

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

N141366389

<b>FACILITY:</b> DENSO Manufacturing North Carolina Michigan Plant		<b>SRN / ID:</b> N1413
<b>LOCATION:</b> 500 FRITZ-KEIPER BLVD., BATTLE CREEK		<b>DISTRICT:</b> Kalamazoo
<b>CITY:</b> BATTLE CREEK		<b>COUNTY:</b> CALHOUN
<b>CONTACT:</b> Herman Jagusch , Advanced HSE Specialist		<b>ACTIVITY DATE:</b> 02/16/2023
<b>STAFF:</b> Amanda Cross	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> SM OPT OUT
<b>SUBJECT:</b>		
<b>RESOLVED COMPLAINTS:</b>		

On February 16, 2023, Air Quality Division's Amanda Cross (staff) conducted an unannounced air quality inspection of Denso Manufacturing, North Carolina (formerly ASMO Manufacturing) with State Registration Number (SRN) N1413. The facility is located at 500 Fritz-Keiper Blvd. Battle Creek, Michigan 49037, Calhoun County. The facility currently operates under one permit, Permit to Install (PTI) No. 350-08 which was issued on April 6, 2009. The permit contains an FGFACILITY limit for Volatile Organic Compounds (VOC) at the facility. The purpose of the inspection was to determine compliance with the Federal Clean Air Act, Article II, Part 55, Air Pollution Control Rules, of the Natural Resources and Environmental Protection Act, 1995 PA 451, as amended (Act 451); AQD administrative rules; and the above referenced permit.

I arrived on site about 10:00 am. Onsite during the inspection was myself and Mr. Herman Jagusch, Advanced HSE Specialist. I signed in at the security office, located to the right side of the main entrance and the guard contacted Mr. Jagusch, who met me outside the security office and escorted me to a conference room. We discussed the inspection process and the records that are required to be kept by the facility. I requested those be emailed to me for in-depth review. Mr. Jagusch took me to his desk and we briefly reviewed the records he keeps on site to show compliance with limits established under PTI No. 350-08. These are discussed below, and the records were emailed following the inspection, for more review.

The facility manufactures automotive windshield washer tanks with hoses, pumps, sensors, and servomotors for several automakers, both foreign and domestic. They assemble the servomotors at the facility for dispersal of windshield wiper fluid as well as seat adjustment, air flow controls, sunroof controls, and other automotive uses. There are approximately 240 employees at this location. The assembly area works three shifts, mostly Monday to Friday with some Saturday operations. Shifts are normally 8 or 9 hours. The molding area works 9- or 10-hour shifts.

The facility has no cold cleaners or boilers on site. Changes since the last inspection are that the hose department is no longer on site. Hoses are manufactured elsewhere and shipped to the site. They also installed a small motor line to manufacture windshield wiper motors, located in the assembly area. There is a small Generac generator located to the side of the main entrance. This is used for critical computers in the facility and emergency lighting. The generator runs a self-test every Monday morning for about 15 minutes. Wolverine Power completes annual maintenance and conducts load tests. This is exempt under Rule 285(2)(g). The facility also has about eight natural gas fired space heaters that are used for building heat. These are exempt per Rule 282(2)(b)(i). After the records review, Mr. Jagusch took me on a tour of the facility.

## Facility Tour –

### Regrind Room

In this room, injection molding and blow molding scrap is ground in separate machines. This was operating during the inspection. The ground scrap is sent to the appropriate mixer. Once ground and mixed, the scrap is combined with virgin material for use in the production machines. There is a dual cyclone/baghouse for the injection molding machine. The blow molding machine is equipped with a cyclone for particulate control. This is used to filter out the small, unusable pieces, and is vented internally. This is exempt under Rule 285(2)(I)(vi)(B).

### Blow Molding Machines (12)

The facility has 12 blow molding machines which use atmospheric air and associated storage of polypropylene (PP) and polyethylene (PE) which is exempt per Rule 286(2)(c). There is about one dedicated regrind machine per each two blow molding machines. Mold release, Stoner A206 Silicone Out Mold Release and mold cleaner is sometimes used on the blow and injection molding machines and this is tracked under the FGFACILITY limit. The SDS was requested as part of the emailed records.

### Blow Washing Area

There are 6 lines located in this area, as part of the assembly process. This area uses IPA as a lubricant along with solvent to allow for strong fusion of the parts to the molds. This is all tracked by the facility in their records.

### Servomotor Area

The servomotor area contains a clean room. Staff must wear a shirt covering and step on an air pad before entering the area. In this area, machines assemble the motors. The assembly process is surrounded by plexiglass to maintain the clean atmosphere of assembly. Drop solder is used in the assembly process. There is one vent out, mainly to vent out heat from the process, as the plexiglass doesn't allow for heat dissipation. The SDS for the solder was provided and it does not contain any HAPs or VOCs.

In the servomotor area, there are 4 injection molding machines. All plastic injection molding machines and any associated PP and PE storage is exempt per Rule 286(2)(b). These injection molding machines are all autonomous and make the parts without much assistance from the employees.

### BT-17/Motor Casing Area

This area has 4 injection molding machines which makes the casings for the motors. These are assembled by a fully automated line.

### **Injection Molding Area**

In the injection molding area, there are 9 injection molding machines. Here, small tampo printers are used to make small marks on parts as labeling. There are about 10 printers in this area. The printers are exempt under Rule 285(2)(l)(ix). Like the operations in the blow washing area, the machine completes the part which is then heated and pressed together to seal it. The hoses, motors, gaskets etc. are added using IPA and other materials and then packaged. There are roof vents in this area but no stacks associated with the machines.

### **Recycling Department**

The recycling department keeps the plastic which cannot be recycled in plant, separated. It is shipped off site and recycled by a third party. This is kept in a caged off area on the main manufacturing floor.

The spray booth on site only uses aerosol cans to touch up machinery in the building. This is exempt under Rule 287(2)(b). The filters were in poor condition. Mr. Jagusch said the booth isn't used frequently and the maintenance staff wanted it removed. According to records, aerosol paint used in the entirety of 2022 was 1.97 gallons. Since it's exempt, this can be removed without any changes or updates to the permit. If any paint is used, the amount of paint used in the booth is tracked.

In the maintenance area is a small welding operation which is vented externally. This is exempt per Rule 285(2)(i). There are also presses and drills used for maintenance of machines and parts at the facility. These are internally vented and are exempt under Rule 285(2)(l)(vi)(B).

### **Cooling Tower System**

There is a two-tower cooling tower system associated with the plastic molding equipment. The system is designed to provide water to the plant operations. It is generally a closed loop system and water is added, as needed. It currently does not use any chromium-based water treatment chemicals which could make the facility subject to 40 CFR Part 63, subpart Q. The cooling tower process equipment is exempt per Rule 280(2)(d).

### **Generac Generator**

Mr. Jagusch and I walked around outside and took a look at the installed Generac Industrial generator. We did not see any plate identifying the size of the generator and the box was locked. I asked Mr. Jagusch to provide information on the generator via email.

**PTI No. 350-08**

**FGFACILITY**

All process equipment source-wide, including equipment covered by other permits, grandfathered equipment, and exempt equipment.

Pollutant	Limit	Time Period/Operating Scenario	Records
VOC	40.0 tpy	12-month rolling determined at the end of the calendar month	11.67 tpy (November 2021-October 2022)

Material	Limit	Time Period/Operating Scenario	Records
Isopropyl Alcohol (IPA) CAS No. 767-63-0	40.0 tpy	12-month rolling determined at the end of the calendar month	15.67 tpy (February 2022 – January 2023)

Records are being kept on site for monthly and 12 month rolling VOC emissions calculations. Included in the calculations are aerosol paints, cleaners used on site, thinners, IPA, plastics and resins used in production. There are no materials reclaimed on site.

Records for chemical use containing VOCs has the volume in gallons and VOC content of the material, converted to pounds. For example, the SDS provided for the Out Mold Release indicated that it is 80-100% VOC. These come in an aerosol can. Assuming the same weight of water (128 ounces in a gallon and 8.34 pounds), the amount of liquid contained in the can is 0.09 gallons (12 oz/128 oz). Assuming all of the can is a VOC, then  $0.09 \text{ gallons} \times 8.34 \text{ pounds} = 0.73 \text{ pounds}$  of VOC emitted when one can of Mold Out is used.

The facility tracks IPA usage monthly, and includes the calculations in the VOC emissions, but there is no individual line for tracking IPA usage, separately. Using the information provided about IPA usage on site, knowing a gallon of IPA weight 6.55 lb/gallon and each drum contained 55 gallons of IPA, a usage number for IPA was calculated. Using the highest IPA usage month as the worst-case scenario and assuming it was every month, IPA usage would be about 24 tpy. I suggested to Mr. Jagusch that he add this calculation to make tracking compliance with the IPA usage limit more obvious.

The facility appears to be in compliance with the Federal Clean Air Act, Article II, Part 55, Air Pollution Control Rules, of the Natural Resources and Environmental Protection Act, 1995 PA 451, as amended (Act 451); AQD administrative rules; and PTI No. 350-08.

NAME *Annelle Cross*

DATE 2/21/23

SUPERVISOR *R/L* 3/2/23