

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

N131672045

FACILITY: Mayco International, LLC		SRN / ID: N1316
LOCATION: 42400 Merrill, STERLING HTS		DISTRICT: Warren
CITY: STERLING HTS		COUNTY: MACOMB
CONTACT: Al Cook , Facility Manager/Environmental		ACTIVITY DATE: 05/29/2024
STAFF: Sebastian Kallumkal	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Inspection to verify compliance with applicable requirements and ROP No. MI-ROP-N1316-2021.		
RESOLVED COMPLAINTS:		

On Wednesday, May 29, 2024, Michigan Department of Environment, Energy and Great Lakes-Air Quality Division (EGLE-AQD) Staff Jillian Cellini and Sebastian Kallumkal conducted an on-site inspection at Mayco International, LLC. (SRN N1316) located at 42400 Merrill Road, Sterling Heights, Michigan 48083. The purpose of the inspection was to determine the facility's compliance with the requirements of the federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), the administrative rules, and the facility's Renewable Operating Permit (ROP) No. MI-ROP-N1316-2021 and 40 CFR 63, Subpart PPPP-National Emission Standards for Hazardous Air Pollutants for Surface Coating of Plastic Parts and Products.

Due to EGLE-AQD COVID-19 Emergency AQD Field Inspection Guidance the inspection was announced and scheduled. The facility submitted records pursuant to MI-ROP-N1316-2021 on May 28, 2024.

NJT Enterprises, LLC (NJT) bought the equipment at this site from Mayco Plastics and installed additional equipment the company obtained from Collins & Aikman. For business and familiarity reasons, this manufacturing plant was named Mayco International LLC.

We arrived at the location around 10:15 AM. At the facility, we met the AQD contact person, Al Cook, Facility Manager/Environmental and the facility consultant, Jacob Abair, Fishbeck. We introduced ourselves and stated the purpose of the inspection.

During the pre-inspection meeting, we discussed facility's operations, permit conditions and any changes to the processes since last inspection. The facility has about 650 employees, operates 3 shifts, 24 hour-day, and 6 days a week (Mon-Sat).

We discussed the facility's ROP renewal application submittal deadline, and they plan to submit a timely application. Al indicated that they had no process changes since the last inspection.

The facility currently uses only three coatings and a hardener. The facility conducts VOC content analysis for these coatings using US EPA Method 24 on an annual basis.

Mayco manufactures various interior and exterior automotive plastic parts. Most of the parts are supplied to Stellantis (90%) and the rest for GM and Toyota., The manufacturing process includes injection molding, coating of automotive plastic parts (primarily for Stellantis facilities), thermoforming of plastic parts, adding thermoformed plastic (skin) to parts or adding cover with foam to parts and assembly of components in instrument panels.

During this meeting, AI invited us to observe the Booths 3 and 4 operations because these operations could soon be halted due to lunch break. We visited the booths. Spray coating was ceased a few minutes ago. However, the water curtains were running in both booths. We went upstairs to view the cure oven. It was operating and parts were being cured. The temperature was at 184.7°F. We also observed the water recycling tank where the solids from the water curtain are skimmed off.

We came back for the pre-inspection meeting and continued discussion of the ROP requirements and the NESHAP. AI indicated that they plan to reconstruct the two booths (Booth No. 1 and Booth No. 2) which are currently not being used. The reconstruction would include remodeling of the booths, robotic spray applicators and the stacks. They would apply for a permit to install (PTI) modification for this reconstruction. I advised them that if they could get the permit before the ROP renewal, the new PTI could be included in the new ROP and avoid an ROP modification.

Later, AI and Jacob Abair accompanied us for an inspection of the facility. The facility's ROP, MI-ROP-N1316-2021, are organized in 3 emission units: EUPLASTICS, EUBURNOFF, EUDIESELGEN3; and 5 flexible groups: FGMACT, FGRULE287(c), FGEMGENS, FGRULE290, and FGCOLDCLEANERS.

Initially, we visited some of the injection molding units. The facility has about 61 injection molding presses located throughout the building. The capacity ranges from 700lb to 3000lb. They use Poly Pro, HCPP, etc. materials in the injection molding. This process is exempt from Rule 201-Permit to Install requirements pursuant to R336.1282(2)(b).

Next, we inspected the EU-Plastics – pertains to air-dried interior plastic automotive parts spray coating lines, consisting of four enclosed robotic spray booths: Booth No. 1 - adhesion promoter, Booth No. 2 - topcoat, Booth No. 3 - topcoat, and Booth No. 4 - topcoat. Prior to coating, the parts are cleaned in a five-stage aqueous power washer with natural-gas fired dry-off oven, flash-off tunnel, IR tunnel, and paint curing oven. For each booth, the particulate matter control includes water curtains for the exhaust gases and dry filters for the intake air. The plastic parts are washed with alkali solution and hot water. Next, the parts are oven-dried before going to the coating process. The suspended paint solids, captured in the water curtain, are removed by adding chemicals to make the solids float, skimmed off, and sent out for proper disposal. Spent water from the water curtains is routinely treated and reused. AI informed us that the recycle tank is cleaned every six months, and the sludge and water are hauled offsite along with floor clean wastewater. This water is no longer discharged to the sewer. The air intake filters are replaced every week.

The skimmed material from the tank is dewatered and the sludge is hauled offsite. The water is recycled.

Out of the four coating booths, No. 1 booth has not been used for adhesion promoter application since 2017. This booth which was originally designed to apply adhesion promoter can be used for topcoat application too. Booth No. 1 and Booth No.2 are currently not being used. As mentioned previously the facility plan to reconstruct these two booths (Booth #1 and Booth No.2). Booths No. 3 and 4 are used for topcoat applications and are operated on a regular basis. The parts are conveyed through the booths on racks and each side of the parts are coated in these two booths. These

booths are only used 3-4 hours per day. The overspray is collected in the water curtain. Coated plastic parts are cured in a natural gas-fired oven operating at below 190°F. The coating process is considered air dried because the temperature (T) of the oven is less than 194°F.

Next, we visited the glue booth (EUGLUEROBOT). Glue is applied robotically to the parts, go through an IR oven, wrap with rubber sheets, pressed, fitted and stapped. This process (EUGLUEROBOT) is included in the ROP under FGRULE290. The filters are changed daily for this booth.

Next, we visited the chemical and waste storage area. This room exhaust is vented to the atmosphere.

We also visited the emergency engines situated at various locations and noted the total operating hours from the of operations from the non-resettable hour meter.

EUDIESELENGINE1-Model: 2WB04131. SN: 3406

30 kw diesel fired engine, used for pump, Mfg. 1986- Total operating hrs = 1478.1 hrs

EUDIESELENGINE2-Model: D200P4, SN: F4304A/001

200 kw diesel fired engine, Mfg. 2009- Total operating hours = 549.9hrs

EUDIESELENGINE3- Model Engine: 125DGEA; SN Engine: C140655741

125 kw diesel fired engine, Mfg. 2014; Total Operating Hours = 100.5 hrs

EUNATGASGEN-Model: GEN, SN: 2079659

30 kw, natural gas fired, Mfg. 2007; Total Operating hours = 405.4 hrs

We also inspected two trim cells (Router). Al explained that the trim cells trim the plastic skins installed during the thermoforming process. The deburred particles from each cell are collected in an individual cyclone and the exhaust from the cyclone is controlled by 8 sock filters which are vented into the general in-plant environment. I did not observe any dust on the floor near the cyclone or sock filters. This process appears to be exempt from R201-Permit to Install requirements pursuant to R336.1285(2)(I)(vi)(B) (see below). The filters are replaced on as needed basis.

Next, we inspected the plastic parts wrapping with thermoformed plastic skin and application of MDI and poly urethane (EUFLEXFOAM). MDI (liquid) and Polyol (liquid) are injected in between the plastic part and the skin. This process is included in FGRULE290.

Next, we visited the thermoforming process (slush machine) where plastic pallets are moistened, heated and molded to make the soft plastic covers (skins). When the mold is opened, excess moisture is vented. The facility currently has only one such mold. They plan to install one more. These skins are later attached to plastic parts and undergo flex foam process.

One of their customers requires the parts to have sheet covers with foam already built in. These parts won't go through the EUFLEXFOAM process with MDI and

Polyol. The glue adhesive is applied to these plastic parts in EUSPRAYBOOTH1 which is included in FGRULE287(2)(c) of the ROP. The parts are then heated/cured, pressed with the cover and trimmed. These parts are trimmed in one of eight enclosed LASER cutting machines. These machines were installed in 2023. The exhausts from these machines are vented to individual filtration units which are vented to the general in-plant area. This process appears to be exempt from permit to install (R336.1201) requirements pursuant to Rule 285(2)(I)(vi)(B), which states:

R 336.1285 Permit to install exemptions; miscellaneous.

Rule 285. (1) This rule does not apply if prohibited by R 336.1278 and unless the requirements of R 336.1278a have been met.

(2) The requirement of R 336.1201(1) to obtain a permit to install does not apply to any of the following:

(I) The following equipment and any exhaust system or collector exclusively serving the equipment:

(vi) Equipment for carving, cutting, routing, turning, drilling, machining, sawing, surface grinding, sanding, planing, buffing, sand blast cleaning, shot blasting, shot peening, or polishing ceramic artwork, leather, metals, graphite, plastics, concrete, rubber, paper board, wood, wood products, stone, glass, fiberglass, or fabric which meets any of the following:

(A) Equipment used on a nonproduction basis.

(B) Equipment that has emissions that are released only into the general in-plant environment.

EUSPRAYBOOTH2 which is also included in FGRULE287(2)(c) is no longer in use.

Next, we visited the burnoff oven. The oven has not been in operation for many years. The temperature cannot be properly recorded. The racks are not excessively soiled after each use. So, they currently seldom send the racks out for cleaning.

We did not inspect the cold cleaner at this time. AI indicated that the facility has one cold cleaner.

During the post inspection meetings, we discussed and clarified the operations. The adhesive coating operation conducted in EUSPRAYBOOTH1 which currently included in FGRULE287(2)(c) of the ROP could be included in FGRULE290 during renewal. The rule applicability needs to be evaluated during ROP renewal.

Compliance Discussion:

EUPLASTICS

SC I.1- The 12-month rolling VOC and acetone emissions were 2,254 pounds as of December 2022, 6,420 pounds as of December 2023 and 5,071 as of Jan-April 2024. The highest VOC and acetone emissions were 1,424 pounds in April 2024. The coating usage appears to be higher in 2024 compared to previous two years. These emissions are below the VOC and Acetone emissions limit of 137.2 tpy based on a 12-month rolling time period.

SC I.2- The VOC and Acetone emissions from the purge and clean-up solvents used in the EUPLASTICS is limited to 5.0 TPY based on a 12-month rolling time period. The facility is water and solvent (when using hardener) to clean the lines.

As of December 2022, VOC and Acetone emissions = 369 pounds

As of December 2023, VOC and Acetone emissions = 5,000 pounds

Jan-April 2024 VOC and Acetone emissions = 4,598 pounds

SC I.3- The VOC emissions from each spray booth in EUPLASTICS is limited to 78 TPY based on a 12-month rolling time period.

Booth 1

As of December 2022, VOC emissions = 8 pounds

Booth 2

As of December 2022, VOC emissions = 466 pounds

As of December 2023, VOC emissions = 479 pounds

Jan-April 2024 VOC emissions = 260 pounds

Booth 3

As of December 2022, VOC emissions = 715 pounds

As of December 2023, VOC emissions = 735 pounds

Jan-April 2024 VOC emissions = 399 pounds

Booth 4

As of December 2022, VOC emissions = 736 pounds

As of December 2023, VOC emissions = 757 pounds

Jan-April 2024 VOC emissions = 411 pounds

SC I.4- the highest daily VOC emission rate was 49.49 pounds per day on May 11, 2023, and the daily VOC emissions are in compliance with permit limit of 5,222.0 lb/day.

SC II.1- Facility conducted US EPA Method 24 analysis for the adhesion promoter on April 4, 2024. The VOC content (less water) was 6.386 lb/gal and is compliance with the 7.0 lb/gal permit limit.

SC II.2- the highest topcoat VOC content was recorded for DX9 Black at 2.485 lb/gal minus water as applied and is less than the permit limit of 5.0 lb/gal (minus water) as applied.

SC III.1- No open paint or waste containers was observed during inspection. These containers are stored in an enclosed vented room.

SC III.2- The cure oven was being used at the time of the inspection. At the time of the inspection, the operating temperature was 184.7°F. The submitted temperature records for the weeks of 5/6/2024 and 5/13/2024 show that they operated the oven below 190°F in compliance with the 194°F permit limit.

SC IV.1- The water wash and booth filters are installed. The water wash was running at the time of inspection. No parts coating was being performed at the time of the inspection. The filters appeared to be clean and in place.

SC IV.2- Al told me that they use HVLP or equivalent technology applicators in the booths. The facility uses robotic guns.

SC V.1- The facility is using only three coatings in EUPLASTICS. They conducted US EPA Method 24 analyses on April 4, 2024. The facility submitted the Method 24 analysis results for these coatings. The VOC content of the topcoat is limited to 5.0 lb/gal (minus water) as applied. The Method 24 analyses results for the VOC content of the coatings were Global Black TX7 =1.724 lb/gal (-water), DX9 Black 2.485 lb/gal (-water), and Lucid Black 1.745 lb/gal (-water). These results are in compliance with the permit limit.

SC VI.1- Facility submitted records of the cure oven temperature readings. The oven has has a digital reader and a chart reader which was recording the temperature at the time of the inspection.

SC VI.3-7- Facility is keeping records as required. Submitted records.

SC VIII 1-7- Stack heights were not verified. The stacks appear to be in compliance with the required dimensions.

EUBURNOFF – pertains to a batch type natural gas-fired burn off oven with a secondary chamber or afterburner; used for removing cured paints, oil or grease from metal racks by thermal decomposition in a primary chamber. Al informed us that this equipment has not been used for a long time. During walk-through inspection, we verified that the facility has not used this equipment. Racks are still being sent out for cleaning, as necessary. Al explained to us that the temperature monitoring is not accurate and they are in the process of repairing it.

EUDIESELGEN3 (Model: 125DGEA SN: C140655741)– pertains to 125 KW diesel fuel-fired emergency electric generator installed in 2014. This emission unit is subject to the applicable requirements of the New Source Performance Standards (NSPS) for Stationary Compression Ignition, Reciprocating Internal Combustion Engines (RICE), 40 CFR Part 60, Subpart IIII that applies to this diesel fuel-fired emergency generator and 40 CFR Part 63, Subpart ZZZZ-National Emissions Standards for Hazardous Air Pollutants, Stationary Reciprocating Internal Combustion Engines. Compliance with NSPS IIII deemed compliance with NESHA ZZZZ. This emergency diesel generator is rated at less than 10 MM BTU/hr and exempt from R201 (permit to install) requirements under AQD Administrative Rule R 336.1285(2)(g).

As required by ROP No. MI-ROP-N1316-2021, SC I. 1-3, the facility submitted the EPA Emissions Compliance Certification (2014 EPA Tier 3 Exhaust Emission Compliance Statement 125DSGAB Stationary Emergency 60 Hx Diesel Generator set).that was issued on 4/29/2013. The certification showed the following emissions: PM – 0.11

g/kwm-hr., NMHC+NO_x – 4.0 g/kwm-hr., CO – 1.0 g/kwm-hr. These emissions comply with SC I.1, 2, & 3) limits of: PM – 0.2 g/kw-hr., NMHC+NO_x – 4.0 g/kw-hr., CO – 3.5 g/kw-hr. These limits are same as the EPA limits in the certification. Per SC II.1, Mayco submitted the supplier diesel fuel bill of lading and Safety Data Sheet which showed the sulfur content of the fuel at 15 ppm and an Ultra-Low Sulfur No. 2 Diesel document from Marathon which showed the Minimum Cetane Index (Maximum Aromatic content) as 40 min.

SC III.5- submitted records showed that in 2022, this engine operated for 26 hours and in 2023, the engine operated 24 and 9 hours for Jan through May 2024. These are less than the 50 non-emergency hours limit and the 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing.

SC IV.1- The engine is equipped with the non-resettable hour meter. During walk-through inspection, we verified an hour meter reading of 100.5 hours.

SC VI.1-8- The facility purchased a certified engine, keeps records of the certified engine, fuel supplier and fuel usage records, engine name plate capacity, date of installation/manufacture, maintenance records, and hours of operation. Engine maintenance such as hoses, spark plugs, radiators, and belts inspections/replacements, oil changes, and tune-ups are conducted at least once a year. Michigan CAT is the outside maintenance sub-contractor. Submitted records showed that the most recent maintenance was conducted on May 16, 2024 (Office Gen, Model 125DEA, Serial Number: C140655641, Hrs = 99).

EUNATGASGEN (Model No. 3406 SN Engine: 2WB04131); Caterpillar,

30 KW natural gas fired emergency electrical generator manufactured 2004 and installed in 2007. The unit is subject to 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, existing emergency, spark ignition (SI) RICE equal to or less than 500 bhp. A RICE is existing if the date of installation is before June 12, 2006. Compliance date for existing emergency spark ignition (SI) engines ≤ 500 HP is October 19, 2013. The emergency RICE generators are rated less than 10 MMBTU/hr. and exempt from permit to install requirements per AQD Administrative Rule R 336.1285(2)(g).

Facility submitted PM records for this engine. Oil change and other maintenance was completed on May 16, 2024.

Submitted records showed that in 2022, this engine operated for 26 hours and in 2023, the engine operated 24 and 9 hours for Jan through May 2024. These are less than the 50 non-emergency hours limit and the 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing. The engine was operated only for periodic readiness testing.

FGMACT – pertains to each existing affected source engaged in the surface coating of plastic parts and products, identified within each of the four subcategories listed in 40 CFR Part 63, Subpart PPPP, 63.4481(a)(2) to (5).

SC I.1- submitted records showed that the monthly 12-month rolling total Volatile Organic HAP emission rate, for general use coating, as of April 2024 was 0.001 lb VHAP/lb. of coating solids and less than the 0.16 lb/lb. coating solids permit limit.

The monthly lb VHAP/lb coating solids is 0.001. The facility chose to use the “emission rate without add-on controls option” to comply with 40 CFR63.4490 in determining organic HAP emission rate.

SC I.2- The facility reported using thermoplastic olefin coating that does not have HAP.

SC II- Mayco uses thinner and cleaning materials that do not contain any organic HAP materials.

FGRULE287(C) – pertains to any emission unit that emits air contaminants and is exempt from permit to install requirements of AQD Administrative Rule R 336.1201 pursuant to Administrative Rules R 336.1278 and R 336.1287(2)(c).

During walk-through inspection, AI informed us that one of the spray booths was converted to robotic glue (adhesive) spray coating booth. As discussed earlier, this booth is used in the glue application for attaching sheet covers with built-in foam to the parts. The other spray booth is no longer at the facility. We inspected the robotic adhesive spray booth. The dry filters appear to be not excessively dirty and in place.

These booths are no longer in use for surface coating. These calculations are included in the Glue booth emissions under FGRULE290.

FGCIEMGENS – pertains to reciprocating internal combustion engines (RICE) utilized as emergency generators that are less than 10 MM BTU/hr., exempt from AQD Administrative Rule R 336.1201 permit to install requirements per AQD Administrative Rule R 336.1285(2)(g) and are subject to 40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. The existing emergency engines are ≤ 500 HP and constructed before June 12, 2006. The compliance date – May 3, 2013, for existing emergency compression ignition (CI) engines ≤ 500 HP, and October 19, 2013, for existing emergency spark ignition (SI) engines ≤ 500 HP. EUDIESELGEN1, and EUDIESELGEN2, are the emission units installed at the facility covered by this flexible group.

SC III.1-7- The submitted records showed that in 2022, each engine operated for 26 hours, in 2023 operated 24 and operated 9 hours for Jan through May 2024. These are less than the 50 non-emergency hours limit and the 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing. The engine was operated only for periodic readiness testing.

SC IV.1- The engines are equipped with non-resettable hour meters as verified during the inspection.

SC VI.1-8- Mayco keeps records of fuel supplier and usages, engine name plate capacity, date of installation/manufacture, maintenance records, and hours of operation for each engine. Engine maintenance such as hoses, spark plugs, radiators, and belts inspections/replacements, oil changes, and tune-ups are conducted at least once a year. Michigan CAT is the outside maintenance sub-contractor. Submitted records showed that the most recent maintenance was conducted on May 16, 2024 for

EU DIESELENGINE1- Caterpillar, Model 3406, SN 2WB04131, 1478 hours

EU DIESELENGINE2-Olympian, IP GEN, Model D200, SN: F4304A/001, 548 hours;

EU DIESELENGINE3-ONAN, Office Gen, Model 125DGEA, SN C140655641, 99 hour

EU NATURALGASGEN-Generac, Office Gen 2; Model GEN, SN 2079659, 404 hours

FGRULE290 – pertains to any emission unit that emits air contaminants and exempt from AQD Administrative Rule R 336. 1201, permit to install requirements, pursuant to Administrative Rules R 336.1278 and R 336.1290. Mayco operates the emission units, EUFLEXFOAM and EUGLUEROBOT under the permit to install exemption Rule 290 and included in the FGRULE290.

In the EUFLEXFOAM process, a flexible polyurethane foam is molded for the Jeep Grand Cherokee and Durango soft-touch instrument panel. This emission unit has 5 production stations, known as carriers. The foam production line uses MDI and polyol. Although MDI is a carcinogen, MDI emissions are negligible since MDI is expected to completely react with polyol. Methylene chloride is not used for this process. A small amount of water-based mold release paste is used. In the flexible polyurethane foam production, the MDI and polyol is metered at a specified stoichiometric ratio, mixed together until a homogeneous blend is obtained, and the reacting liquid is dispensed into the closed mold until the product cures. The foam is formed between a plastic substrate and “skin” of the instrument panel. The substrate is manufactured in the injection molding machine and the “skin” is manufactured in the thermoforming machine. MDI annual emissions were 0.439 pounds in 2022, 0.114 pounds in 2023, and 0.14 pounds in Jan-April 2024. This is in compliance with the 20 lb/month limit.

In the EUGLUEROBOT process glue (adhesive) is sprayed onto parts using robotic guns to attach plastic cover for the instrument panel. The annual emissions for 2022 was 145 lb; for 2023 was 74 pounds; and 2024 Jan-April was 46 pounds.

The emissions from Glue Booth2 which was included in FGRULE287(2)(c) is currently included in RULE 290 calculations. The annual emissions for 2022 was 21 pounds; for 2023 was 21 pounds and 2024 Jan-April was 17 pounds.

FGCOLDCLEANERS – pertains to any cold cleaner that is grandfathered or exempt from AQD Administrative Rule R 336. 1201, permit to install requirements, pursuant to Administrative Rules R 336.1278 and R 336.1281(h) or R 336.1285(r)(iv). The existing cold cleaners were placed into operation prior to July 1, 1979, and new cold cleaners were placed into operation on or after July 1, 1979. During walk-through inspection, we did not inspect the Safety Kleen parts washer. After previous inspection, the facility was provided a copy of the operating procedure generated by EGLE-ESD via email and requested him to post it near the cleaner.

Conclusion: Based on the onsite inspection and records review, Mayco International appears to be in compliance with the requirements of MI-ROP-N1316-2021 and 40 CFR 63, Subpart PPPP.

NAME Sebastian ykallmka

DATE 6/5/2024

SUPERVISOR Joyce