

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

A248664968

<b>FACILITY:</b> KNAPE & VOGT MFG CO		<b>SRN / ID:</b> A2486
<b>LOCATION:</b> 2700 Oak Industrial Drive N.E., GRAND RAPIDS		<b>DISTRICT:</b> Grand Rapids
<b>CITY:</b> GRAND RAPIDS		<b>COUNTY:</b> KENT
<b>CONTACT:</b> Michelle Stewart , Director of Environmental Health and Safety		<b>ACTIVITY DATE:</b> 09/01/2022
<b>STAFF:</b> Michael Cox	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MINOR
<b>SUBJECT:</b> Scheduled Unannounced Inspection		
<b>RESOLVED COMPLAINTS:</b>		

Air Quality Division (AQD) staff Michael Cox (MTC) arrived at the Knappe & Vogt Manufacturing Co. located at 2700 Oak Industrial Drive, NE, Grand Rapids, MI on September 1, 2022, at 9:00am to complete a scheduled unannounced inspection. Prior to entering the facility, offsite odors and emission observations were completed. No odors or visible emissions were observed.

### FACILITY DESCRIPTION

Knappe & Vogt Manufacturing Co. is a metal manufacturing facility that produces hardware for drawer slides, metal hinges and brackets. The facility is a minor source of air pollutants. Sources of emissions from the facility are from three burn-off ovens, which are operating under Permit to Install (PTI) numbers (No.) 51-92A, No. 389-92A, and No. 1-06. Other sources of emissions include an emergency generator, 2 natural gas fired boilers, several metal machining operations including stamping, shaping, sanding, forming, welding, etc., a non-cyanide zinc electrolytic plating operation, and a metal powder coat operation. The facility is considered an area source for Hazardous Air Pollutants (HAPs), and is subject to 40 CFR Part 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines for the emergency generator on site. The facility is also subject to 40 CFR Part 63, Subpart WWWW, National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations for the electroplating operations on site.

### COMPLIANCE EVALUATION

Upon arrival onsite, AQD staff MTC met with Ms. Michelle Stewart, Director of Environmental, Health and Safety, who provided a walkthrough of the facility and answered site specific questions. Records were provided by Ms. Stewart during and following the inspection.

**PTI No. 51-92A:**

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This PTI was issued for an ACE Burn-off oven that is natural gas fired. This emission unit is no longer in operation and was observed to be partially dismantled. It was stated by facility personnel that this burn-off oven has not operated in quite some time and the facility has no plans of installing a replacement burn-off oven. MTC provided guidance to the facility to void PTI No. 51-92A if the facility would like to do so.

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**PTI No. 389-92A:**

This PTI was issued for a Blu-Surf Burn-off oven that is natural gas fired.

This emission unit has a particulate matter (PM) limit of 0.10 pounds per 1,000 pounds of exhaust gases corrected to 50% excess air. Stack testing has not been required to verify compliance with this emission limit by the AQD. This emission unit has a visible emissions limit not to exceed 5% opacity. During the facility walkthrough and observations of the stack exit, no visible emissions were observed while the burn-off oven was in operation. This emission unit is equipped with afterburner, which appeared to be calibrated appropriately and working properly. A minimum temperature of 1400°F and a minimum retention time of 0.5 seconds in the thermal afterburner must be maintained. The burn-off oven was noted to be operating in Celsius instead of Fahrenheit. The operating temperature was observed at 800°C, which equates to 1,472°F. The burn-off oven room was very clean, and it appears that ash is being disposed of properly.

**PTI No. 1-06:**

This General PTI was issued for a Blu-Surf Burn-off oven that is natural gas fired installed in 2006.

This emission unit is required to have no visible emissions. During the facility walkthrough and observations of the stack exit, no visible emissions were observed. Natural gas was verified as the only fuel used for this burn-off oven. It was stated by facility staff that only racks and hangers that have gone through the powder coating process at the facility are processed in the burn-off oven. The facility appears to be complying with the material input limit and process/operational requirements of PTI No. 1-06. This emission unit is equipped with an afterburner, which appeared to be calibrated appropriately and working properly. An automatic temperature control system was noted to be installed on the burn-off oven.

A minimum temperature of 1400°F and a minimum retention time of 0.5 seconds in the thermal afterburner must be maintained. The burn-off oven was noted to be in operation and operating at a temperature of 1,564°F. Facility staff stated that there is an interlock system that shuts the oven down in the event of a malfunction. A temperature device was also noted to be installed on the burn-off oven. Temperature records were requested and provided for the time period of January 2021 through August 2022. After a review of the records, it appears that the facility is adequately maintaining the minimum operational temperature requirement. This oven is only used to burn coatings from the facility and all Material Safety Data Sheets (MSDS's) are maintained on site. No malfunctions or failures have occurred to the emission unit during the timeframe covered by this inspection.

### Additional Observations:

The zinc electrolytic plating operation was observed during the facility walkthrough. The facility believes that the plating operation is exempt from Rule 201 permitting per Rule 290(2)(a)(ii)(C). Monthly emission records were requested and provided for the plating operation for the time period of January 2021 through August 2022. Calculations were completed using sodium hydroxide, sulfuric acid, and nitric acid as the highest potential emissions from zinc plating tanks. After a review of the records the highest monthly emissions occurred during the month of March 2022, when the total emissions from the plating operation were noted to be 97.0lbs of sodium hydroxide, sulfuric acid and nitric acid combined. From the review of the records, it appears that the facility is exempt from Rule 201 permitting per Rule 290. This facility appears to be subject to National Emission Standards for Hazardous Air Pollutants for Area Sources Subpart WWWW: Plating and Polishing. The AQD does not have delegation for enforcement of this federal standard.

A diesel fired emergency back-up generator rated at 300 kilowatts or 402 horsepower was noted onsite and appears to be subject to 40 CFR Part 60, Subpart III, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. The facility is keeping records of operating hours, sulfur content of the fuel used by the generator and annual preventative maintenance records as required by Subpart III. The engine was installed in 2013 and a non-resettable hour meter was observed on the emergency generator. The generator was noted to have had a total cumulative operating hour of 422 hours. Facility staff stated that the generator has not yet operated under emergency situations. Diesel fuel records were provided by the facility. Vendor certification of the sulfur content of the fuel from Van Manen Oil Company verifies that ultra-low

sulfur diesel fuel was purchased by the facility, which meets the 15 parts per million (ppm) sulfur requirement.

Various metal machining was observed on site, which included shaping, sanding, forming, and 65 metal stamping presses. These processes appear to be exempt from Rule 201 permitting per Rule 285(2)(l)(i) and Rule 285(2)(l)(vi)(B).

Welding operations were observed onsite and appear to be exempt from Rule 201 permitting per Rule 285(2)(i).

One powder coating booth that coats the metal products to customer needs was observed on site. The powder coating booth appears to be exempt from Rule 201 permitting per Rule 287(2)(d).

Two natural gas fired boilers were observed onsite. Both boilers are Johnson Boilers installed in 1966. The last boiler inspection was noted to have occurred in July 2022. Both boilers are rated for 20,700 lbs per hour (lbs/hr) which equates to 26.91 British Thermal Units per hour (BTU/hr). Both boilers appear to be exempt from Rule 201 permitting per Rule 282(2)(b)(i).

A wastewater treatment operation serving the zinc plating line was observed on site. This equipment appears to be exempt from Rule 201 permitting per Rule 285(2)(m).

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### SUMMARY

Based on observations made during the inspection and records reviewed, Knape & Vogt Manufacturing Co. appears to be in compliance with PTI numbers No. 51-92A, No. 389-92A, and No. 1-06, as well as all other State and Federal air quality regulations.

NAME Michael T. Cox

DATE 9/22/2022

SUPERVISOR HH