

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

N394341423

FACILITY: VOLCOR FINISHING INC		SRN / ID: N3943
LOCATION: 510 APPLE TREE DR, IONIA		DISTRICT: Grand Rapids
CITY: IONIA		COUNTY: IONIA
CONTACT: Jim Erickson , Plant Manager		ACTIVITY DATE: 08/24/2017
STAFF: Tyler Salamasick	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Minor source inspection FY 2017		
RESOLVED COMPLAINTS:		

Background

Volcor Finishing Inc. SRN: N3943 is a surface coating facility that specializes in electrodeposition coating (e-coat) of various automotive parts. The production facility is located at 510 Apple Tree Drive, Ionia Michigan. Volcor is located in a small industrial park area with the nearest residential structure approximately 650 feet west of the facility. The facility was inspected on 8/24/2017 by Tyler Salamasick, Environmental Quality Analyst of the Michigan Department of Environmental Quality, Air Quality Division. The intent of the inspection was to determine the facility's compliance with the Federal Clean Air Act Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act of 1994, PA 451, as amended, Michigan's Air Pollution Control Rules and PTI No. 672-93. Volcor is a minor source of VOC. The main source of volatile organic compounds (VOCs) comes from the e-coat line. The emissions from the e-coat line are limited by material restrictions on the VOC content of the coating. Volcor's calculated e-coat VOC emissions in 2016 were 0.107 tons.

Inspection

Site arrival was at 11:15 am on 8/24/2017. Upon arrival, I met with Plant Manager, Jim Erickson. I presented my State of Michigan identification card, informed the facility representative of the intent of my inspection and was permitted onto the site. Jim showed me the facility and described Volcor's processes. Volcor is an automotive coating facility. The facility coats various small parts for multiple automotive manufacturers. The facility employs approximately 19 people and operates one shift from 6am to 4pm, Monday through Friday. The facility has one main process. The main process at the plant is the e-coating line. Volcor does have a small booth that is used to touch up any parts that may have had the coating chipped during production. Jim showed me the process from beginning to end. After inspecting the process, we went outside and attempted to observe emissions from the stack. I did not see any opacity from the stack during my inspection. The stack did not appear to have any soot or staining that would indicate previous incidents of high opacity.

Process

The first step of the process is the parts handling. Volcor does not manufacture metal or plastic parts at the facility. All of the parts that are coated at the facility are unloaded at the shipping and receiving bay. Once the parts are unloaded, they are sorted and stored until they can be used in the e-coat line.

When the e-coat line is ready to coat, the parts are loaded into steel mesh barrels on the line via a large hopper. The parts are cleaned in a warm alkaline (high pH) solution. The alkaline wash solution does not contain VOCs and does not appear to emit air contaminants. The parts pass through two stages of alkaline wash.

Volcor previously had a trivalent chromium nitrate treatment. This process was used to apply a

rust prevention coating. Volcor has removed and replaced this process with a reverse osmosis water rinse.

Once rinsed the parts may go through an additional phosphoric acid rinse. Jim informed me that the rinse is optional and is not run often. Volcor only maintain this process for one customer. The acid bath did not appear to emit acid vapors. I did not observe any acid odors near the edges of the tank, or in the general in plant environment.

The parts are next rinsed with a rinse conditioner and then treated with zinc phosphate. The zinc phosphate acts as rust inhibitor as well as a surface treatment. The surface treatment increases the micro surface of the part. This allows for better binding of the e-coat to the part. The zinc phosphate did not appear to generate air contaminants.

After the parts are treated and prepared they are ready to be conveyed to the coating portion of the e-coating line. The barrel is electrically charged and dipped into the coating tank. Charging the barrel allows for electricity to pass through and charge the parts. This action allows for the particles in the e-coat to attracted to the part and deposit on the surface. This process and the drying process are the main sources of emissions of VOCs at Volcor's facility.

The parts are next rinsed with reverse osmosis water and dried. The parts are dried in an electric oven. During the drying process, the residual VOCs are volatilized off and emitted. The parts are dried for approximately 20 minutes at approximately 350F. I did observe some haze/smoke being emitted from the ovens. This smoke was fairly faint, and was exhausted through the hoods about the process.

After the parts are dried they are allowed to cool. The parts are inspected and packaged. Some of the parts may have minor chips where the paint is missing. Volcor has a small paint booth that it uses to touch up parts missing a coating. Volcor use hand held aerosol paint cans. This process appears to be exempt pursuant to R 336.1287(2)(b) which in part states...

(2) The requirement of R 336.1201(1) to obtain a permit to install does not apply to any of the following...
 ... (b) A surface coating process that uses only hand-held aerosol spray cans, including the puncturing and disposing of the spray cans, or other coatings that are manually applied from containers not to exceed 8 ounces in size.

Volcor utilizes one small 1,800,000 BTU natural gas fired boiler to heat the e-coat line. This boiler is under the 50,000,000 BTU size restriction of R 336.1282(2)(b)(i). The boiler appears to be exempt. R 336.1282(2)(b)(i) in part states...

...(2) The requirement of R 336.1201(1) to obtain a permit to install does not apply to any of the following... (b) Fuel-burning equipment which is used for space heating, service water heating, electric power generation, oil and gas production or processing, or indirect heating and which burns only the following fuels: (i) Sweet natural gas, synthetic natural gas, liquefied petroleum gas, or a combination thereof and the equipment has a rated heat input capacity of not more than 50,000,000 Btu per hour.

PTI 672-93

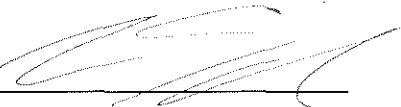
Special condition 15 requires that Volcor not emit more than 1.0 lb per hour of VOC nor 2.3 tons of VOC per year. The permit specifies that the limit is based on a maximum usage rate of 35,190 gallons of water based coating with a maximum VOC content of 0.12 pounds per gallon. Jim indicated,

based on the material content, that the VOCs in Volcor's coating is currently 0.03 lbs VOC per gallon. Jim provided material use records that indicated the facility used 7,141 gallons of coating. This is well below the permitted 35,190 gallons as specified by the permit. Using the information provided, and assuming all of the VOCs are emitted from the coating, Volcor is estimated to have emitted 0.107 tons of VOCs in 2016. This value is well below the permitted 2.3 ton per year limit.

Conclusion

It appears that Volcor is in compliance with the Federal Clean Air Act Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act of 1994, PA 451, as amended, Michigan's Air Pollution Control Rules and PTI No. 672-93.

NAME



DATE

9/20/17

SUPERVISOR

