

N1316 - AIR - 20160706

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

N131635523

FACILITY: NJT Enterprises, LLC ( Formally Mayco Plastics)		SRN / ID: N1316
LOCATION: 42400 Merrill, STERLING HTS		DISTRICT: Southeast Michigan
CITY: STERLING HTS		COUNTY: MACOMB
CONTACT: Al Cook , Facility Manager		ACTIVITY DATE: 07/06/2016
STAFF: Francis Lim	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT:		
RESOLVED COMPLAINTS:		

On July 6, 2016, I conducted an inspection at NJT Enterprises LLC, located at 42400 Merrill Rd, Sterling Heights, Michigan. NJT's facility at this site is called Mayco International LLC. The purpose of the inspection was to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) Administrative Rules; Renewable Operating Permit ROP No. MI-ROP-N1316-2015, Consent Order No. 3-2010, Plastics Parts Coating MACT, RICE MACT, and NSPS Subpart IIII. During the inspection, AQD staff was assisted by Mr. Al Cook, Facility Manager.

The former occupant of the site, Mayco Plastics filed for bankruptcy in 2006. NJT bought the equipment from the bankrupt Mayco Plastics. NJT also bought some equipment from Collins & Aikman. This manufacturing plant is now called Mayco International LLC. NOTE: LLC means Limited Liability Corporation.

Mayco International manufactures and coats a variety of interior and exterior molded automotive plastic parts. Besides injection molding, other operations at the site include thermoforming of plastic parts, reaction injection molding, line assembly of instrument panel (Jeep Grand Cherokee and Durango), and coating of automotive plastic parts. At this time, their products are 100% automotive. The facility has plans to conduct light assembly of other automotive parts. Plastic injection molding is conducted 24 hrs./day, 6 days a week; coating operations is conducted in 1 shift. This plant currently has approximately 650 employees.

### Process Description/MI-ROP-N1316-2015

The ROP renewal, MI-ROP-N1316-2015 was issued on December 8, 2015.

EUPLASTICS is a robotic plastic parts spray coating operations that includes an adhesion promoter booth and three topcoat booths, controlled by water curtains and dry filters. The plastic parts are washed with Plasti-Prep 101 (alkali solution) and hot water, then oven-dried before the coating process. Water in the water curtains is treated and reused. Suspended paint solids captured in the water curtain are removed by adding chemicals to make the solids float. The solids are skimmed off. The water curtain is dumped every six months and replaced. Coated plastic parts are cured in a natural gas-fired oven operating at 190 F. NOTE: Coatings that are dried up to 194 F are considered air-dried coatings.

EUSPRAYBOOTH1, EUSPRAYBOOTH2 and SAMPLEBOOTH71 are Rule 287c exempt paint booths and are used for touchup and testing. These booths are seldom used.

EUBURNOFF is a burn off oven used to remove and clean paint overspray in the parts racks and hangers. The burn off oven has an afterburner control system. The chart recorder is

recording 100 F higher than the thermocouple. Because of concerns that the oven may not be operating properly at the required temperature, facility has not been operating the ovens. The racks and hangers are currently sent out to a contractor remove the paint overspray.

FGEMGENS is for 4 emergency generators subject to 40 CFR 63 Subpart ZZZZ (RICE MACT). One of the generators, EUDIESELGEN3 is a diesel fuel-fired emergency generator subject to 40 CFR 60 Subpart IIII (NSPS for compression ignition engines). EUDIESELGEN2 was erroneously identified as subject to 40 CFR 60 Subpart IIII in the previous ROP.

EUFLEXFOAM is for a reaction injection molding process that manufactures flexible polyurethane foam for the Jeep Grand Cherokee and Durango soft-touch instrument panel. This emission unit has 6 production stations called carriers. The foam production line use MDI and polyol. Although MDI is a carcinogen, MDI emissions are negligible since MDI is expected to completely react with polyol. (NOTE: Unreacted MDI could still be emitted at the facility). 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. EUFLEXFOAM is an emission unit under FGRULE290.

FGCOLDCLEANERS are cold solvent cleaners located at the maintenance area. Halogenated solvents are not used in the cold cleaners.

### **Miscellaneous Operations**

Plastic injection molding machines manufacture interior and exterior automotive plastic parts. The skins for the Jeep and Durango instrument panels are manufactured in the vacuum-formed thermoforming machines. A small amount of mold release agents in spray cans is used in the molding machines. Plastic injection and plastic thermoforming are exempt under Rule 286 (b), (d) and (e). The soft-touch Jeep Instrument Panel assembly line has no air emissions.

### **Consent Order CO AQD No. 3-2010**

Consent Order AQD No. 9-2004 with an effective date of April 29, 2004, was issued to the previous company, Mayco Plastics, and included in part, a compliance program and implementation schedule. The consent order resulted from allegations that Mayco Plastics failed to submit a timely application for ROP renewal and for violations of some ROP conditions. In the event Mayco Plastics sells the facility, the consent order stipulates that Mayco Plastics shall advise the purchaser of the company of the existence of the consent order. General provision 17 of the consent order calls for the consent order to remain in full force until the subsequent ROP renewal application has been received, due between March 14, 2008 and March 14, 2009. The ROP renewal permit application was submitted by the new owner NJT Enterprises on March 12, 2009.

On June 17, 2008, an NOV was issued to NJT for noncompliance with the Plastic Parts Coating MACT (40 CFR 63, Subpart PPPP). Compliance date was April 19, 2007.

On Feb 4, 2009, an NOV was issued to NJT for non-submittal of ROP semiannual and deviation certification due Sep 30, 2008 and for non-submittal of the first semiannual MACT

compliance report due July 30, 2008.

On March 24, 2009, an NOV was issued to NJT for noncompliance of MACT HAPs limits.

To resolve the above violations, NJT and AQD entered into a consent order agreement. This new consent order, CO AQD No. 3-2010 was approved on February 3, 2010. With the approval of the new consent order, the previous consent order, CO AQD No. 9-2004 has been voided.

NJT has paid in full the penalty requirement of the consent order. Consent Order AQD No. 3-2010 has not yet been voided.

### **Rule 632 Compliance Evaluation**

Facility is subject to Rule 632 through Rule 702(a). VOC content limit for the topcoat is 5.0 pounds/gal, minus water, as applied. Red Spot coatings are water-based. Dhake and Sherwin Williams coatings are solvent-based. The ROP requires the facility to conduct random testing using Federal Reference Method 24 of all coatings, catalysts and solvents within the five-year ROP effective dates. NJT Enterprises has not yet collected and analyzed any of the coatings, catalyst, and solvent for this ROP renewal cycle.

During the previous inspection, I took three Dhake paint/catalyst samples: cocoa, jet black and C-17 catalyst. Results showed 5.03 pounds/gallon, less water and exempt solvent for jet black; 5.43 pounds/gallon, less water and exempt solvent for cocoa; and 4.01 pounds/gal for the catalyst. NOTE: Jet black and cocoa contains t-Butyl acetate, an exempt VOC. The manufacturer's Environmental Data Sheet, showed a VOC content of 4.65 pounds/gallon, less water and exempt solvent (cocoa) and jet black, 4.60 pounds/gallon, less water and exempt solvent (jet black).

Dhake reformulated their coatings to assure compliance with the VOC limit. In August, 2015 facility sent samples to Corrosion Control Consultants and Labs, Inc. for Method 24 analysis. Results are: Dhake jet black, 3.8 lbs./gallon, less water and exempt solvent; Dhake cocoa, 2.9 lbs./gallon, less water and exempt solvent; and for Dhake urban, 4.2 lbs./gallon, less water and exempt solvent.

Based on Environmental Data Sheets and Method 24 analysis (from previous ROP cycle), Red Spot, Sherwin-Williams, and Dhake coatings are in compliance with the 5.0 pounds/gallon, less water and exempt solvent.

### **Plastic Parts Coating MACT (40 CFR 63, Subpart PPPP) Compliance Evaluation:**

Since the coating lines are an existing source, compliance date for the MACT is April 19, 2007.

MACT limit is 0.16 pound/pound of coating solids for general use coatings and 0.22 for TPO coatings. Limit applies to all coatings, solvents and cleaners used.

Initial statement of compliance submitted for the initial compliance period ending April 30, 2008 showed that the facility is not in compliance with the MACT. Facility is also required to submit semiannual compliance reports, with a due date coinciding with the ROP monitoring report. The first semiannual MACT report, which was submitted late, showed that the facility was not in compliance with the MACT.

NJT started using compliant coatings, non-HAP thinner (NOTE: Facility currently does not use any paint thinner), and compliant purge/cleanup solvents on January 2009. However, facility continued to use noncompliant coatings until the coatings were used up. By the second half of 2009, facility was using mostly compliance coatings.

Facility initially chose to comply with the MACT using Option 1: Use compliant coatings/solvents and compliant cleanup solvents. Facility later decided to use Option 2: Emission rate without add-on control. This option has more recordkeeping and calculation requirements than Option 1. Facilities are allowed to use different compliance options for the same coating operation at different times.

Facility is currently in compliance with the MACT using Option 2, emission rate without add-on control. Most of the coatings used have 0 HAPs. Solvent used (S-2012 manufactured by Superior) contains 0 HAPs and 11% VOC by weight. For the period ending June 2016, HAPs emissions for general use coatings are 0.01 pound/pound of coating solids, and 0.00 for TPO coatings. See attached records.

Manufacturer's formulation data (to determine HAP content) is allowed to be used to demonstrate compliance with the MACT.

In the most recent ROP semiannual and annual certification submitted March 15, 2016, NJT certified that the facility is in compliance with the Plastic Parts Coating MACT

#### **ROP Compliance Evaluation:**

##### **1. Emission limits associated with EUPLASTICS:**

VOCs and acetone limit: 137.2 tons/year, 12-month rolling total. Total VOC and acetone emissions for the 12-month rolling period ending June 2016 are 18.82 tons. NOTE: Facility no longer uses acetone for purge and cleanup. See attached records.

Purge and cleanup limit: VOCs and acetone, 5 Tons/year, 12-month rolling total. Total purge and cleanup VOC and acetone emission for the 12-month rolling period ending June 2016 are 4.11 tons. See attached records.

Limit for each spray booth in EUPLASTICS: VOCs, 72.8 tons/year, based on a 12-month rolling total. For the 12-month period ending June 2016, total VOC emissions for Booth No. 1 are 1.85 tons; for Booth No. 2, 3.21 tons; for Booth No. 3, 4.93 tons; and for Booth No. 4, 5.08 tons. Emissions per booth are determined by prorating total emissions from production records. See attached records.

Limit for all booths in EUPLASTICS: VOCs, 5,222 lbs/day, for all booths, each calendar day. I reviewed records for daily VOC emissions and did not notice any exceedance. Attached are daily emissions records from January 4, 2016 to February 2, 2016.

Paint usage is logged daily. For consistency in measuring paint usage, the same person is responsible for measuring and logging daily paint usage. Paint usage is estimated daily using the dipstick method. AQD staff conducted a random check of usage records by comparing daily usage logs to the usage entry in the monthly spreadsheet.

##### **2. Material limits**

VOC content of adhesion promoter is limited to 7.0 lbs./gallon (less water), as applied; VOC content of topcoat is limited to 5.0 lbs./gallon, as applied. Facility keeps a record of the VOC

content of coatings used. For this ROP renewal cycle, NJT has not yet done Method 24 testing for all coatings and adhesion promoter used.

Facility uses two types of adhesion promoter: Dhake (soft-touch instrument panel) and Sherwin Williams (P1C21A, airbag covers). On February 8, 2013, Sherwin-Williams SL5CP-HF-ADH Promoter was analyzed by RTI Labs and results were 6.71 pounds/gallon less water and exempt solvents. Environmental Data Sheet for Dhake adhesion promoter P1C21A shows 4.58 pounds/gallon less water and exempt solvent.

On January 2011, as a requirement of the previously issued ROP, VOC content of all coatings was verified using Federal Reference Method 24. Testing was done by RTI Labs. Testing for the remainder of the coatings was conducted (performed by RTI Labs) in 2013 and 2014.

### 3. Operational parameters

Cure oven temperature limit is 194 F. Oven temperature is set at 190 F. The oven temperature is maintained as high as allowed so that the parts will cure properly.

The limit for the afterburner temperature for the burn off oven is at least 1400 F. To verify that the burn off oven is operating properly, an operator signs off a log sheet located near the burn off oven, every shift. There is a discrepancy in the thermocouple readings and temperature chart recording. Until this can be fixed, facility has decided not to operate the burn-off oven.

### 4. Monitoring and testing

ROP includes a requirement for the facility to perform random testing of the VOC content, water content and density of any coating, catalyst, and solvent. Random testing is required until all coatings, solvents and catalysts have been tested within the 5-year period ROP effective date. VOC content shall be determined using Federal Reference Method 24. Testing of all topcoat used by the facility was conducted during the previous ROP cycle. Testing for this ROP renewal cycle has not yet been done.

Coating usage, in gallons of coatings are logged daily, summarized and entered in the spreadsheet. Daily usage logs are kept and daily emissions are automatically calculated through spreadsheets. Daily usage is estimated by conducting daily inventory using a dipstick. Coating usage is recorded per booth (NOTE: usage per booth is allocated by prorating from total usage through production records per booth). 12-month rolling total emissions for EUPLASTICS and for each of the 4 automatic booths are calculated using a spreadsheet developed by their consultant. Monthly purge and cleanup solvent usage is not kept if water is used. Attached is a sample daily log Paint Usage Form for April 4, 2016. I randomly verified that usage listed in the paint usage form matches usage recorded in the spreadsheet.

EUDIESELGEN3 is a 215 KW diesel fuel-fired emergency engine generator subject to 40 CFR 60 Subpart IIII, NSPS for Stationary Compression Ignition – Internal Combustion Engines and the RICE MACT. This is a certified engine equipped with a non-resettable meter.

Three other small (less than 500 HP) existing emergency engine generators are subject to the RICE MACT with a compliance date of October 19, 2013. The engines are maintained properly since the facility relies on those engine generators during a power failure. I verified that Caterpillar performs a comprehensive maintenance on all four engines annually, which includes change oil and filter; inspect air cleaner and replace as necessary; and inspect all hoses and belts and replace as necessary. The annual comprehensive maintenance was conducted on September 21, 2015 (EUDIESELGEN1), September 22, 2015 (EUDIESELGEN3), and September 23, 2015 (EUDIESELGEN2 and EUNATGASGEN).

Maintenance records and hours of operation are kept. Generators are tested and run half hour per week. See attached records.

Emission units included in FGRULE287(c) are EUSPRAYBOOTH1, EUSPRAYBOOTH2 and SAMPLEBOOTH71. Only EUSPRAYBOOTH2 has been used - usage is less than 10 gallons/month. See attached records.

EUFLEXFOAM is listed in the ROP as an emission unit of FGRULE290. Although MDI is a carcinogen, MDI emissions are expected to be negligible since MDI is expected to completely react with polyol (resin). A water based mold release paste is used sparingly. Attached are 2015 records of monthly usages of isocyanate and resin, and emissions. The flexible polyurethane foam production can also be exempt under Rule 286(e). Actual emissions of MDI are less than 20 pounds/month.

NAME J. A. J. DATE 06-13-14 SUPERVISOR CTE



