

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

N737473451

FACILITY: LACKS ENTERPRISES INC.		SRN / ID: N7374
LOCATION: 5675 KRAFT AVENUE, GRAND RAPIDS		DISTRICT: Grand Rapids
CITY: GRAND RAPIDS		COUNTY: KENT
CONTACT: Karen Homrich , Environmental Manager		ACTIVITY DATE: 08/22/2024
STAFF: April Lazzaro	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Unannounced, scheduled inspection.		
RESOLVED COMPLAINTS:		

Staff, April Lazzaro arrived at the facility to conduct an unannounced scheduled inspection of the Lacks Kraft Plating facility and met with Karen Homrich, Environmental Manager. We were joined by Jeff Cowdry, Plant Manager. The purpose of the inspection was to determine compliance with state and federal regulations and to conduct a Full Compliance Evaluation that included a visual inspection of the facility process equipment, control devices and associated parameters.

FACILITY DESCRIPTION

The Lacks Plastic Plate Kraft location is a decorative chrome electroplating facility that primarily electroplates on automotive parts but also on plumbing fixtures, household appliances and business machines. The process consists of pretreatment, alkaline cleaning, acid dipping, and strike plating of copper, copper electroplating, nickel electroplating, and chromium electroplating. Electroless copper, conditioner, and rack stripping are controlled by wet scrubbers while the chrome plating and etching are controlled by composite mesh pad scrubbers. The facility is a major source of Hazardous Air Pollutants and equipment at the facility is regulated pursuant to MI-ROP-N7374-2020.

Administrative Consent Order AQD No. 2023-19 was signed on November 30, 2023 and is in effect for a minimum of five years.

The chrome plating operations are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Chromium emissions in Subpart N.

Except for boilers and the emergency generator, all emission units are subject to the toxic air contaminant requirements under Rule 225. In addition, EUCONDITIONER, EUELECTROLESSCU, and FGNICKEL are subject to Rule 702 Best Achievable Control Technology (BACT). The five boilers are subject to NESHAP Subpart DDDDD. One emergency generator is identified as subject to NESHAP Subpart ZZZZ. EUCONDITIONER is not currently in use, and the function of that emission unit has been replaced by EUPREETCHTANK, however the ability to use EUCONDITIONER remains in the permit.

COMPLIANCE EVALUTION

EUCONDITIONER

This material is no longer utilized at the facility, and the function has been replaced by EUPREETCHTANK. The ability to use 1,3-dichloro-2-propanol (DCP), remains in the permit although the facility has no plans to use it at this time.

EUPREETCHTANK

This emission unit includes one tank used to pre-etch plastic parts prior to plating. Emissions of Volatile Organic Compounds (VOCs) are limited to 595 pounds per year, based on a 12-month rolling time period. Emissions records were requested and received timely. Reported VOC emissions for the 12-month rolling time period ending in June 2024 are 290.03 pounds. The data provided indicates compliance with the emission limit. Air flow for the exhaust on this emission unit travels through an empty/dry scrubber and out a stack. The permit also allows for this unit to operate internally vented. The permit requires that Lacks Kraft notify the AQD if they change the configuration of the exhaust flow path. The quarterly inspection report was requested and reviewed for 2023 and 2024. No issues were identified on the report.

EUCHROMEETCH

This emission unit includes two etch tanks currently filled w/ chromic etch solution, however the permit allows for three. The third tank is empty and is used when one of the other tanks is switched out or for future use as a third production tank. For clarity, the AQD would require that a new stack test be conducted following the use of the three chromic etch tanks all at one time because emissions from the 3 tanks operating at one time has not been tested before. The chromic acid etch tanks are not subject to the Chrome NESHAP, however they do utilize a PFOS free mist suppressant to help reduce chromic acid mist. The permit requires the implementation of a Malfunction Abatement Plan (MAP) and states that, "The permittee shall not operate any tank in EUCHROMEETCH unless the chemical fume suppressant containing a wetting agent is applied in quantities and at a frequency to ensure the surface tension of each tank does not exceed, at any time during operation, the surface tension as specified in the MAP or the surface tension as measured during the most recent stack test, whichever is lower.

Data collected during the inspection on the control device is as follows: Pressure drop of scrubber was 2.9" H₂O, pressure drop of the evaporator was 0.657" H₂O. Pressure drop readings were requested and received timely. Data indicates a slow rise of pressure drop over time in 2024, however within the appropriate range identified in the facility MAP based on the most recent stack test. Surface tension of Tank #1 was 40 dynes/cm and Tank #2 was 38 dynes/cm, Tank #3 is not currently in use. Data for pressure drop readings for the timeframe of July 2023-July 2024 was requested and reviewed for Tank #1 and #2. The limit established during the most recent test was 52 dynes/cm for both tanks, and the data provided indicates compliance with the surface tension limit for both tanks for the entire timeframe reviewed.

Weekly and quarterly preventative maintenance (PM) including opacity reports were requested, received and reviewed for several months. Each requested weekly report was reviewed, and no issues were identified by Lacks staff, which were reviewed and signed off on by a manager. System alarms were also requested and reviewed. All alarms appear to have been responded to and resolved promptly.

A visual observation did not identify any issues on the day of the inspection.

EUELECTROLESSCU

EUELECTROLESSCU was subject to a case-by-case Maximum Achievable Control Technology (MACT) review under Section 112(g) of the federal Clean Air Act because HAP emissions for formaldehyde and methanol are greater than 10 tons per year for an individual HAP and 25 tons per year for combined HAPs. Section 112(g) requires that any constructed or reconstructed major source of HAPs be equipped with MACT to control HAP emissions if a source specific MACT standard for the source category has not been promulgated under Section 112(d) or Section 112(h). MACT for **EUELECTROLESSCU** was determined to be a packed bed scrubber system with methanol and formaldehyde emission limits.

This emission unit consists of one electroless copper tank. Stack testing was last conducted in April of 2021. Emission limits are in place for formaldehyde- 1.1 lb/hr, methanol- 9.00 lb/hr and sodium hydroxide- 0.22 lb/hr. Emission rates reported are formaldehyde- 0.1023 lb/hr, methanol 5.86 lb/hr and sodium hydroxide- 0.0212lb/hr.

The results for methanol showed a marked increase from the last stack test. Scrubber parameters recorded during the inspection were as follows. Flow- 177 gpm and the pressure drop was 0.554" H₂O. New stack testing is planned for 2025.

A visual observation did not identify any issues on the day of the inspection.

Weekly and quarterly PM reports and opacity reports were requested, received and reviewed for several months. Each requested weekly report was reviewed, and no issues were identified by Lacks staff, which were reviewed and signed off on by a manager. System alarms were also requested and reviewed. All alarms appear to have been responded to and resolved promptly. During the week of June 3-8, the scrubber +/-10% data is not included, however it is signed off on by the maintenance personnel who filled out the form and no issues were identified.

EUKPGENSET

This is one 190 brake horsepower natural gas fired 4 stroke rich burn spark ignition internal combustion engine. The unit is properly maintained and is listed as a certified engine on EPA's spreadsheet for large spark ignition 2011 to present list which was confirmed by using the family name of the engine as listed in the ROP application. (ECESB06.8GDB) The engine is being operated pursuant to manufacturer's instructions and is operated once a month for reliability assurance.

FGNEUTCATACC

This flexible group includes the neutralizer tank (sulfuric acid), two catalyst tanks (hydrochloric acid) and accelerator tank (hydrochloric acid). There are no emission limits, however the permit requires that the facility include this FG in the MAP to ensure proper ventilation/fan operation. This equipment is continuously monitored for electrical current draw and a visual inspection is conducted once per quarter.

A visual observation did not identify any issues on the day of the inspection.

Weekly and quarterly PM reports including opacity reports were requested, received and reviewed for several months. Each requested weekly report was reviewed, and no issues were identified by Lacks staff, which were reviewed and signed off on by a manager and no issues were identified. System alarms were also requested and reviewed. All alarms appear to have been responded to and resolved promptly.

FGCOPPER

This flexible group includes one copper strike tank containing copper sulfate and sulfuric acid and six acid copper tanks containing copper sulfate, ferrous sulfate and sulfuric acid. There are no emission limits, however the permit requires that the facility include this FG in the MAP to ensure proper ventilation/fan operation. This equipment is continuously monitored for electrical current draw and a visual inspection is conducted once per quarter. Emissions from this equipment are uncontrolled.

A visual observation did not identify any issues on the day of the inspection.

FGNICKEL

This flexible group includes 5 semi brite nickel plating tanks, two brite nickel plating tanks, six platinum/nickel plating tanks and one durni (micro-porous) nickel plating tank. Emissions from this equipment are uncontrolled.

A visual observation did not identify any issues on the day of the inspection.

FGCHROME1

This flexible group includes three decorative chrome electroplating tanks and a shared composite mesh pad scrubber system and fume suppressant for control. The startup date for each tank is June 2013. Compliance with NESHAP Subpart N is met using the control device. The surface tension requirement is limited to 45 dynes/cm and is a state only requirement.

As indicated above all Lacks facilities use the same mist suppressant, and no PFOS has been used at this facility.

Surface tension readings taken the day of the inspection are as follows: Tank #1- 37 Tank# 2- 37 and Tank #3- 37 dynes/cm. Pressure drop readings observed on the day of the inspection was 3.7" H₂O overall, Stage 1, 1.0 "H₂O, Stage 2 2.5" H₂O and Stage three 0.1"H₂O. The evaporator pressure drop was 2.6"H₂O. All values indicate compliance with the 40 dynes/cm limit established during stack testing.

Information provided at AQD request indicates that there have been no repairs or replacements of chrome tanks 1-3. Tank solutions were drained in December 2023 for a routine de-sludge of the tanks. During this process, the solution is moved from the tank into a holding tank located on site. Surface tension readings were reviewed for the 30 days following this activity and no issues were identified.

A visual observation did not identify any issues on the day of the inspection.

Weekly and quarterly PM reports and opacity reports were requested, received and reviewed for several months. Each requested weekly report was reviewed, and no issues were identified by Lacks staff, which were reviewed and signed off on by a manager. System alarms were also requested and reviewed. All alarms appear to have been responded to and resolved promptly. During the week of June 11-17, the opacity check line is blank, however it is signed off on by the maintenance personnel who filled out the form and no issues were identified.

FGSTRIPTANKS

This flexible group includes one chrome strip tank containing sodium hydroxide and one nitric acid strip tank. These two tanks are controlled by a packed bed scrubber equipped with mist eliminators. Data collected during the inspection on the control device is as follows: Flow- 256 gpm and pressure drop of scrubber was 2.23" H₂O.

A visual observation did not identify any issues on the day of the inspection.

Weekly and quarterly PM reports and opacity reports were requested, received and reviewed for several months. Each requested weekly report was reviewed, and no issues were identified by Lacks staff, which were reviewed and signed off on by a manager. System alarms were also requested and reviewed. All alarms appear to have been responded to and resolved promptly. During the week of June 3-8, the scrubber +/-10% data is not included, however it is signed off on by the maintenance personnel who filled out the form and no issues were identified.

FGBOILERS

This flexible group includes 5, natural gas fired, 1.8 MMBtu/hr boilers subject to minimal requirements of 40 CFR Part 63, Subpart DDDDD. The first 5-year compliance report for these boilers was submitted on January 31, 2019. The next tune-up and report are due prior to January 31, 2024, and were submitted via the USEPA CEDRI system on January 16, 2024. The report provided indicated no deviations from the work practice standards were identified during the reporting period which was January 1, 2019- December 31, 2023.

No violations of Administrative Consent Order AQD No. 2023-19 were identified during the inspection.

CONCLUSION

Lacks Plastic Plate Kraft facility was in compliance at the time of the inspection.

NAME April Lazzaro

DATE 09/09/2024

SUPERVISOR HH