B4550
MANILA

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

B455033022

FACILITY: VACUUM ORNA METAL INC		**SRN / ID:** B4550
LOCATION: 11380 HARRISON RD, ROMULUS		**DISTRICT:** Detroit
CITY: ROMULUS		**COUNTY:** WAYNE
CONTACT: Frank Chester , Vice President		**ACTIVITY DATE:** 01/14/2016
STAFF: Todd Zynda	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Scheduled Inspection		
RESOLVED COMPLAINTS:		

REASON FOR INSPECTION: Scheduled Inspection
INSPECTED BY: Todd Zynda, AQD
PERSONNEL PRESENT: Paul Cholette, Metalizing Technician
FACILITY PHONE NUMBER: 734-941-9100
FACILITY FAX NUMBER: 734-941-1127
FACILITY WEBSITE: www.vacuumorna-metal.com

FACILITY BACKGROUND

Vacuum Orna-Metal (VOM) manufactures decorative flower containers and other metalized plastic containers. The facility also provides custom vacuum plating and restoration services for antique vehicles (vehicle dashboards). VOM is located in the City of Romulus, on the west side of Harrison Road between Goddard Road and Northline Road. The nearest residential property is located immediately adjacent to the facility boundary to the southeast.

Currently the facility has ten full time employees. Hours of operation are 7:00 AM to 3:30 PM four days a week.

The facility is a Title V source as the potential to emit (PTE) of volatile organic compounds (VOCs) is greater than 100 tons per year and the PTE of hazardous air pollutants (HAPs) is greater than 10 tons on an individual HAP basis and 25 tons on an aggregate HAP basis. The facility currently operates equipment under Renewable Operating Permit (ROP) MI-ROP-B4550-2012.

PROCESS OVERVIEW

The facility operates 15 plastic mold injection machines, four flow coat machines (each with an associated dry-off oven), and three vacuum metalizing machines. The flower pots or other plastic containers are manufactured in one of the 15 plastic mold injection machines. Prior to metal vacuum deposition, a base coat resin is applied in one of four flow coater lines. The molded products are then coated in one of three vacuum metalizing chambers. In these chambers, aluminum is vacuum deposited onto the molded product. Following vacuum deposition, the metalized products are top coated in one of four flow coater lines. Each flow coater line has a natural gas "dry-off" oven (located at roof level) that dries the finished product at approximately 150 to 170 degrees Fahrenheit (°F).

The facility also operates a small paint booth, a welding area, two light machining and fabrication areas (drill presses, lathes, etc.), a 550 gallon strip tank, and 50 gallon strip tank.

COMPLAINT/COMPLIANCE HISTORY

There are no complaints for this facility on file.

During recent inspections on May 5, 2015, March 5, 2013, and April 9, 2011, the facility was determined to be in compliance with applicable permit conditions and regulations.

OUTSTANDING CONSENT ORDERS

None

OUTSTANDING VNs

None

INSPECTION NARRATIVE

On January 14, 2016 the Michigan Department of Environmental Quality (MDEQ) Air Quality Division (AQD) inspector, Mr. Todd Zynda, conducted an inspection of VOM. During the inspection, Mr. Paul Cholette, Metalizing Technician, provided information and a tour of facility operations relating to air quality permits and regulations. The inspection was conducted to determine the facility's compliance with the Natural Resources and Environmental Protection Act (NREPA), Act 451, Part 55 and MI-ROP-B4550-2012.

At approximately 11:00 AM, AQD staff, Mr. Todd Zynda, arrived onsite and was greeted by Mr. Cholette. During the opening meeting the facility operations and permit requirements were discussed. Mr. Cholette explained that the Vice President for VOM, Mr. Frank Chester, would be better to handle the ROP record keeping requirements. Mr. Chollette was provided with a ROP record request checklist along with the United States Environmental Protection Agency (USEPA) memorandum dated May 16, 1995 (known as the "once in always in" memo) to pass along to Mr. Chester when he returns. It was explained to Mr. Chollette, that the AQD believes VOM is subject to 40 Code of Federal Regulations (CFR) Part 63, Subpart PPPP and that the EPA memo provides further guidance to the MACT standard in regards to VOM operations. Mr. Frank Chester was out of town and was contacted via phone and email on January 19, 2016 and was provided with the ROP record request and EPA guidance memo (see attached correspondence).

Additionally, a discussion was held regarding the change in emission fees for VOM. Recently, VOM received an air emission invoice, and the price increased significantly. After further review, it appears that VOM was previously a Category II facility (major for HAPs). During October 2015, the facility was changed to a Category I facility (major for VOCs). The increase in fees is due to the change in Category II fees to Category I fees. Further discussions regarding this issue were held with Frank Chester and consultant, Mike Iacopelli via phone call. Currently, the facility is defined as major for VOCs and has been since issuance of the ROP No. 199600070 staff report dated October 21, 1998. Potential to emit (PTE) calculations for VOCs have not been verified.

Following discussion of record keeping requirements, Subpart PPPP, EPA memo, and category fees, a tour of the facility was conducted. The tour began with observation of the plastic mold injection machines. According to Mr. Cholette, clear plastic pellets are fed to each mold injection machine. The plastic is heated and injected into a mold. The machines vary based on the amount of material that can be handled and specified shape of the mold. Additionally, the molds can be colored using colored plastic pellets.

Following observation of the plastic molding process, the four flow coaters were observed. During the inspection three flow coaters were in operation (one for basecoat, and two for topcoat). The flow coaters apply the resin in a slow, controlled manner, as opposed to spraying. The basecoat is applied to the plastic mold prior to vacuum metalizing. The topcoat is applied following vacuum metalizing. According to Mr. Cholette, basecoat is cured at approximately 170 °F and topcoat is cured at approximately 150 °F.

Next, observation of the three vacuum metalizing chambers was conducted. According to Mr. Cholette, when the machines are in use, the air is pumped out of the chamber creating a vacuum. In the center of the chamber, a coiled piece of tungsten holding a piece of aluminum is heated with electricity. When the coil is heated the aluminum vaporizes. While under vacuum the particles of the metal are deposited onto the products. The vacuum metalizer holds ten racks which are spinning during the metal deposition process.

Following observation of the vacuum metalizing chambers, a small paint booth was observed. During the inspection the booth was not in use, but filters were in place. According to Mr. Cholette, the paint booth is used on an infrequent basis and is primarily used for smaller, customized jobs for restoration of vintage vehicle dashboards.

Following observation of the paint booth, the strip tanks area was observed. There are two tanks used (550 gallon and 55 gallon). The 550 gallon tank is heated to 175 °F and is used to strip the racks that hold molded parts that enter the flow coaters and vacuum chambers. The 55 gallon tank is heated to 115 °F is used to strip old car parts (dashboards, etc.) for restoration.

The inspection concluded with observation of two light machining (drill presses, lathes, etc.) areas, and a welding area. Emissions from the machining areas are released to the general in-plant environment. Welding

emissions are ducted and vented outside to ambient air on the north side of the facility building.

APPLICABLE RULES/PERMIT CONDITIONS

ROP MI-ROP-B4550-2012 was renewed with an effective date of January 25, 2012. The ROP expiration date is January 25, 2017 with an application due date of July 25, 2016. The facility recently submitted a ROP renewal application on January 4, 2016. The Special Conditions (SC) are listed as appropriate. For brevity, permit conditions and the language of federal and state rules have been paraphrased.

FG-FLOW-COAT

S.C VI. 1. **COMPLIANCE.** Shall maintain monthly and annual records of the names and amounts of each coating used, in gallons. The facility maintains monthly and annual records as required. The usage records were provided via email correspondence on January 28, 2016.

FG-VACUUM-MT

SC VI. 1. **COMPLIANCE.** Shall maintain names and metals used and amount of each used in pounds. The usage records were provided via email correspondence on January 28, 2016.

FG-RULE 287(c)

SC II. 1. **COMPLIANCE.** Coatings applied shall be less than 200 gallons per month, as applied, minus water. Usage records for the paint booth are less than 200 gallons per month. The maximum paint used during 2014 and 2015 occurred during June 2014 at 7 gallons, and August 2015 at 5 gallons.

SC IV. 1. **COMPLIANCE.** Exhaust system shall be equipped with a properly installed and operating particulate control system. During the inspection, the paint booth appeared to meet these requirements. Particulate control filters were in place.

SC VI. 1. a and b. **COMPLIANCE.** Shall maintain the following records: volume of coating used, as applied, minus water in gallons; documentation of any filter replacements for exhaust systems serving coating spray equipment. The facility maintains the records of coating used and documentation of filter replacements as required.

40 CFR Part 63 Subpart PPPP – National Emission Standards for Hazardous Air Pollutants for Surface Coating of Plastic Parts and Products – **NONCOMPLIANCE**

Currently the facility is not in compliance with 40 CFR Part 63, Subpart PPPP. Records indicate that the facility uses 100 gallons per year or more, of coatings that contain HAPs and the facility is a major source for HAPs as defined in §63.4481(b). Per §63.4483(b), the compliance deadline for existing sources is April 19, 2007. The facility has failed to submit records that demonstrate compliance with the applicable emission limit, and have not submitted any of the following items required under Subpart PPPP: initial notification (§63.4510(b)), notification of compliance status (§63.4510(c)), and semiannual compliance reports (§63.4520(a)).

PERMIT TO INSTALL EXEMPT EQUIPMENT

Plastic Mold Injection Machines
The 15 plastic mold injection machines appear to be exempt from PTI requirements under the following rule.

R336.1286(b): "The requirement to obtain a PTI does not apply to... plastic injection, compression, and transfer molding equipment and associated plastic resin handling, storage, and drying equipment."

Metal Machining Areas (drill presses, lathes, etc.)
The machining areas appear to be exempt from PTI requirements under the following rule.

R336.1285(l)(vi)(B): "The requirement to obtain a PTI does not apply to...equipment for carving, cutting, routing, turning, drilling, machining...etc. metal and emissions are released only to the general in-plant environment."

Welding area
The welding area appears to be exempt from PTI requirements under the following rule.

R336.1285(i): "The requirement to obtain a PTI does not apply to brazing, soldering, welding, or plasma coating equipment."

Strip Tanks
The SDS provided indicates that the strip tanks use a sodium hydroxide (NaOH) solution. The strip tanks appear to be exempt from PTI requirements under the following rule.

R336.1285(r)(iv): "The requirement to obtain a PTI does not apply to metal treatment processes if the process emissions are only released into the general in-plant environment: - cleaning metal treatment processes if the process emissions are only released into the general in-plant environment: - cleaning."

APPLICABLE FUGITIVE DUST CONTROL PLAN CONDITIONS

Not applicable.

MAERS REPORT REVIEW

MAERS submittal for 2014 was submitted on time and was complete.

FINAL COMPLIANCE DETERMINATION

The facility is not in compliance with 40 CFR Part 63, Subpart PPPP. A violation notice will be issued.

NAME [signature] DATE 2/25/16 SUPERVISOR JK