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

N076072851

FACILITY: FASTENER COATINGS, INC.		**SRN / ID:** N0760
LOCATION: 1111 RIVER ROAD, THREE RIVERS		**DISTRICT:** Kalamazoo
CITY: THREE RIVERS		**COUNTY:** SAINT JOSEPH
CONTACT: Joy Garvey , Owner		**ACTIVITY DATE:** 07/09/2024
STAFF: Michael Cox	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Scheduled Unannounced Inspection		
RESOLVED COMPLAINTS:		

Air Quality Division (AQD) staff Michael Cox (MTC) completed an unannounced inspection of Fastener Coatings, Inc. (FC) at 8:30 am on July 9, 2024, located at 1111 River Road, Three Rivers, Michigan. The purpose of the inspection was to verify compliance with state and federal air pollution regulations. Visible emissions and odor observations were taken prior to entering the facility. No visible emissions or odors were observed prior to entry.

Facility Description

FC is a job shop metal coating facility that coats the heads of screws using a primer and polyurethane paint, or a water-based paint. The facility receives various screws from customers and coats them in 10 coating booths to the appropriate color specified by the customer. Racks that the screws are coated on are then cleaned of paint material in a burn-off oven. FC employs about 16 people and operates one 8-hour shift per day, 5 days per week.

Regulatory Analysis

Fastener Coatings, Inc. is a synthetic minor source for volatile organic compounds (VOCs) and hazardous air pollutants (HAPs). The facility is currently operating under General Permit to Install (PTI) 216-00 and PTI 171-03A. General PTI 216-00 was issued on November 28, 2000, and covers the facility's coating operations. PTI 171-03A was issued on December 16, 2016, and covers the facility's burn-off oven.

Compliance Evaluation

Upon entering the facility, AQD staff MTC met with Mr. Tim Tucker, Operations Manager, and explained the purpose of the inspection. Mr. Tucker provided a walk-through of the facility and answered site-specific questions. Records were provided by Ms. Joy Garvey, Owner, and were reviewed on site.

General PTI No. 216-00:

PTI No. 216-00 covers flexible group FGBG1 that consists of 10 coating booths that utilize a shaker to situate the screws onto a rack, spray booth, and infrared oven. There are 10 spray booths located in two rooms that are used to coat screws or

fasteners. These are numbered 1, 2, 3, 5, 6, 7, 8, 9, and 10. At each booth the screws are placed in shakers that allow the screws to fall into racks so that the heads are facing up. The racks are placed in the spray booths and are then coated. Most of the screws/fasteners are coated with a water-based primer and then a polyurethane paint. Some screws/fasteners may just receive a water-based paint. The filters were noted to be placed in the back of the booth. There is also manometer for each booth to monitor when filters should be changed which occurs approximately every 2-3 hours. Filters are also changed as needed if the operator deems necessary. The racks from the spray booths are then put in an electric oven at about 350-375 degrees F for about 13 min. The screws are then put into boxes and shipped. At each spray booth there is a monthly sheet for the operator to record paint used each day. Each mark stands for one quart of paint. The coatings on the sheet were noted to be: Primer; Polane White; Polane Black; Polane Mixed; Waterborne White; and Waterborne Black. These sheets are then sent to a consultant for tabulation. The booths are cleaned periodically with a booth stripper. The filters were noted to be in good condition with no gaps between filters during the inspection.

There is a paint room where coatings, reducer and solvent are mixed and stored. Waste paint disposal and spray gun cleaning also occur in this area. Polane white and Polane black polyurethanes are used the most. A catalyst is added to the paints before spraying. Polane Mixed is used when different colors are needed. This begins with Polane white is mixed according to a formula which includes colorants. Polane B clear and Polane flattening base may be added along with a reducer. Paints are mixed in this room and taken out to the spray booths. There are 2 cleaning stations for spray guns containing MEK. The lids were noted to be closed. Waste paint is placed in a 55-gallon drum that is periodically hauled away by Superior.

FGBG1 has a total controlled VOC emission rate limit of 672.0 pounds per calendar year, and a 29.0 tons per year limit, based on a 12-month rolling time period. Each emission unit has a total controlled VOC emission limit of 1,500 pounds per calendar month and a 9.0 tons per year limit, based on a 12-month rolling time period. Records of emission rates were reviewed for the time period of January 2022 through June 2024. The facility records indicated that they are consistently well below the limits. The highest 12-consecutive month VOC emission rate from FGBG1 was noted to be 9.39 tons during the 12-consecutive month period ending in January 2023.

The facility is also keeping track of the usage and VOC/HAP content of the paint used as required. The facility requested the use of manufacturer's formulation data in lieu of Method 24 testing. An approval letter for the use of manufacturer's formulation data was dated October 4, 2019. Manufacturer's formulation data was provided to cross reference the VOC and HAP content of the facility's coatings, reducers, and clean-up solvent. No issues were noted.

PTI No. 171-03A:

PTI No. 171-03A covers EU-P02, which consists of a batch type natural gas-fired burn -off oven with a secondary chamber or afterburner, and is used to remove paints from metal fixtures by thermal decomposition in a primary chamber. The burn-off oven was installed in February of 2016. This permit also covers synthetic minor limits for HAPs. The permit requires that the temperature of the afterburner be recorded at least once per burn-off cycle. There are temperature readouts for the afterburner and primary chamber. The burn-off was coming off of a cycle so the

gauges were reading low. No visible emissions were seen coming from the stack. The facility is recording the afterburner temperature at least once per cycle as required. Calibration of the afterburner and primary chamber thermocouples are required once per year. Records indicate that the last calibration was completed on January 1, 2024. The facility is doing visible emission checks of the stack during each run and recording this on a sheet. The burn-off oven is used to burn-off the layers of paint on the racks which hold the screws when they are coated. After the trays are taken out of the oven, they are power washed in a special booth before using again. It appears that this booth is exempt by Rule 281(2)(e). There is a fan in the booth that exhausts outside, no contaminants were seen outside.

The facility is limited to 9 tons of individual HAP emissions and 22.5 tons of aggregate HAP emissions, based on a 12-month rolling time period. The highest 12-consecutive month individual HAP emission occurred during the 12-month rolling time period ending in January 2023, when 0.46 ton of toluene was emitted. The highest 12-consecutive month aggregate HAP emission occurred during the 12-month rolling time period ending in January 2023, when 0.98 ton of HAP was emitted.

The facility is keeping track of the usage, and VOC/HAP content of the paint used as required. The facility requested the use of manufacturer's formulation data in lieu of Method 24 testing. An approval letter for the use of manufacturer's formulation data was dated October 4, 2019. Manufacturer's formulation data was provided to cross reference the VOC and HAP content of the facility's coatings, reducers, and clean-up solvent. No issues were noted.

Compliance Determination:

Based on the observations made during the inspection and review of the required records and reports, Fastener Coatings, Inc. appears to be in compliance with PTI 216-00 and PTI 171-03A, as well as all other State and Federal Air Pollution rules and regulations.

NAME Michael T. Cox DATE 7/30/2024 SUPERVISOR Monica Brothers