M4645

MANUAL

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

M464567662

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| **FACILITY:** H&J MANUFACTURING | | **SRN / ID:** M4645 |
| **LOCATION:** 15771 HURON RIVER DRIVE, ROMULUS | | **DISTRICT:** Detroit |
| **CITY:** ROMULUS | | **COUNTY:** WAYNE |
| **CONTACT:** Bill Junge, Jr. , President | | **ACTIVITY DATE:** 06/07/2023 |
| **STAFF:** Jonathan Lamb | **COMPLIANCE STATUS:** Compliance | **SOURCE CLASS:** MINOR |
| **SUBJECT:** On-site inspection, FY 2023 | | |
| **RESOLVED COMPLAINTS:** | | |

DATE OF INSPECTION: June 7, 2023
INSPECTED BY: Jonathan Lamb, EGLE-AQD
PERSONNEL PRESENT: Bill Junge, Jr., President
FACILITY PHONE NUMBER: 734-320-7675 (Mr. Junge's mobile number)
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## FACILITY BACKGROUND:

H&J Manufacturing performs paint stripping, rack repair, de-rusting, and fabrication of metal parts and supplies, primarily for the automobile industry. The facility operates one shift, 7:00 AM to 4:00 PM, Monday through Friday with occasional weekends. There are currrently 10 employees on site.

## COMPLAINT/COMPLIANCE HISTORY:

AQD has received occasional complaints regarding opacity emitting from this facility over the past decade, including a complaint received on June 5, 2023, which initiated this inspection. AQD has not observed any opactity emitting from the facility during complaint investigations or subsequent surveillance of the facility. The facility was determined to be in substantial complaince during the last full compliance inspection performed on August 24, 2011.

## PROCESS DESCRIPTION AND INSPECTION NARRATIVE :

Prior to starting the inspection, I spoke with Mr. Junge regarding the recent complaint of opacity coming from the facility. Mr. Junge stated that on rare occassions when the conveyorized oven shuts down too early due to exceeding the set temperature, that residual material on the parts may "flame out", which may cause brief periods of smoke. Mr. Junge said this does not happen very often and only lasts a minute or two, but Mr. Junge also mentioned that the oven did have an issue recently due to a malfunction of the safety relay which was causing the oven to shut down prematurely. The relay was repaired three weeks ago, shortly after the problem was originally diagnosed. Mr. Junge and I then walked through the facility to observe the operations and equipment. Mr. Junge provided operational records and safety data sheets at the conclusion of the inspection.

The facility has one Blu-Surf Conveyorized Burn-Off Oven and one Blu-Surf Batch Oven, though the facility has not operated the batch oven in over a year. A second permitted Blu-Surf Batch Oven was removed from the facility several years ago.

Conveyorized Burn-Off Oven: Metal parts and racks are loaded either on carts or hung on an overhead conveyor system and fed into a natural gas-fired burn-off oven operating at a minimum temperature of 1200°F to burn off any residual paint, grease, and oils on the parts or racks. The temperature of the oven was recorded at 1350°F during the inspection; temperature records are maintained on site. The burn-off process takes about 20 minutes. The conveyorized burn-off oven is equipped with an automatic shut-off if temperatures exceed 1600°F. After the parts are taken out of the oven, they are allowed to air cool for a short period and then manually sprayed with water to finish the cooling process. The cooled parts are then removed from the cart or conveyor system and stored in the warehouse to be shipped out. The conveyorized oven is used about 8 hours per day.

The Batch Oven has not been in operation for over a year. When in use, it operates at 800°F with a 1400° F afterburner. Parts are loaded into the oven and burned for 10 hours until the coatings are burned off. Mr. Junge said the facility may be looking to repair the oven and put it back into use sometime in the near future.

Emissions from both the Conveyorized and Batch Oven are exhausted through stacks on the roof.

The facility also has five manually-loaded, hoist-operated de-rusting dip tanks for cleaning and de-rusting metal parts, though the facility usually only uses three of the tanks. Per Mr. Junge, the tanks are not used very often, maybe a few times per year. The tanks use a 50-55% phosphoric acid solution (GF Acid Clean 3077LF) and a rust inhibitor (GX Proof 5026M) and exhaust inside the building. Copies of the safety data sheets for GF Acid Clean 3077LF and GF Proof 5026M were provided during the inspection. These tanks are exempt per R.285(2)(r)(i). GX Proof 5026M contains 5-10% weight by weight diethylene glycol n-butyl ether (CAS #112-34 -5), which is listed as hazardous air pollutant (HAP). Mr. Junge estimates that the facility uses approximately 300 to 600 gallons of GX Proof 5026 per year, so, conservatively, the potential to emit would be approximately 451 pounds of HAPs per year, designating the facility as a minor source of HAPs.

Limited repair and fabrication (welding and assembly) of racks is also performed on-site.

## APPLICABLE RULES/ PERMIT CONDITIONS:

H&J Manufacturing was issued Wayne County Installation Permit Nos. C-7808, C-7814, and C-9210 on March 26, 1992, for their Continuous Burn-Off Oven and the Batch Oven which is still on site. Wayne County Installation Permit No. C-10113 was issued on May 20, 1993 for a second Batch Oven which was brought over from H&J Manufacturing's former Taylor facility in 1993; that oven has since been removed from the facility.

Permits #C-7808, C-7814, and C-9210, Special Conditions (Appendix A):

Batch Oven: Since the batch oven has not been in use for the past year, Special Conditions 16 through 25 were not evaluated during this inspection.

Conveyorized Burn-Off Oven:
26. IN COMPLIANCE. Stack testing has not been performed to verify that the particulate emissions from the conveyorized burn-off oven do not exceed 0.005 grain per dry standard cubic foot nor 1.52 lbs per hour. However, based on the fact that the oven is operated less than half the permitted hours allowed in Special Condition 28, the facility is assumed to be in compliance with the allowable limit of 3.7 tons of particulate emissions per year. In addition, AQD's current General Permit for Natural Gas-Fired Burn-Off Ovens does not have an hourly or annual limit for particulate emissions.
27. IN COMPLIANCE. No visible emissions were observed from the conveyorized oven during the inspection.
28. IN COMPLIANCE. Conveyorized Oven is used, on average, 40 hours per month/2,080 hours per year, well below the permitted limit of 4,800 hours per year.
29. NOT EVALUATED. AQD has not requested stack testing to verify particulate emission rates; however, the no visible emission limit in Special Condition 27 acts as a surrogate for the short-term particulate emission rate.
30. IN COMPLIANCE. The oven is equipped with an on-line water spray; however, the facility has been manually spraying parts after a short cool down period in order to prevent warping which was occurring with the on-line water spray. Facility was granted an exemption by MDEQ-AQD in 1997 to discontinue use of the baghouse. Since there have not been any fallout complaints, nor evidence of fallout on-site, there should be no reason to deny this exemption at this time. In addition, AQD's General Permit for Natural Gas-Fired Burn-Off Ovens does not require an on-line water spray nor a fabric filter dust collector.
31. IN COMPLIANCE. No PVC or Teflon coated parts are burned in the oven.
32. IN COMPLIANCE. The conveyorized burn-off oven is fueled by natural gas only.
33. IN COMPLIANCE. Stack dimensions appear to meet permit requirements.
34. IN COMPLIANCE. AQD has not requested an odor abatement plan.
35. IN COMPLIANCE. Sludge and ash are disposed of in an appropriate manner. Ash waste is stored in a covered ash dumpster and hauled off site for disposal by Republic Services three or four times per year.

Permit No. C-10113 was not evaluated and will be voided because the second Batch Oven is no longer on site.

## FINAL COMPLIANCE DETERMINATION:

Based on the results of this inspection, H&J Manufacturing determined to be in substantial compliance with Permit Nos. C-7808, C-7814 and C-9210.

NAME _____ DATE 7-11-23 SUPERVISOR JK