed by a curing oven with attendant emissions after North-RTO 567 pounds of VOC per year.

The emissions are discharged via SVST-57 (RTO-NORTH)

MI-ROP-B7248-2020a, EU-FLASH-PRIMER-NORTH

EU-FLASH-PRIMER-NORTH (CAB) (FG-FACILITY-NORTH and FG-AUTOMACT): North paint shop flash primer booth prior to anti-chip powder coating and prior to topcoat.

PM Control: Dry Filter particulate control system.
The 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. The dry filter system is installed and appears to be operating properly.

December 2021: 20.04 pounds per month VOC generated using 6.68 gallons in FLASH PRIMER REPAIR STATION-EMISSION ID: EU-FLASH-PRIMER-NORTH

December 2023: 19.44 pounds per month VOC generated using 2.91 gallons in FLASH PRIMER REPAIR STATION-EMISSION ID: EU-FLASH-PRIMER-NORTH

CY 2023: 264 pounds of VOC per year

The flash primer north repair emissions are discharged via SV-FLASHPRIMER (CAB)

MI-ROP-B7248-2020a, EU-TOPCOAT1-NORTH, EU-TOPCOAT2-NORTH, EU-TOPCOAT3-NORTH

EU-TOPCOAT1-NORTH (CAB), EU-TOPCOAT2-NORTH (CAB), EU-TOPCOAT3-NORTH (CAB) (FG-FACILITY-NORTH, FG-CONTROLS-NORTH, FG-AUTOMACT and FG-CAM): Topcoat is applied to vehicles (truck cab) automatically and manually in booths. Vehicles pass through associated curing oven(s).

- 1. PM Control: A downdraft water-wash system
- 2. **VOC Control:** One regenerative thermal oxidizer (one north RTO or RTO-NORTH (truck cab)).

EU-TOPCOAT 1, 2, & 3 - these emission units consist of 3 parallel lines (Topcoat Lines 1, 2, & 3). Topcoat Lines 2 & 3 are practically identical lines. 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 tri-color coating.

Drown-draft Water-wash particulate control systems (wet floor) are essential part of the paint process to ensure uncontaminated high-quality finish. The system is

maintained properly. Proper functioning of the water wash system is critical to high quality paint finish. (MI-ROP-B7248-2020a, EU-TOPCOAT1thru3-NORTH (CAB), IV.1: proper operation of downdraft water-wash particulate controls). 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.

Based upon the RTO-North temperature data / graph the RTO is operating at ≈1500 °F > 1450 °F (July 2019 test) ≥ 1,350°F (Permit).

I did not smell any solvent odors during the walk-through indicating proper operation of the capture systems.

CY 2023: 274,814 Boxes painted.

CY 2023: EU-TOPCOAT1 = 58,031 Water-borne BC & 61,227 solvent-based CC gallons per year

CY 2023: EU-TOPCOAT2 = 59,975 Water-borne BC & 62,514 solvent-based CC gallons per year

CY 2023: EU-TOPCOAT3 = 58,712 Water-borne BC & 62,818 solvent-based CC gallons per year

CY 2023: TOPCOAT Total: 176,718 gallons per year BC & 186,559 gallons per year CC. VOC emissions BC = 181,837 pounds per year & CC = 67,960 pounds per year.

BC: Only basecoat heated flash zone is controlled.

CC: All portions are controlled.

The VOC emissions are discharged via SVST-4 (basecoat) and SVST-57 (north RTO)

MI-ROP-B7248-2020a, EU-TOUCH-UP-NORTH (CAB):

EU-TOUCH-UP-NORTH (CAB) (FG-FACILITY-NORTH and FG-AUTOMACT): Blemished areas on vehicles (truck cab) are identified and repaired. This process is performed manually in the north paint shop area (Finesse Deck) and emissions are vented into the in-plant environment.

The touch-up 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. I neither detected visible emissions (VE or opacity) nor solvent odor during the walk-through. Formulations data is used in the calculations.

CY 2023: 64 pounds of VOC per year.

MI-ROP-B7248-2020a, EU-PAINT-SPOT-REPAIR-NORTH (CAB)

EU-PAINT-SPOT-REPAIR-NORTH (CAB) (FG-FACILITY-NORTH and FG-AUTOMACT): The north paint shop spot repair operations consist of stalls for either re-routing damaged vehicles back to the topcoat spray booth or for repair of small paint defects or parts 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. Stacks are used for exhaust.

During the walk-through inspection, I did not observe any visible emissions (VEs) while in the area. The dry filters are installed and operating properly. (MI-ROP-B7248-2020a, EU-PAINT-SPOT-REPAIR-NORTH (CAB), IV.1: dry filter particulate controls operating properly)

CY 2023: 64 pounds of VOC per year.

MI-ROP-B7248-2020a, EU-WIPE-NORTH (CAB)

EU-WIPE-NORTH (CAB) (FG-FACILITY-NORTH and FG-AUTOMACT): Auto bodies (truck cab, north) are manually wiped with solvents wipes during different phases of painting and assembly. The emissions are vented into the in-plant environment or through a stack.

North truck cab auto bodies are manually wiped with solvents wipes during different phases of painting and assembly operations in various areas of the facility. The VOC emissions are either vented into in-plant or through a stack. Wipes are generally IPA

(85% isopropyl alcohol or IPA & rest DI Water) containing wet clothes. The spent wipes are always stored in closed containers to prevent evaporation.

CY 2023: 4,072 gallons per year - Solvent Wiping of the Vehicles in several phases of painting processes. VOC = 27,332 pounds per year.

MI-ROP-B7248-2020a, EU-PURGE-CLEAN-NORTH (CAB)

EU-PURGE-CLEAN-NORTH (CAB) (FG-FACILITY-NORTH and FG-AUTOMACT): Purge, cleanup solvents, and non-production solvents used throughout the north facility (CAB).

Purge, cleanup solvents, and non-production solvents are used throughout the facility. In spray systems past paint is purged clean.

December 2023: 208,026 gallons of solvents = 452647 pounds = 226 tons of - Purge and non-production solvent VOC generated. (MI-ROP-B7248-2020a, EU-PURGE-CLEAN-NORTH (CAB), I.1 & VI.1: 223.2 tpy & VOC records are kept & the calculations are performed). Slightly higher VOC than the limit.

Purge emissions in the booth are controlled by an RTO and captured solvents and solids are disposed of as RCRA waste.

MI-ROP-B7248-2020a, EU-PHOSPHATE-SOUTH (BOX)

EU-PHOSPHATE-SOUTH (BOX) (FG-FACILITY-SOUTH): A series of dip tanks and rinses for the surface treatment of light duty truck boxes at the south paint shop. None of the materials used in EU-PHOSPHATE-SOUTH (BOX) contain VOC or HAP that are emitted from the process.

None of the materials used in EU-PHOSPHATE-SOUTH (BOX) contain any VOC or HAP (MI-ROP-B7248-2020a, EU-PHOSPHATE-SOUTH (BOX), II.1: no VOC or HAP)

EU-DEADNER

Per Mr. Sanni, this process was uninstalled or dismantled in October 2017.

MI-ROP-B7248-2020a, EU-E-COAT-SOUTH (BOX)

EU-E-COAT-SOUTH (BOX) (FG-CONTROL-SOUTH, FG-CAM, FG-AUTOMACT, FG-FACILITY-SOUTH and FG-RTO-SOUTH&POWDER-OVEN-PM): An electrodeposition coating process (E-coat) 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 defects in the E-coat in the sand booth. Emissions from the E-coat tanks are directed to the oven. VOC emissions from the oven are controlled by a Regenerative Thermal Oxidizer (RTO-SOUTH or south RTO).

- 1. VOC Control: RTO-SOUTH (or south RTO) for VOC control from e-coat tank and oven.
- 2. PM Control: Dry filter system for particulate control from the e-coat sanding booth.

CY 2021: 0.0054 pounds of VOC per GACS and 0.42 tons of VOC per year (MI-ROP-B7248-2020, EU-E-COAT-SOUTH (BOX), I.1 & 2 limits: 0.04 lb/GACS & 2.32 tpy VOC)

CY2021: 241,666 & 43,097 gallons per year paint (South Paint Box Line Electrodeposition Dip Tank Process) and solvents (South Box Line: Vehicles Cleaning prior to Phosphating Process), respectively, per year

CY 2023: 0.005 (without RTO-South DE = 95%) << Limit (0.04) pounds of VOC per gallon of applied coating solids (lb/GACS). For December 2023.

Ib/GACS = pounds of VOC per gallon of applied coating solids. Compliance with this PSD BACT limit constitutes compliance with the NSPS MM for e-coat VOC emissions limit (1.34 lbs VOC/GACS). PSD BACT is more stringent standard than RACT Rule 336.1610 (1.2 pounds of VOC per gallon of coating). Note the different units: pounds of VOC per gallon of applied coating solids and pounds of VOC per gallon of coating.

All waste coatings and other materials are kept in closed containers. All access doors and windows on the electrocoat dip tank are kept closed whenever the electrocoat process is in operation. (MI-ROP-B7248-2020a, EU-E-COAT-SOUTH (BOX), III.1-2)

Based upon the random RTO-South temperature data / graph the RTO is operating at ≈1520 °F (Set point = 1475) (1475 °F (November 8-9, 2018, test) ≤ 1,500°F (Permit).

I did not smell any solvent odors during the walk-through indicating proper operation of the capture systems.

Records of coatings, VOC, hours of operation, etc. are maintained and emissions calculations expressed in the units required are performed. South RTO temperatures are recorded in graph format, as stated above. (MI-ROP-B7248-2020a, EU-E-COAT-SOUTH (BOX), VI,1-4)

The emissions are discharged via SV-RTO (south) and SV-SPOT PRIME (flash prime booth). The E-coat sanding booth portion of EU-E-COAT-SOUTH (BOX) are discharged into the general in-plant environment.

MI-ROP-B7248-2020a, EU-SEALER-SOUTH (BOX)

EU-SEALER-SOUTH (BOX) (FG-AUTOMACT and FG-FACILITY-SOUTH): Manual and robotic applicators are 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.

CY 2021: 346,216 Boxes painted per year.

December 2021: 0.47 tons of VOC per year - Box sealer emissions (MI-ROP-B7248-2020a, EU-SEALER-SOUTH (BOX), I.2 limit: 17.3 tpy VOC)

CY 2023: 9307 pounds = 4.5 << 17.3 tons per year (MI-ROP-B7248-2020a, EU-SEALER -SOUTH (BOX), I.2 limit: 17.3 tpy VOC).

All waste materials are kept in closed containers. (MI-ROP-B7248-2020a, EU-SEALER-SOUTH (BOX), III.1: closed containers and disposed of in an acceptable manner)

The required records are kept; and the calculations expressed in the required units are performed. (MI-ROP-B7248-2020a, EU-SEALER-SOUTH (BOX), VI.1-3: the records and calculations)

MI-ROP-B7248-2020a, EU-POWDERCOAT-SOUTH

EU-POWDERCOAT-SOUTH (BOX) (FG-AUTOMACT, FG-RTO-SOUTH&POWDER-OVEN-PM & FG-FACILITY-SOUTH): A powder anti-chip coating which is electrostatically applied. The spray booth also includes the application of a powder basecoat for tu-tone truck boxes. The powder spray application is controlled by a particulate filtration system which is vented inside the plant.

Powder anti-chip coating which includes the application of a colored powder basecoat for tutone truck boxes is applied electrostatically such that BOX is grounded and powder is charged. The powder spray application is controlled by a particulate filtration system that is vented inside the plant. The system a is closed loop system.

FCA-SHAP contracts an outside vendor to conduct once per week visible emission (VE) reading and the vendor performs Method 9 Opacity readings by a certified reader when a VE is observed (MI-ROP-B7248-2020a, EU-POWDERCOAT-SOUTH, V.1: (at powder oven stacks) weekly opacity readings; once per month observation is allowed if there is no opacity recorded for four (4) consecutive readings (4 weeks)).

The oven emissions are discharged via SV-POWDERCOAT-CURE-OVEN-1 and SV-POWDERCOAT-CURE-OVEN-2.

The exhaust (from non-oven EU-POWDERCOAT-SOUTH (BOX)) is not to outside ambient air other than the cure ovens.

MI-ROP-B7248-2020a, EU-MISC-SOLVENTS-SOUTH (BOX)

EU-MISC-SOLVENTS-SOUTH (BOX) (FG-CONTROL-SOUTH, FG-CAM, FG-AUTOMACT, FG-RTO-SOUTH&POWDER-OVEN-PM and FG-FACILITY-SOUTH): 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.

VOC Controls:

1. South RTO (BOX) or RTO-SOUTH (BOX)

2. Purge solvent recovery system

VOC emissions from the purge solvents used within topcoat booths are controlled by the RTO except when manifested in the waste collection system.

December 2021: 28,467 BOXES painted and 24,532 vehicles built.

December 2021: 0.131 tpy VOC SOUTH PAINT CENTER NONPRODUCTION CLEANING SOLVENTS accounting for 3,020.1 pounds VOC generated and 2,757.88 pounds of VOC reclaimed via Purge Solvent Credit. (MI-ROP-B7248-2020a, EU-MISC-SOLVENTS-SOUTH (BOX), I.1 limit: 82.6 tpy VOC). 0.00038 (highest for April 2021) tons of VOC per tons per 1,000 saleable truck boxes (MI-ROP-B7248-2020a, EU-MISC-SOLVENTS-SOUTH (BOX), I.2 limit: 0.2 tons per 1000 saleable truck boxes (Saleable truck boxes means the number of saleable vehicles out of final assembly))

CY 2023: 14022 pounds = 7.01 << 82.6 tons of VOC per year

Purge solvent recovery system on the clearcoat automatic robots within each of the two topcoat booths are installed and operating (MI-ROP-B7248-2020a, EU-MISC-SOLVENTS-SOUTH (BOX), IV.1: a purge solvent recovery system on the clearcoat automatic robots within each of the two topcoat booths)

Based upon the RTO-South temperature data / graph the RTO is operating at ≈1520 ° F (Set point = 1475) (1475 °F (November 8-9, 2018, test) ≤ 1,500°F (Permit)).

Coatings, VOC, hours of operation, saleable BOXES, etc. records are maintained and emissions calculations expressed in the units required are performed. South RTO temperatures are recorded in graph format, as stated above. (MI-ROP-B7248-2020, EU -MISC-SOLVENTS-SOUTH (BOX), VI,1-3)

MI-ROP-B7248-2020a, EU-WAREHOUSE-NAT-GAS

EU-WAREHOUSE-NAT-GAS: Natural gas-fired space heating equipment to provide comfort heating at a storage warehouse, which is located across 17 Mile Road, approximately one-half mile north of the northern boundary of the main assembly plant. The equipment has a total combined maximum heat input capacity of 6.5 million BTU per hour. The heaters are equipped with low NOx burners.

NO_X Control: Low NOx burners on all natural-gas-fired combustion equipment

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.

MI-ROP-B7248-2020a, EU-AST13 (FG-OLD-MACT)

EU-AST13: 8,000-gallon above ground methanol storage tank

40 CFR Part 63, Subpart A and Subpart EEEE (NESHAP / OLD MACT 4E) for Organic Liquid Distribution (OLD) (non-gasoline)

MI-ROP-B7248-2020a, EU-NPS4

EU-NPS4: 7,000-gallon above ground virgin e-coat pigment storage tank

MI-ROP-B7248-2020a, EU-NPS5

EU-NPS5: 15,000-gallon above ground virgin e-coat resin storage tank.

MI-ROP-B7248-2020a, EU-BODY-SHOP-NORTH (CAB)

EU-BODY-SHOP-NORTH (CAB) (FG-FACILITY-NORTH and FG-AUTOMACT): North body shop including 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.

Each combustion equipment burns only pipeline quality sweet natural gas (NG).

CY2020 NG: 29.18 million standard cubic feet per year (MM SCFT/Yr)

CY2021 NG: 67.44 million standard cubic feet per year (MM SCFT/Yr)

(MI-ROP-B7248-2020a, EU-BODY-SHOP-NORTH (CAB), II.1 limit: 718 MM SCFT/Yr)

CY 2023: 124.89 << 718 million standard cubic feet per year (MM SCFT/Yr)

MI-ROP-B7248-2020a, Flexible Groups (FGs)

Associated

Flexible Group ID

Flexible Group Description

Emission Unit IDs

FG-FACILITY-NORTH This flexible group covers all All emission units equipment at automotive associated with automotive assembly and north painting assembly and north painting operations (CAB) excluding south operations (CAB) excluding paint shop (BOX), where truck south paint shop (BOX) boxes are painted. One emission units. This regenerative thermal oxidizer includes clean up and purge (north RTO or RTO-NORTH) for activities, fuel storage tanks, control of VOC emissions. and boilers in the north plant (CAB).

The emission units include:

EU-FINAL-REPAIR, EU-WWASH&GASFIL, EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-SANDING-NORTH, EU-SEALERS&ADHESIVES-FBP -NORTH (FRAME, BODY & PAINT; CAB), EU-ECOAT-NORTH, EU-FLASH-PRIMER-NORTH, EU-TOPCOAT1-NORTH, EU-TOPCOAT2-NORTH, EU-TOPCOAT3-NORTH, EU-TOUCH-UP-NORTH, EU-FINAL-SEALER, EU-PAINT-SPOT-REPAIR-

		Associated
Flexible Group ID	Flexible Group Description	Emission Unit IDs
		NORTH, EU-WIPE-NORTH, EU-PURGE-CLEAN-NORTH, EU-AST1 thru EU-AST15, EU -DC1, EU-NPS1, EU-NPS3 thru EU-NPS5, EU-NPS7, EU- BODY-SHOP-NORTH, EU- HWG1 thru EU-HWG3.
FG-CONTROL-NORTH	Regenerative thermal oxidiz (north RTO or RTO-NORTH) use for control of VOC emissions fro the north paint spray booths an curing ovens. The north RTO (RTO-NORTH) controls the E-co tank, basecoat heated flash zone the clearcoat automatic section of the paint spray booths, and the coating ovens associated with coat and topcoat, in the Nor Paint Shop.	er All emission associated with ed automotive assembly and om north painting operations in nd north paint shop (CAB) with or VOC controls in FG- bat FACILITY-NORTH. es, ns he E-The emission units include: th EU-ECOAT-NORTH, EU- TOPCOAT1-NORTH, EU- TOPCOAT2-NORTH, EU- TOPCOAT3-NORTH.
FG-BOILERS	Three (3) natural gas fired boile used to generate hot water for in plant use. One boiler has a het input capacity of 85 million BT per hour and the other two (each have a heat input capacity 118 million BTU per hour. Boil Nos. 2 and 3 are equipped with 10 NOx burner technology. EU-HW 1, 2 & 3 are each a 31.5 million BTU per hour natural gas fired h water generator. EU-HWG 4, 5 & are each 18 million BTU per hour natural gas fired hot wate generator. All boilers are equipped with Oxygen Trim Systems.	ers EU-BOILER1 in- eat EU-BOILER2 FU (2) EU-BOILER3 of er EU-HWG1 DV G EU-HWG2 on EU-HWG3. i ⁶ EU-HWG4 ur er EU-HWG5 ed EU-HWG6
FG-CAM	Compliance Assurance Monitoria (CAM) requirements for north RT (RTO-NORTH) and south RT (RTO-SOUTH), The RTOs redu VOC emissions to comply with th corresponding emission limits various north and south pair shop processes.	ng EU-ECOAT-NORTH TO TO EU-TOPCOAT1-NORTH ce he EU-TOPCOAT2-NORTH in EU-TOPCOAT3-NORTH

Associated Flexible Group ID **Flexible Group Description** Emission Unit IDs EU-TOPCOAT1-SOUTH EU-**TOPCOAT2-SOUTH EU-MISC-SOLVENTS-SOUTH FG-AUTOMACT** Each new, reconstructed, or EU-ECOAT-NORTH existing affected source as defined in Title 40 of the Code of EU-FLASH-PRIMER-NORTH Federal Regulations (CFR), Part 63.3082, that is located at a facility EU-TOPCOAT1-NORTH which applies topcoat to new automobile or new light duty truck EU-TOPCOAT2-NORTH bodies or body parts for new automobiles or new light duty EU-TOPCOAT3-NORTH trucks; AND/OR in which you EU-TOUCH-UP-NORTH choose to include, pursuant to 40 CFR 63.3082(c), any coating EU-SEALERS&ADHESIVESoperations which apply coatings FBP-NORTH to new other motor vehicle bodies or body parts for new other motor vehicles; parts intended for use in new automobiles, new light duty EU-FINAL-REPAIR-NORTH trucks or new other motor vehicles; or aftermarket repair or EU-FINAL-SEALER replacement parts for automobiles, light duty trucks or EU-PAINT-SPOT-REPAIRother motor vehicles; and that is a NORTH major source, is located at a major source, or is part of a major source of emissions of hazardous air pollutants (HAPs) except as EU-WIPE-NORTH provided in 63.3081(c). This includes equipment covered by EU-PURGE-CLEAN-NORTH permits, grandfathered EU-AST15 other equipment, and exempt equipment. An affected source is a EU-NPS1 new affected source if you commenced its construction / EU-NPS3 reconstruction after December 24, 2002. Coating operations at SHAP EU-NPS4 consist of two separate painting facilities: north plant (CAB) with EU-NPS5 RTO-NORTH and south plant (BOX) with RTO-SOUTH. Both EU-NPS7 and south north coating **EU-E-COAT-SOUTH** operations are considered new. **EU-SEALER-SOUTH**

EU-POWDERCOAT-SOUTH

EU-TOPCOAT1-SOUTH

EU-TOPCOAT2-SOUTH

		Associated
Flexible Group ID	Flexible Group Description	Emission Unit IDs
		EU-MISC-SOLVENTS-SOUTH
		EU-SPOT-REPAIR1-SOUTH EU-SPOT-REPAIR2-SOUTH EU-HEAVY-REPAIR-SOUTH EU- AST-PURGE-SOUTH
		EU-SOBL-APPLICATION
FG-TOPCOAT-SOUTH	A color preparation sanding booth (topcoat sand), followed by two (2) identical and parallel topcoat lines each consisting of: A water-borned basecoat application followed by a solvent borne clearcoat. All pain application will be performed by robotic and bell applicators (except in emergency back-up situations). A heated flash zone 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 and controlled by a south Regenerative Thermal Oxidize (RTO-SOUTH).	EU-TOPCOAT1-SOUTH , EU-TOPCOAT2-SOUTH , EU-TOP
FG-REPAIR-SOUTH	Spot and final repair operations for the south paint shop used to paint truck boxes.	SEU-SPOT-REPAIR1-SOUTH EU-SPOT-REPAIR2-SOUTH
		EU-HEAVY-REPAIR-SOUTH
FG-NG-SOUTH	Three (3) natural gas fired ho water generators equipped with low NOx burners with a maximum heat input of up to 18 million BTU (MM BTU) per hour each. This flexible group also includes al natural gas combustion in all ai	tEU-E-COAT-SOUTH 1 1EU-SEALER-SOUTH J SEU-POWDERCOAT-SOUTH rEU-TOPCOAT1-SOUTH

supply houses, space heaters, EU-TOPCOAT2-SOUTH heated flash, cure ovens,

Flexible Group ID

Associated

Emission Unit IDs

emergency engines (generators) EU-HWG 4 and the RTO-SOUTH, associated with the south paint shop. All air EU-HWG 5 supply houses are direct fire units. EU-HWG 6

Flexible Group Description

EU-ENG-GEN1-SOUTH

EU-ENG-GEN2-SOUTH

FG-CONTROL-SOUTH This flexible group covers the EU-E-COAT-SOUTH Regenerative Thermal Oxidizer (RTO-SOUTH or south RTO), the EU-TOPCOAT1-SOUTH dry filter particulate control systems and the water wash EU-TOPCOAT2-SOUTH particulate control system at the paint shop (BOX).

EU-SPOT-REPAIR1-SOUTH

EU-SPOT-REPAIR2-SOUTH

EU-HEAVY-REPAIR-SOUTH

FG-FACILITY-SOUTH All process equipment associated EU-PHOSPHATE-SOUTH with the south paint line/paint shop used for painting truck EU-E-COAT-SOUTH boxes.

EU-SEALER-SOUTH

EU-POWDERCOAT-SOUTH

EU-TOPCOAT1-SOUTH

EU-TOPCOAT2-SOUTH

EU-MISC-SOLVENTS-SOUTH

EU-SPOT-REPAIR1-SOUTH

EU-SPOT-REPAIR2-SOUTH

EU-HEAVY-REPAIR-SOUTH

EU-AST-PURGE SOUTH

EU-HWG4

EU-HWG5

EU-HWG6

EU-ENG-GEN1-SOUTH

Associated

	Flavible Onere Description	
Flexible Group ID	Flexible Group Description	Emission Unit IDs
		EU-ENG-GEN2-SOUTH
FG-RTO-	Flexible group for PM, PM10 an	dEU-E-COAT-SOUTH
SOUTH&POWDER- OVEN-PM	PM2.5 emissions from the RTC SOUTH and powder coat oven.)- EU-POWDERCOAT-SOUTH
		EU-TOPCOAT1-SOUTH
		EU-TOPCOAT2-SOUTH
		EU-MISC-SOLVENTS-SOUTH
FG-OLD-MACT	FG-OLD-MACT: The affecter source is each new reconstructed, or existing Organi Liquid Distribution (OLD) (nor gasoline) operation that is locate at, or is part of a major source of hazardous air pollutant (HAF emissions. The affected source is comprised of storage tanks transfer racks, equipment lea components associated wit storage tanks, transfer racks an pipelines, transport vehicles, an all containers while loading of unloading at transfer racks subject to this subpart. Equipment that if part of an affected source under another NESHAP is excluded from the affected source. (40 CF 63.2338(c))	d EUAST13 v, c h- d of p) s s s, k h d d d or c t s s er m R
	These conditions specificall cover existing (construction pre- dates April 2, 2002) liquid storag tanks which hold more than 5,00 gallons but less than 50,00 gallons and/or new liquid storag tanks which hold more than 5,00 gallons but less than 10,00 gallons of methanol/windshiel washer fill solvents that ar dispensed to newly assemble vehicles.	y e 0 0 e 0 0 d e d
FG-BOILER-MACT-5D	Requirements for existing Gas (Natural Gas only) for Boilers an Process Heaters at major source of Hazardous Air Pollutants per 4	I, EU-BOILER1 d s EU-BOILER2 0

Associated

Flexible Group ID	Flexible Group Description Emission Uni	t IDs
	CFR Part 63, Subpart DDDDD. EU-BOILER3 These existing boilers or process heaters must comply with this EU-HWG1 subpart no later than January 31, 2016, except as provided in EU-HWG2 40 CFR 63.6(i). EU-HWG3 EU-HWG4 EU-HWG5 EU-HWG6	
FG-ENG-FIREPUMP	40 CFR Part 60, Subpart IIII – New EU-ENG-PH1 Source Performance Standards, for, new emergency, compression EU-ENG-PH2 ignition (CI) reciprocating internal combustion engines (RICE), that have a maximum site rating of less than 500 brake hp. The emergency engines are for the fire pumps located in the pump house.	
FG-ENG-DATACTR	40 CFR Part 63, Subpart ZZZZ -EU-ENG-DATACTR National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE),	

National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE), located at a major source of HAP emissions, new or reconstructed, either combustion ignition or spark ignition, emergency RICE greater than 500 brake hp.

(FG-63-4Z-M/N/ClorSI/E/NG/>500)

FG-MACT-ZZZZ-Existing CI Engines located at a EU-ENG-GENASSYEXISTING-EMERGENCYMajorSource> 500HP,CI > 500 HPEmergency

FG-NSPS IIIIThis flexible group includes new EU-ENG-DATACTR (4091 HP,
emergency compression ignition CI, built date 12/5/2006)
(CI) stationary reciprocating
internal combustion engines
(RICE)) that have a maximum site
rating of greater than 500 brake
horsepower (HP) and subject to 40
CFR 60, Subpart IIII.

Flexible Group ID

Associated

Emission Unit IDs

FG-NSPS JJJJ EMERGENCY > 100 BUT < 500 HP This flexible group includes new EU-ENG-NORTH-PSHOP1 emergency spark ignition (SI) natural gas fired stationary EU-ENG-NORTH-BSHOP reciprocating internal combustion engines (RICE)) that have a maximum site rating of greater than or equal to 100 brake horsepower (≥ 100 HP) but less than 500 (< 500 HP) and subject to 40 CFR 60, Subpart JJJJ (NG SI RICE NSPS 4J).

Flexible Group Description

FG-NSPS JJJJ This flexible group includes new EU-ENG-PSHOP-NC-701HP EMERGENCY > 500 HP emergency spark ignition (SI) natural gas fired stationary EU-ENG-GEN1-SOUTH reciprocating internal combustion engines (RICE)) that have a EU-ENG-GEN2-SOUTH maximum site rating of greater than or equal to 500 brake horsepower (HP) and subject to 40 CFR 60, Subpart JJJJ (NSPS 4J).

FG-SOBL Spray-on Bedliner (SOBL) facility EU-SOBL-APPLICATION where fully assembled and painted trucks from the main assembly EU-SOBL-NAT-GAS plant will be routed into one of several booths in which bedliner will be robotically materials sprayed onto the truck beds. Raw materials include cleaning solvents, a bonding agent, and a two-part (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 South Paint Shop (BOX) at the main assembly plant.

FGRULE287(2)(c) Any emission unit that emits air EU-FINAL-REPAIR contaminants and is exempt from the requirements of Rule 201 pursuant to Rule 278, Rule 278a and Rule 287(2)(c). Emission units installed/modified before December 20, 2016, may show compliance with Rule 287 in effect at the time of installation/modification.

Flexible Group ID	Elavible Group Description	Associated
		Emission Unit IDs
FGRULE290	Any emission unit that emits air EU- contaminants and is exempt from the requirements of Rule 201 EU- pursuant to Rule 278, Rule 278a and Rule 290. Emission units installed/modified before December 20, 2016, may show compliance with Rule 290 in effect at the time of installation/modification.	-ENG-DATACTR -ENG-GENASSY

MI-ROP-B7248-2020a, FG-FACILITY-NORTH (CAB)

FG-FACILITY-NORTH (CAB) (EU-FINAL-REPAIR, EU-WWASH&GASFIL, EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-SANDING-NORTH, EU-SEALERS&ADHESIVES-FBP-NORTH (FRAME, BODY & PAINT; CAB), EU-ECOAT-NORTH, EU-FLASH-PRIMER-NORTH, EU-TOPCOAT1-NORTH, EU-TOPCOAT2-NORTH, EU-TOPCOAT3-NORTH, EU -TOUCH-UP-NORTH, EU-FINAL-SEALER, EU-PAINT-SPOT-REPAIR-NORTH, EU-WIPE-NORTH, EU-PURGE-CLEAN-NORTH, EU-AST1 thru EU-AST15, EU-DC1, EU-NPS1, EU -NPS3 thru EU-NPS5, EU-NPS7, EU-BODY-SHOP-NORTH, EU-HWG1 thru EU-HWG3.): This flexible group covers all equipment at north automotive assembly and painting operations (CAB) excluding south paint shop (BOX), where truck boxes are painted.

Emission Units: All emission units associated with automotive assembly and north painting operations (CAB) excluding south paint shop (BOX) emission units. This includes clean up and purge activities, fuel storage tanks, and boilers in the north plant (CAB).

Control equipment of NORTH PAINT SHOP (CAB): One north regenerative thermal oxidizer (north RTO or RTO-NORTH) for control of VOC emissions from the e-coat tank, the basecoat heated flash zones, and the clearcoat automatic sections of the paint spray booths, as well as the coating ovens associated with e-coat and topcoat. Three (3) water-wash systems control particulate emissions from the three (3) north topcoat lines. An ORVR (Onboard Re-fueling Vapor Recovery) system controls the gasoline filling operations. Dry filter particulate control systems on the welding, grinding, sanding, and scuff operations and the low bake operations.

MI-ROP-B7248-2020, FG-FACILITY-NORTH (CAB) EMISSION LIMIT(S), I.1-5

Pollutant	Limit	Time Period/Operating Scenario	Equipment	CY2023	CY2021
11. VOC	673.2 ^{2 ∆} tpy	12-month rolling time period as determined at the end of each calendar month	FG-FACILITY-NORTH (CAB)	340	247.40
22. VOC	4.5 ^{2βγΔ} pounds per job	12-month rolling time period as determined at the end of each calendar month	FG-FACILITY-NORTH (CAB) minus EU-PURGE-CLEAN- NORTH	1.15	2.98
4.5 pound	ls of VOC per	job represents a qua	asi-flexible permit limit	of VOC.	
33. PM10	55.8 ² tpy	12-month rolling time period as determined at the end of each calendar month	FG-FACILITY-NORTH (CAB)	14	14.73
44. PM2.5	51.3 ² tpy	12-month rolling time period as determined at the end of each calendar month	FG-FACILITY-NORTH (CAB)	14	14.65
55. NOx	72.0 ² tpy	12-month rolling time period as determined at the end of each calendar month	FG-FACILITY-NORTH (CAB)	50	49.13

 $^\beta$ Note: This 4.5 lb/job VOC limit for FG-FACILITY-NORTH (CAB) does NOT include VOC emissions from EU-PURGE-CLEAN-NORTH (CAB).

^Y Note: A job is defined as a painted vehicle leaving the assembly line.

^A Note: The requirements of the NSPS MM, concerning north paint shop (CAB), are inherent in the 4.5 pounds of VOC per vehicle (without purge and cleanup) and the 673.2 tons of VOC per year (including EU-PURGE-CLEAN-NORTH) limits. Compliance with these PSD BACT VOC limits constitute compliance with the NSPS MM. 4.52 pounds of VOC per job limit represents a quasi-flexible permit.

MI-ROP-B7248-2020a, FG-FACILITY-NORTH (CAB) natural gas usage:

1. CY 2020 NG usage, MM SCFT per Year: 1,174.11

2. CY 2021 NG usage, MM SCFT per Year: 1,591.49

3. CY 2023 NG usage, MM SCFT per Year: 1,471.66

(MI-ROP-B7248-2020a, II.1 limit: 1,914 million standard cubic feet per year (MM SCFT per Year))

Downdraft water-wash particulate control system is installed and operating properly. The proper operation of the system is mandatory for quality paint finish purposes and the system may be deemed a part of a paint process. Where water wash system is not used in the plant, dry filter systems are used. (MI-ROP-B7248-2020a, IV.1: each spray coating or sanding booth operate properly water-wash or another particulate control technology such as dry filter)

- TE & CE Jan 24, 2019: RWDI#I803869 January 24, 2019: Transfer Efficiency (TE) and Capture Efficiency (CE) (For Granite, TE 5 was removed since the weight gain was outside of the limit of tolerance.). Basecoat (White Solid Basecoat) TE = 82.4%. Basecoat (Granite Metallic) TE = 68.9%. Clearcoat TE = 73.9%. Solid Basecoat (White) CE = 63.4%. Metallic Basecoat (Granite) CE = 33.1%. Clearcoat CE = 85.2%.
- 2. July 30 (EU-TOPCOAT3)-31 (RTO-NORTH at 1450 °F), 2019 PM emissions: Apex Report No. 11019-000056.00. EU-TOPCOAT3 BC Zone = 0.27 lbs/hr, EU-TOPCOAT3 CC Observation Deck = 0.25 and RTO-North outlet = 1.4, pounds of PM per hour, respectively. RTO-NORTH DE = 95.4 > 95%. Tests by Apex Companies, LLC. Reference Methods 1 through 5, 25A, 202, and 205. Since only total PM was measured using USEPA Reference Method 5, the PM10 and PM2.5 fractions were assumed to be equivalent to the PM measured. EU-TOPCOAT3 uses a downdraft ventilation and water wash scrubber system below the booth grating to control paint overspray. Approximately 90% of the booth air is recycled. VOC emissions from the topcoat heated flash zones, clearcoat, and bake ovens are directed to a seven-chamber RTO for pollution control prior to exhausting to the atmosphere. An RTO controls emissions from the paint application and curing operations. The RTO consists of the following main components: the regenerator columns, the combustion chamber with burner system, and the required air-directing system with valves and fan. The regenerator columns are filled with a ceramic packing material for heat absorption and

recovery. The combustion chamber is lined with an insulation layer to maintain the high reaction temperatures. The natural gas burner is located at the side of the combustion chamber to allow easy access. A separate duct introduces combustion air within the combustion chamber.

3. January 09 (EUBOILER2) & 10 (EU-BOILER1 and EU-BOILER3), 2018:

RWDI#18DI649, February 28, 2018. EU·BOILER1, EU-BOILER 2 AND EU·BOILER3. Nitrogen Oxides (NOx), and Particulate (PM, PM10, PM2.5, and condensable particulate) on three (3) Boilers (EU-BOILER1, EU-BOILER2 and EU-BOILER3) using U.S. EPA Reference Methods 1,2,3,4,3A,7E and 201 a and 202, EU-**BOILER1** (1 Run) NO_X = 0.0000075 lb/dscf, 6.6 lb/hr & 0.0898 lb/MMBtu. US EPA Method 201A/202 **BOILER1** (1 Run) **PM** = 0.0021 lb/dscf, 0.268 lb/hr & 0.0046 lb/MMBtu; **PM10** = 0.0019 lb/dscf, 0.240 lb/hr, 0.0042 lb/MMBtu; **PM2.5** = 0.0017 lb/dscf, 0.213 lb/hr, 0.0037 lb/MMBtu; **PM**_{condesable} = 0.0015 lb/dscf, 0.190 lb/hr, 0.0033 lb/MMBtu. US EPA Method **7E** EU-**BOILER2** (3 Run Avg) NO_X = 5.1E-06 lb/dscf, 4.2 lb/hr & 0.0621 lb/MMBtu. US EPA Method 201A/202 BOILER2 (3 Run Avg) **PM** = 0.0023 lb/dscf, 0.275 lb/hr & 0.0048 lb/MMBtu; **PM10** = 0.0021 lb/dscf, 0.250 lb/hr, 0.0043 lb/MMBtu; **PM2.5** = 0.0020 lb/dscf, 0.232 lb/hr, 0.0040 lb/MMBtu, PM_{condesable} = 0.0020 lb/dscf, 0.232 lb/hr, 0.0040 lb/MMBtu. Similar results were obtained for EU-BOILER3.

(MI-ROP-B7248-2020a, FG-FACILITY-NORTH (CAB), V.1, TESTS: PM10, PM2.5 from EU-SANDING-NORTH, PM10, EU-PAINT-SPOT-REPAIR-NORTH, EU-TOPCOAT1-3-NORTH & RTO-NORTH and BOILERS, NOx from BOILERS, Overall TE, CE, DE).

As noted above as emission rates, the required records and calculations expressed in units of emissions limits are performed. Weekly inspections of PM control systems are performed. (MI-ROP-B7248-2020a, FG-FACILITY-NORTH (CAB), VI.1-2: records and calculations)

FCA SHAP is deemed to be in compliance with 40 CFR Part 60, Subpart MM (NSPS MM) if it is in compliance with 4.52 pounds per job (ppj) as this limit (quasit flexible permit with ppj limit) subsumes NSPS MM.

MI-ROP-B7248-2020a, FG-CONTROL-NORTH (CAB)

FG-CONTROL-NORTH (CAB) (All emission units associated with automotive assembly and painting operations in north paint shop (CAB) with VOC controls. For example, the emission units include: EU-ECOAT-NORTH, EU-TOPCOAT1-NORTH, EU-TOPCOAT2-NORTH, EU-TOPCOAT3-NORTH.): Regenerative thermal oxidizer (north RTO or RTO-NORTH) used for control of VOC emissions from the north paint spray booths and curing ovens.

Emission Units: All emission units associated with automotive assembly and painting operations in north paint shop (CAB) with VOC controls.

VOC control: Regenerative thermal oxidizer (north RTO or RTO-NORTH) used for control of VOC emissions from portions of the north painting operations and curing ovens.

I did NOT review the FG-CONTROL-NORTH (CAB) malfunction abatement plan (MAP) (MI-ROP-B7248-2020a, FG-CONTROL-NORTH (CAB), III.1: malfunction abatement plan (MAP)). It may be noted that FCA SHAP is prohibited from operating the paint process unless the control equipment is operating. Based upon the Pinga's review MAP has been submitted and acceptable.

FCA SHAP instituted a malfunction abatement plan that included alarm systems, and an interlock system that shuts the process during an RTO malfunction. Temperature monitoring devices for RTO-NORTH of FG-CONTROL-NORTH (CAB) are installed and operated properly. FCA SHAP provided temperature graphs for random dates. (MI-ROP-B7248-2020a, FG-CONTROL-NORTH (CAB), VI.1-3: temperature monitoring)

See above for RTO-North and RTO-South temperature monitoring graph information.

During the inspection of RTO-North, five ceramic towers were running and two towers were on back-up. Switching of the ceramic towers occurs based on the temperature of ceramics packing.

MI-ROP-B7248-2020a, FG-BOILERS

FG-BOILERS (EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-HWG1, EU-HWG2, EU-HWG3, EU-HWG4, EU-HWG5 & EU-HWG6.): There are three (3) natural gas fired boilers used to generate steam for in-plant use and six (6) natural gas fired hot water generators. One (1) boiler has a heat input capacity of 85 (BOILER1) million BTU per hour and the other two (2) each have a heat input capacity of 118 (BOILER2 & BOILER3) million BTU per hour. Boiler Nos. 2 and 3 are equipped with low NOx burner technology. EU-HWG 1, 2 & 3 are each a 31.5 million BTU per hour natural gas fired hot water generator. EU-HWG 4, 5 & 6 are each an 18 million BTU per hour natural gas fired hot water generator. EU-HWG 4, 5 & 6 are part of FG-NG-SOUTH as well; NSPS Dc requirements are covered in FG-BOILERS. All boilers are equipped with Oxygen Trim Systems.

NO_X Control: Low NO_x burners for EU-BOILER2 & EU-BOILER3.

All boilers and heaters burn only pipeline quality sweet natural gas (MI-ROP-B7248-2020a, FG-BOILERS, II.1, III.1-3: only natural gas). FCA SHAP complies with NSPS Dc by keeping NG usage records and submitting annually MAERS (MI-ROP-B7248-2020a, FG-BOILERS, III.4-5 & VI.1: NSPS Dc NG only).

Natural gas usage (CY 2023):

Boiler #1	MM SCF	28.26
Boiler #2	MM SCF	94.40
Boiler #3	MM SCF	72.74
New Facilities -Hot Water Generators Boilers-NPS	MM SCF	75
Regenerative Themal Oxidizer-NPS	MM SCF	
BIW Gas Usage	MM SCF	
Plantwide Gas Usage (excluding South Paint)	MM SCF	
Overall Total Plantwide Gas Consumption	MM SCF	1427
Total Plant Operation hours	Hours	

CY 2021: BOILER1 = 59, BOILER2 = 67, BOILER3 = 109 MM SCF per year Powerhouse - Natural Gas Boiler Number 1-3

CY 2023: BOILER1 = 29, BOILER2 = 94, BOILER3 = 73 MM SCF per year Powerhouse-Natural Gas Boiler Number 1-3

MI-ROP-B7248-2020a, FG-CAM

FG-CAM (EU-E-COAT-NORTH, EU-TOPCOAT1-NORTH, EU-TOPCOAT2-NORTH, EU-TOPCOAT3-NORTH, EU-E-COAT-SOUTH, EU-TOPCOAT1-SOUTH, EU-TOPCOAT2-SOUTH & EU-MISC-SOLVENTS-SOUTH): Compliance Assurance Monitoring (CAM) requirements concerning coating processes controlled by Two (2) Regenerative Thermal Oxidizers, namely RTO-NORTH and RTO-SOUTH, to reduce VOC emissions to comply with VOC emission limits specified in EU-E-COAT-SOUTH, EU-MISC-SOLVENTS-SOUTH, FG-FACILITY-NORTH and FG-TOPCOAT-SOUTH.

Two (2) Regenerative Thermal Oxidizers (CAM):

- 1. RTO-NORTH (CAB) or north RTO
- 2. RTO-SOUTH (BOX) or south RTO

These requirements, already, have been incorporated into other flexible groups or emissions. Two (2) Regenerative Thermal Oxidizers (RTO-NORTH – five (5) ceramic towers running with two (2) on backup & RTO-SOUTH four (4) ceramic towers running with one (1) on backup) with ceramic packings for heat recovery.

I noted at RTO-SOUTH Towers 1-5 Operating Temperatures, °F T1 = 1484, T2 = 1486, T3 = 1462, T4 = 1432 & T5 = 1465. T= 1750°F is setpoint for high temperatures. At South RTO or RTO-SOUTH, either minimum average temperature of 1,500°F (\geq 1,500° F) or \geq 95% DE at tested temperature is required. Hence, Temperature of 1475 °F is OK provided it assures \geq 95% DE. South RTO DE 98% \geq 95% at 1475 °F. (MI-ROP-B7248-2020a, FG-CAM). The temperatures are logged once in 15 minutes using a data logger and graphs of operating temperatures are drawn. The temperatures represent minimum 95% destruction efficiencies (\geq 95% DE) via stack testing for destruction efficiencies (DE).

Compliance Assurance Monitoring (CAM) excursions or exceedances: Semi1 (Jan-June 2023) = 0 dev. Auto MACT 4I (Jan-Jun 2023) = zero deviation. Auto CAM (Jan-Jun 2023) = zero EXCURSION

MI-ROP-B7248-2020a, FG-CAM, III.1, IV.1-9)

MI-ROP-B7248-2020a, FG-AUTOMACT

FG-AUTOMACT (EU-ECOAT-NORTH, EU-FLASH-PRIMER-NORTH, EU-TOPCOAT1-NORTH, EU-TOPCOAT2-NORTH, EU-TOPCOAT3-NORTH, EU-TOUCH-UP-NORTH, EU-SEALERS&ADHESIVES-FBP-NORTH, EU-FINAL-REPAIR-NORTH, EU-FINAL-SEALER, EU-PAINT-SPOT-REPAIR-NORTH, EU-WIPE-NORTH, EU-PURGE-CLEAN-NORTH, EU-AST15, EU-NPS1, EU-NPS3, EU-NPS4, EU-NPS5, EU-NPS7, EU-E-COAT-SOUTH, EU-SEALER-SOUTH, EU-POWDERCOAT-SOUTH, EU-TOPCOAT1-SOUTH, EU-TOPCOAT2 -SOUTH, EU-MISC-SOLVENTS-SOUTH, EU-SPOT-REPAIR1-SOUTH, EU-SPOT-REPAIR2-SOUTH, EU-HEAVY-REPAIR-SOUTH, EU-AST-PURGE-SOUTH and EU-SOBL-APPLICATION): 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. An affected source is a new affected source if you commenced its construction / reconstruction after December 24, 2002. Coating operations at SHAP consist of two separate painting facilities: north plant (CAB) with RTO-NORTH and south plant (BOX) with RTO-SOUTH. Both south and north coating operations are considered new (after December 24, 2002).

Semi-Annual Compliance Report for Surface Coating of Autos and Light Duty Trucks (Auto MACT) and Boiler MACT. No exceedance identified in the report. Semi1 (Jan-June 2023) = 0 dev. Auto MACT 4I (Jan-Jun 2023) = zero deviation. Auto CAM (Jan-Jun 2023) = zero EXCURSION. It may be noted that all American automakers comply with NESHAP / Auto MACT 4I via paint reformulation such that emission limits in the Table are complied with. Work practice standards as required also by the permit are practiced. As required by the permit all testing requirements, such as CE, DE, TE, etc. have been completed. "Protocol for Determining Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operations," EPA-450/3-88-018 (Docket ID No. OAR-2002-0093 and Docket ID No. A-2001-22), commonly known as Auto Protocol is used for VOC calculations. (MI-ROP-B7248-2020a, FG-AUTOMACT, I.1-4, III.1-3, VI.1-3).

US EPA received 40 CFR, Part 63, Subpart IIII (Auto MACT 4I) CDX CEDRI Notification for FCA SHAP. The company stated that FCA SHAP was in compliance with Auto MACT 4I (without accounting for two RTOs used for thermal destruction of VOCs as required by the Top-down PSD BACT quasi flexible permit).

MI-ROP-B7248-2020a, FG-TOPCOAT-SOUTH (BOX)

FG-TOPCOAT-SOUTH (BOX) (EU-TOPCOAT1-SOUTH (BOX) & EU-TOPCOAT2-SOUTH (BOX)): A color preparation sanding booth (topcoat sand), followed by two (2) identical and parallel topcoat lines (TOPCOAT1 & TOPCOAT2 or EU-TOPCOAT1-SOUTH (BOX) & EU-TOPCOAT2-SOUTH (BOX)), each consisting of: A water-borne basecoat (BC) application followed by a solvent borne clearcoat (CC). 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 a south Regenerative Thermal Oxidizer (RTO-SOUTH or South RTO).

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.

VOC and particulate controls:

- 1. A downdraft water wash system for particulate control for spray coating operations.
- 2. An RTO (RTO-SOUTH or south RTO) for VOC control.
- 3. A dry filter particulate control system for the topcoat sanding booth.

MI-ROP-B7248-2020a, FG-TOPCOAT-SOUTH (BOX), I.1-7 Table

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	CY 2023	CY 2021
1. VOC	2.32 ² Ib/GACS ⁰	Calendar day averaging	FG-TOPCOAT- SOUTH (BOX)	0.76 Highest for Dec 2023. Usually 0.3	0.37 Highest for Jan 2021
2. VOC,	105.7 ²			27	37.17

Pollutant	Limit	Time Period/ Operating	Equipment	CY 2023	CY 2021
		Scenario			
Acetone, Methyl Acetate, and TBA combined	tpy	12-month rolling time period as determined at the end of each calendar month	FG-TOPCOAT- SOUTH (BOX)		Highest for Dec 2021
3. PM	0.0031 ²	Hourly	FG-TOPCOAT- SOUTH		PM: 0.0002 gr/dscf 0 0004 lb/1000 lb &
	pound per 1,000 pounds of exhaust gas β		(BOX) (each observation zone)		0.046 lb/hr @ SV- BASE COAT OBSV 2 BOX
					0.0009 gr/dscf 0.0017 lb/1000 lb & 0.359 lb/hr @SV- CLEAR COAT OBSV 2 BOX
4. PM10	0.11 ²	Hourly	FG-TOPCOAT- SOUTH		PM10: 0.0002 gr/dscf &
	pound per hour per zone		(BOX) base coat observation zone (each line has 1 base coat observation zone)		0.037 lb/hr @ SV- BASE COAT OBSV 2 BOX
5. PM10	0.19 ²	Hourly	FG-TOPCOAT- SOUTH		PM10:0.0009 gr/dscf &
	pound per hour per zone		(BOX) clear coat observation zone (each line has 1 clear coat observation zone)		0.0359 lb/hr @ SV- CLEAR COAT OBSV 2 BOX

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	CY 2023	CY 2021
6. PM2.5	0.11 ² pound per hour per zone	Hourly	FG-TOPCOAT- SOUTH (BOX) base coat observation zone (each line has 1 base coat observation zone)		PM2.5: 0.0001 gr/dscf & 0.017 @ SV-BASE COAT OBSV 2 BOX
7. PM2.5	0.19 ² pound per hour per zone	Hourly	FG-TOPCOAT- SOUTH (BOX) clear coat observation zone (each line has 1 clear coat observation zone)		PM2.5: 0.0001 gr/dscf & 0.017 @ SV-BASE COAT OBSV 2 BOX

 $^{\theta}$ lb/GACS= pounds of VOC per gallon of applied coating solids. Compliance with this PSD BACT limit of 2.32 lb/GACS is deemed to be compliance with NSPS MM topcoat limit of 12.27 lbs VOC/GACS. PSD BACT is more stringent standard than RACT Rule 336.1610 (14.9 pounds of volatile organic compounds per gallon of applied coating solids).

 $^{\beta}$ Pound of PM per 1,000 pounds of exhaust gas shall be calculated on a wet gas basis

RWDI #1804652 date January 15, 2019: RTO on Nov 7-9, and PM on Nov 13-16, 2018.

All materials are captured and stored in closed containers and disposed of via RCRA Manifest. I did not detect any odor indicating that booths are under negative pressure with respect to the surroundings. MI-ROP-B7248-2020a, FG-TOPCOAT-SOUTH (BOX), III.1-2).

As stated before, RTO-SOUTH is operated properly demonstrating minimum required VOC thermal destruction, data-logging RTO-SOUTH operating temperature, etc. Per Destruction Efficiency (DE) (RWDI #1804652 date January 15, 2019: RTO on Nov 7-9, and PM on Nov 13-16, 2018) tests based on Total Hydrocarbon (THC) concentration, using US EPA Reference Method 25A for Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer, DE = 98.7% (at 1400 < 1500°F) >

95% was obtained. Hence FCA SHAP can operate RTO-SOUTH at 1400°F for it provides DE \ge 95%. Per the temperature graphs provided at random dates, RTO-SOUTH operated in the range of 1500 thru 1520 degrees Fahrenheit (1500 > 1400 °F (DE = 98.7 > 95%) 1475 °F being the set-point).

RWDI#I803870 dated December 4, 2018, Transfer Efficiency (TE) and Capture Efficiency (CE) Testing: TE = 77.8 for Basecoat (White Solid Basecoat), TE = 77.8 for Basecoat (BC) (Granite Metallic) and TE = 69.1 for Clearcoat (CC). For EU-TOPCOAT2 -BOX, CE = 83.4 for Solid BC White, CE = 84.2 for Metallic BC (Granite), CE = 79.6 for CC. At EU-TOPCOAT 2 BOX, Fanuc Cartridge Fanuc Versa Bell II+ were used for Basecoat (BC) (Fluid Tip = 0.9 mm, Bell Size = 65 mm, Gun Voltage = 40-80 kV, RPM = 40-50,000, Gun-to-Target Distance = 10 inches, Water-borne BC) and Clearcoat (CC) (Fluid Tip = 1.2 mm, Bell Size = 65 mm, Gun Voltage = 40-80 kV, RPM = 35-75,000, Gun-to-Target Distance = 10 inches, as always solvent-borne CC) as well. Spray booth and bake oven temperatures were about 70-85 °F and 260-390 °F depending on oven zones 1-6, respectively. (MI-ROP-B7248-2020, FG-TOPCOAT-SOUTH (BOX), V.2: testing)

As stated elsewhere (see the table above as well), CE, DE, TE, PM tests were performed. (MI-ROP-B7248-2020, FG-TOPCOAT-SOUTH (BOX), V.1-4: testing).

The required calculations expressed in the units of the limits are performed, the temperatures are logged and charts are drawn demonstrating DE > 95% tested temperatures are maintained, coating information is maintained, jobs per month are recorded, surface area coated is calculated, coating usage rates (including solids and solvent fractions are maintained, etc. (MI-ROP-B7248-2020a, FG-TOPCOAT-SOUTH (BOX), VI.1-4: records and monitoring)

MI-ROP-B7248-2020a, FG-REPAIR-SOUTH (BOX)-

FG-REPAIR-SOUTH (BOX) (EU-SPOT-REPAIR1-SOUTH (BOX), EU-SPOT-REPAIR2-SOUTH (BOX) and EU-HEAVY-REPAIR-SOUTH (BOX)): Spot and final repair operations for the south paint shop used to paint truck boxes.

PM Control: Dry filter particulate control system

MI-ROP-B7248-2020, FG-REPAIR-SOUTH (BOX), I.1-5

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	2023	December 2021
1. VOC	4.8 ² pounds per gallon (minus water), as applied	Daily volume weighted average	FG-REPAIR- SOUTH (BOX)	0.007	1.61
2. VOC, acetone, methyl acetate and TBA combined	11.0 ² tpy	12-month rolling time period as determined at the end of each calendar month	FG-REPAIR- SOUTH (BOX)	0.12	0.045 12-mo for June 2020
3. PM	0.0031 ² pounds per 1,000 pounds of exhaust gas ^β	Hourly	FG-REPAIR- SOUTH (BOX) (each spot repair booth)		0.0003 lb/1000 lb 0.098 lb/hr 0.0002 gr/dscf
4. PM10	0.052 ² pounds per hour per zone	Hourly	FG-REPAIR- SOUTH (BOX) (each spot repair booth)		0.052 lb/hr 0.0001 gr/dscf
5. PM2.5	0.052 ² pounds per hour per zone	Hourly	FG-REPAIR- SOUTH (BOX) (each spot repair booth)		0.035 lb/hr 0.0001 gr/dscf

CY 2020: 294,004 BOXES painted

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	2023	December 2021	
December 2021: 27,750 CABs painted & 28,467 BOXES Painted and 24,532 vehicles built and rolled out the door for sale.						
December 202 the door for sa	3: 21,945 CABs p le.	painted & 21,741 I	BOXES Painted	and 18,673 v	ehicles built and rolled out	
Always, BOXE	S built = CABS b	uilt = vehicles bui	lt.			

The waste coatings and volatile materials are stored in closed containers (MI-ROP-B7248-2020a, FG-REPAIR-SOUTH (BOX), III.1)

The dry filter systems are installed in both the booths. (MI-ROP-B7248-2020a, FG-REPAIR-SOUTH (BOX), IV.1: dry filter particulate control system(s) in each booth)

As stated above, all the required stack tests especially PM, PM10, PM2.5 have been performed (RWDI#1804652 dated January 15, 2019). (MI-ROP-B7248-2020a, FG-REPAIR-SOUTH (BOX), V.1-3: stack testing)

The required calculations expressed in the units of limits such as 1.61 pounds of VOC per gallon of coating have been performed, coating information is kept, coating and solvent usage recorded, etc. (MI-ROP-B7248-2020a, FG-REPAIR-SOUTH (BOX), VI.1-3: monitoring and records)

Note: SV-SPOT-REPAIR1-SOUTH (BOX) & SV-SPOT-REPAIR2-SOUTH (BOX) are combined into one stack. Hence, stack test problem.

MI-ROP-B7248-2020a, FG-NG-SOUTH (BOX)

FG-NG-SOUTH (BOX) (EU-E-COAT-SOUTH, EU-SEALER-SOUTH, EU-POWDERCOAT-SOUTH, EU-TOPCOAT1-SOUTH, EU-TOPCOAT2-SOUTH, EU-HWG 4, EU-HWG 5, EU-HWG 6, EU-ENG-GEN1-SOUTH, EU-ENG-GEN2-SOUTH): Three (3) natural gas fired hot water generators equipped with low NOx burners with a maximum heat input of up to 18 million BTU (MM BTU) per hour each. This flexible group also includes all natural gas combustion in all air supply houses, space heaters, heated flash, cure ovens, emergency engines (generators) and the RTO-SOUTH. All air supply houses are direct fire units.

MI-ROP-B7248-2020, FG-NG-SOUTH (BOX), I.1

Pollutant	Limit	Time Period/ Operating	Equipment	CY 2020	CY 2021
		Scenario			
1. NOx	27.6 ² tpy	12-month rolling time period as determined at the end of each calendar month	FG-NG-SOUTH (BOX)	8 tpy associated with 498 MM SCF NG usage per year	7.8 tpy associated with 477 MM SCF NG usage per year
CY 2023: F	CA SHAP	used 498.06 << 1,0	068 million SCF p	er year pipeline qua	lity NG

FCA SHAP used only pipeline quality NG of 498 MM SCF per year (MI-ROP-B7248-2020a, FG-NG-SOUTH (BOX), III.1-2: only NG & 498.06 < 1,068 million SCF per year).

Three (3) natural gas fired hot water generators are equipped with low NOx burners with a maximum heat input of up to 18 million BTU (MM BTU) per hour each. (MI-ROP -B7248-2020a, FG-NG-SOUTH (BOX), IV.1-3:)

FCA SHAP keeps natural gas usage and performs NOX emissions calculations. (MI-ROP-B7248-2020a, FG-NG-SOUTH (BOX), VI.1-3:)

FCA SHAP complies with Boiler NSPS Dc via usage recordkeeping and submitting MiEnviro annual emissions reports. (MI-ROP-B7248-2020a, FG-NG-SOUTH (BOX), IX.1)

MI-ROP-B7248-2020a, FG-CONTROL-SOUTH (BOX)

FG-CONTROL-SOUTH (BOX) (EU-E-COAT-SOUTH, EU-TOPCOAT1-SOUTH, EU-TOPCOAT2-SOUTH, EU-MISC-SOLVENTS-SOUTH, EU-SPOT-REPAIR1-SOUTH, EU-SPOT-REPAIR2-SOUTH, EU-HEAVY-REPAIR-SOUTH): This flexible group covers the Regenerative Thermal Oxidizer (RTO-SOUTH or south RTO), the dry filter particulate control systems and the water wash particulate control system at the south paint shop (BOX).

- 1. Regenerative Thermal Oxidizer (RTO-SOUTH or south RTO) for control of VOC emissions from e-coat and topcoat at the south paint shop (BOX).
- 2. Dry filter particulate control for the sanding booth portions of e-coat, topcoat, spot repair and heavy repair at the south paint shop (BOX).
- 3. Downdraft Water wash particulate control for topcoat at the south paint shop (BOX).

FCA-SHAP submitted a Malfunction Abatement Plan (MAP). As part of MAP, FCA SHAP conducts weekly, monthly, quarterly, semi-annual and annual maintenance activities for the RTO, the water wash system, and the dry filter control systems. (FG-CONTROL-SOUTH (BOX), III.1: Malfunction Abatement Plan (MAP))

Both RTO-NORTH & RTO-SOUTH are equipped with thermocouple and temperature logging system. Temperature data is graphed showing compliance with the tested temperatures that provide DE > 95%. Periodic maintenance activities are conducted per MAP. The particulate control systems are periodically inspected and maintained as required. Thermocouples are replaced / calibrated on an annual basis. (FG-CONTROL-SOUTH (BOX), VI.1-6: Monitoring).

The post-combustion emissions are discharged via SV-RTO-SOUTH

MI-ROP-B7248-2020a, FG-FACILITY-SOUTH (BOX)

FG-FACILITY-SOUTH (BOX) (EU-PHOSPHATE-SOUTH, EU-E-COAT-SOUTH, EU-SEALER-SOUTH, EU-POWDERCOAT-SOUTH, EU-TOPCOAT1-SOUTH, EU-TOPCOAT2 -SOUTH, EU-MISC-SOLVENTS-SOUTH, EU-SPOT-REPAIR1-SOUTH, EU-SPOT-REPAIR2-SOUTH, EU-HEAVY-REPAIR-SOUTH, EU- AST-PURGE SOUTH, EU-HWG4,

EU-HWG5, EU-HWG6, EU-ENG-GEN1-SOUTH, EU-ENG-GEN2-SOUTH): All process equipment associated with the south paint line/paint shop used for painting truck boxes.

CY 2023: FCA SHAP produced 274,814 saleable vehicles in 12-month period (Highest for June 2020) (FG-FACILITY-SOUTH (BOX)), III.1: maximum 407,000 saleable truck boxes per 12-month period).

MI-ROP-B7248-2020a, FG-RTO-SOUTH&POWDER-OVEN-PM (BOX) (BOX)

FG-RTO-SOUTH&POWDER-OVEN-PM (BOX) (EU-E-COAT-SOUTH, EU-POWDERCOAT -SOUTH, EU-TOPCOAT1-SOUTH, EU-TOPCOAT2-SOUTH, EU-MISC-SOLVENTS-SOUTH): Flexible group for PM, PM10 and PM2.5 emissions from the RTO-SOUTH and powder coat oven.

MI-ROP-B7248-2020, FG-RTO-SOUTH&POWDER-OVEN-PM (BOX) (BOX), I.1-3

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Test result
1. PM	0.0034 ^{2 β} pounds per 1,000 pounds of exhaust gas	Hourly	RTO-SOUTH and Cure Oven portion of EU-POWDERCOAT- SOUTH (BOX)	0.0009 lb/1000 lb of exhaust gas 0.0005 gr/dscf 0.031 lb/hr
2. PM10	1.68 ² pounds per hour	Hourly	RTO-SOUTH and Cure Oven portion of EU-POWDERCOAT- SOUTH (BOX)	0.0247 gr/dscf 1.62 lb/hr (includes condensable fraction).

Pollutant	Limit	Time Period/	Equipment	Test result				
		Operating						
		Scenario						
3. PM2.5	1.68 ²	Hourly	RTO-SOUTH and	0.0246 gr/dscf				
	pounds per hour		of	1.60 lb/hr				
			EU-POWDERCOAT- SOUTH (BOX)	(includes condensable fraction).				
$^{\beta}$ Pounds per 1,000 pounds of exhaust gas shall be calculated on a wet gas basis.								
RWDI#1804652 dated January 15, 2019. PTI 27-17B. Particulate (PM, PM10 and PM2.5) testing for Powder Ovens in addition to RTO-South DE, etc.								

As stated above in the table the required PM stack tests have been conducted. (MI-ROP-B7248-2020a, FG-RTO-SOUTH&POWDER-OVEN-PM (BOX) (BOX), V.-1-3)

Per the stack tests, FCA SHAP can operate RTO-SOUTH at 1400°F for it provides DE \geq 95%. Per the temperature graphs provided at random dates, RTO-SOUTH operated in the range of 1500 thru 1520 degrees Fahrenheit (1500 > 1400 °F (DE = 98.7 > 95%) (1475 °F being the set-point). (MI-ROP-B7248-2020a, FG-RTO-SOUTH&POWDER-OVEN-PM (BOX) (BOX), VI.1): RTO-SOUTH at a minimum average temperature of 1,500°F (\geq 1,500°F) or at the temperature that provides DE \geq 95%.

MI-ROP-B7248-2020a, FG-OLD-MACT (EU-AST13)

FG-OLD-MACT(40 CFR Part 63, Subparts A and EEEE): The affected source is each 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 source is comprised 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. (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.

Annually, FCA SHAP certifies that Organic Liquid Distribution operation is in compliance with the OLD MACT 4E.

MI-ROP-B7248-2020a, FG-BOILER-MACT-5D

Requirements for new and existing boilers, hot water generators and process heaters that are designed to burn gas 1 (pipeline quality sweet natural gas only) subcategory fuel with a heat input capacity of 10 MM BTU per hour or greater at major sources of HAP emissions per 40 CFR Part 63, Subpart DDDDD (Boiler MACT 5D). Units that burn liquid fuel for testing or maintenance purposes for less than a total of 48 hours per year, or that burn liquid fuel during periods of curtailment or supply interruptions are included in this definition.

Existing: Three (3) natural gas fired boilers used to generate steam for in-plant use. One has a heat input capacity of 85 MM BTU per hour and the other two each have a heat input capacity of 118 MM BTU per hour. Boilers 2 and 3 are equipped with low NOx burner technology. In addition, the boilers are equipped with continuous oxygen trim systems

New: HWG 1, 2 & 3 are 31.5 MM BTU per hour each, natural gas fired hot water generators that have continuous oxygen trim systems. HWG 4, 5 & 6 are a maximum of 18 MM BTU per hour each, natural gas fired hot water generators that have continuous oxygen trim systems.

- 1. Existing Boilers are EU-BOILER1 (85 MM BTU per hour), EU-BOILER2 (118 MM BTU per hour) & EU-BOILER3 (118 MM BTU per hour).
- 2. New Boilers are EU-HWG1, EU-HWG2, EU-HWG3 (HWG 1 thru 3: 31.5 MM BTU per hour each), EU-HWG4, EU-HWG5 & EU-HWG6 (HWG 4 thru 6: 18 MM BTU per hour each).

Boiler Nos. 2 and 3 are equipped with Low NOx burners

All boilers and heaters burn only burn pipeline quality sweet natural gas as defined in 40 CFR 63.7575. (MI-ROP-B7248-2020a, FG-BOILER-MACT-5D, II.1)
Mr. Sanni stated that the heaters are, when due for tune-up, tuned up. ALL units are equipped with oxygen trim system (OTS) (pentennial or quinquennial or once in five years if equipped with OTS). (MI-ROP-B7248-2020, FG-BOILER-MACT-5D, III.1)

Boiler MACT 5D (NG only): Annual tune-up and pentennial or quinquennial or once in five years if equipped with OTS (Oxygen Trim System).

MI-ROP-B7248-2020a, FG-ENG-FIREPUMP (NSPS 4I)

FG-ENG-FIREPUMP (EU-ENG-PH1 (certified) and EU-ENG-PH2 (certified)): 40 CFR Part 60, Subpart IIII – New Source Performance Standards, for, new emergency, compression ignition (CI) reciprocating internal combustion engines (RICE), that have a maximum site rating of less than 500 brake hp. The emergency engines are for the fire pumps located in the pump house.

FCA SHAP burns only ULSD 15 ppm sulfur (MI-ROP-B7248-2020, FG-ENG-FIREPUMP, II.1)

As stated before, the engines are certified.

CY 2021: EU-ENG-PH1 = 0.72 & EU-ENG-PH2 = 1.152 gallons of ULSD 15 ppm S per year Pump House Emergency Generator for Fire Suppression-Pump Station PH1 & Pump House Emergency Generator for Fire Suppression Pump Station PH2

MI-ROP-B7248-2020a, FG-MACT-ZZZZ-EXISTING-EMERGENCY CI > 500 HP

FG-MACT-ZZZZ–EXISTING-EMERGENCY CI > 500 HP (EU-ENG-GENASSY): Existing CI Engines located at a Major Source > 500 HP, Emergency

The emergency engines are fired only for testing purposes.

CY 2023: ULSD usage < 1 gallon in each engine.

MI-ROP-B7248-2020a, FG-ENG-DATACTR

FG-ENG-DATACTR (EU-ENG-DATACTR (4091 HP, CI, built date 12/5/2006)): This flexible group consolidates NSPS 4I and MACT 4Z requirements as noted below:

FG-NSPS IIII EMERGENCY PRE-2007 < 10 I/CYL: This flexible group includes new emergency compression ignition (CI) stationary reciprocating internal combustion engines (RICE) that have a maximum site rating of greater than 500 brake horsepower (HP) and subject to 40 CFR 60, Subpart IIII.

FG-63-4Z-M/N/ClorSI/E/NG/>500: 40 CFR Part 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE), located at a major source of HAP emissions, new or reconstructed, either combustion ignition or spark ignition, emergency RICE greater than 500 brake hp.

FCA SHAP burns only ULSD 15 ppm Sulfur (MI-ROP-B7248-2020a, FG-ENG-DATACTR, II.1)

FCA SHAP fires the engine only for testing purposes.

CY 2021: EU-ENG-DATACTR = 0.376 gallons per year ULSD 15 ppm S. Data Center Stationary Emergency Generators

CY 2023: EU-ENG-DATACTR = 0.08537 gallons per year ULSD 15 ppm S. Data Center Stationary Emergency Generators

MI-ROP-B7248-2020a, FG-NSPS JJJJ EMERGENCY > 100 BUT < 500 HP

FG-NSPS JJJJ EMERGENCY > 100 BUT < 500 HP (EU-ENG-NORTH-PSHOP1 (383 HP, 05/01/2013, certified) and EU-ENG-NORTH-BSHOP (335 HP, 05/01/2013, certified)): This flexible group includes new emergency spark ignition (SI) natural gas fired stationary reciprocating internal combustion engines (RICE)) that have a maximum site rating of greater than or equal to 100 brake horsepower (≥ 100 HP) but less than 500 (< 500 HP) and subject to 40 CFR 60, Subpart JJJJ (NG SI RICE NSPS 4J).

FCA SHAP fires the engine only for testing purposes.

CY2023 natural gas usage in NSPS 4J Engines

- 1. North Paint Emergency Engine 1 (North Engine): 17 hrs of op (0.975 MMBTU/hr) = 0.017 MM SCF.
- 2. North Paint Emergency Engine 2 (South Engine): 26 hrs of op (1.785 MMBTU/hr) = 0.047 MM SCF.
- 3. North BIW Emergency Engine: 12 hrs of op (0.853 MMBTU/hr) = 0.010 MM SCF.

MI-ROP-B7248-2020a, FG-NSPS JJJJ EMERGENCY > 500 HP

FG-NSPS JJJJ EMERGENCY > 500 HP (EU-ENG-PSHOP-NC-701HP(05/01/2013 after July 1, 2008), EU-ENG-GEN1-SOUTH 01/19/2018 after July 1, 2008) & EU-ENG-GEN2-SOUTH (01/19/2018 after July 1, 2008). All (3) engines are not certified per NSPS 4J): This flexible group includes new emergency spark ignition (SI) natural gas fired stationary reciprocating internal combustion engines (RICE)) that have a maximum site rating of greater than or equal to 500 brake horsepower (HP) and subject to 40 CFR 60, Subpart JJJJ (NSPS 4J). The engines (3) are not certified per NSPS 4J. All SI RICE engines are pipeline quality sweet natural gas only fired.

FCA SHAP burns only only pipeline quality sweet natural gas (MI-ROP-B7248-2020, FG-NSPS JJJJ EMERGENCY > 500 HP, II.1)

Engines are fired only for testing purposes and periodic stack tests are conducted.

MI-ROP-B7248-2020a, FG-SOBL, 7566 Metropolitan Parkway

FG-SOBL (EU-SOBL-APPLICATION and EU-SOBL-NAT-GAS): 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-part (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 South Paint Shop (BOX) at the main assembly plant.

FG-SOBL is operated by a contractor.

Vehicles move in 24/7. Fully assembled vehicles to be processed are washed thoroughly. After washing and masking, the vehicles are 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 is be used for process oven and space heating. In all, seven (7) spray booths are present. The booths operated at 95 ° F.

Quality inspection is conducted, and repairs are performed if necessary. About 450 trucks are process per day. Each vehicle stays in the booth about 12 minutes. The bed liner material is sprayed at 160°F to reduce viscosity. Solvent is used for clearing purposes (70% IPA & rest water)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	CY 2023
1. VOC and methyl acetate combined	8.8 ² tpy	12-month rolling time period as determined at the end of each calendar month	FG-SOBL	15517 pounds = 7.8 tons per year

SOBL operates filter systems properly, stores materials in closed containers. (MI-ROP-B7248-2020a, FG-SOBL, III.1-3)

SOBL only pipeline quality natural gas and uses about 45 MM SCF NG (MI-ROP-B7248-2020, FG-SOBL, III.4-5: < 176.0 million SCF per year, only NG)

The usage records are kept and the required calculations are performed. (MI-ROP-B7248-2020a, FG-SOBL, VI.1-5)

CY 2021: 287,527 gallons per year - Spray-on Bed liners in an enclosed booths with dry filters and 7.8 MM SCF NG per year Frame Sequencing Center-Space heater for comfort heating

CY 2023: 336,277.00 gallons per year - Spray-on Bed liners in an enclosed booths with dry filters

CY 2021: 14 MM SCF per year NG -South Paint Box Lines: Sealer Bake Oven

MI-ROP-B7248-2020a, FGRULE287(2)(c)

FGRULE287(2)(c) (EU-FINAL-REPAIR): Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rule 278, Rule 278a and Rule 287(2)(c). Emission units installed/modified before December 20, 2016, may show compliance with Rule 287 in effect at the time of installation/modification.

MAINTENANCE SPRAY PAINT = 9 pounds of VOC per month in December 2021

MAINTENANCE SPRAY PAINT = 18.66 pounds of VOC per month in December 2023

FGRULE287(2)(c) < 15 (CY 2020) & < 14 (CY 2021) < 19 (CY 2023) << 200 gallons per month (MI-ROP-B7248-2020, FGRULE287(2)(c), II.1 limit: 200 gallons per month)

Conclusion

FCA SHAP is in compliance with MI-ROP-B7248-2020a.

MACES- Activity Report

Stenanahalt. NAME

loyce DATE 09-27-2024 SUPERVISOR