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

N737445987

FACILITY: LACKS ENTERPRISES INC.		**SRN / ID:** N7374
LOCATION: 5675 KRAFT AVENUE, CASCADE TWP		**DISTRICT:** Grand Rapids
CITY: CASCADE TWP		**COUNTY:** KENT
CONTACT: Karen Baweja , Supervisor of Air Quality		**ACTIVITY DATE:** 08/15/2018
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 Baweja, Supervisor of Air Quality. We met with other Lacks staff during the inspection, including Dan Frazer and John Crosby. Jeff Cowdry, the Plant Manager was out of the office. The purpose of the inspection was to determine compliance with state and federal regulations.

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-N7374-2015a.

The chrome plating operations are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Chromium emissions in Subpart N. This inspection is also being conducted to evaluate compliance with the state initiative to inspect chrome plating facilities to ensure perfluorooctane sulfonic acid (PFOS) is not in use. It was confirmed that the product used at the Kraft plating facility is PFOS free and has been since it opened. All Lacks plating operations use the same PFOS free product manufactured by MacDermid Enthone.

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 the NESHAP Subpart DDDDD. One emergency generator is identified as subject to ZZZZ.

COMPLIANCE EVALUTION

Equipment	Control	Observed Pressure Drop (inches of H2O)	Observed Water Flow (gpm)	Water Bleed Off Rate (gpm)	Surface Tension at time of Inspection (dynes/cm)	Emission Limits	Test data
EUCONDITIONER (K-1)	PBS	2.1	73	3.46	NA	DCP 1.5 pph	6/16/17 0.0446 pph
EUCHROMEETCH (K-2)	CMP	Scrubber 3.5 Evaporator 0.665	56	NA	Tank 1 38 Tank 2 Empty Tank 3 40	Total Chromium 0.016 mg/dscm 0.0032 pph	10/26/17 0.0105 mg/dscm 0.0019 pph

EUELECTROLESSCU (K-4)	PBS	0.636	168	1.7	NA	Formaldehyde 1.1 pph Methanol 9.00 pph Sodium hydroxide 0.22 pph	4/20/2017 0.1779 pph 0.4413 pph 0.0216 pph
FGNICKEL	NA	NA	NA	NA	NA	Nickel (semibri) 0.19 pph Formaldehyde 0.04 pph Nickel (all others) 0.27 pph Formaldehyde 0.04 pph Sodium hydroxide 0.33 pph	4/20/17 0.00153 pph 0.0137 pph 0.00077 pph 0.0144 pph 0.0312 pph
FGCHROME1 (K-8)	CMP	Scrubber 3.4 Evaporator 3.0	NA	NA	Tank 1 38 Tank 2 37 Tank 3 40	Total chromium 0.006 mg/dscm 0.003 pph	4/20/17 0.00183 0.000248
FGSTRIPTANKS	PBS	1.955	266.8	3.7	NA	Nitric acid 1.9 pph Sodium hydroxide 0.4 pph	11/2013 0.062 pph 0.087 pph

EUCONDITIONER

This emission unit includes one 1,3-dichloro-2-propanol (DCP) tank and associated controls which consists of a packed bed scrubber system with mist eliminator. Visual inspection of the conditioner system did not identify any issues. The DCP emission limit is 1.5 lb/hr and a stack test conducted in April 2017 found actual emissions 0.0446 lb/hr. The stack test results indicate compliance with the limit. The pressure drop of the scrubber at the time of the inspection was 2.0" H_2O, the flow 73 gpm and the bleed off at 3.4 gpm. The pressure drop was lower than what was recorded during the stack test but still within the range identified in the facility Malfunction Abatement Plan (MAP). The MAP was last updated in July 2018. All monitoring and recordkeeping requirements for this emissions unit appear to be met at this time. This emission unit will be need to be tested again before April of 2021. The quarterly preventative maintenance (PM) report was requested, received and reviewed. No issues were identified.

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 ASAP 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 current total chromium emission limit is 0.016 mg/dscm and 0.0032 lb/hr. Testing

was conducted in October 2017 and the results were 0.0105 mg/dscm and 0.0019 lb/hr, which indicate compliance. The surface tension during testing as established by a three-run average per tank are as follows Tank 1: 45.3 and Tank 2: 46.01 dynes/cm. The permit 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. The stack test report lists the average of the two tanks per run, which is not correct. If Lacks picks the lowest of the two averages, they would both have to have a surface tension below 45.3 dynes/cm not 45.7 dynes/cm. Since they aim for a maximum of 40 dynes/cm on a day to day basis, no exceedances are expected.

The quarterly preventative maintenance (PM) report was requested, received and reviewed. No issues were identified. Due to recent issues with chromic acid breakthrough, the manufacturer has recommended some changes to the pad washdown frequency. These changes have been incorporated in the MAP.

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) (and adopted by reference in Rule 299(2)(b)) 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 conducted in April of 2017. 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- 0.1779 lb/hr, methanol 0.4413 lb/hr and sodium hydroxide- 0.0216 lb/hr, which is basically 0.022 and right at the emission limit. This should be closely evaluated/observed during the next stack test which is required by April of 2021. Scrubber parameters recorded during the inspection were as follows. Flow- 168 gpm, bleed off- 1.7 gpm and the pressure drop was 0.636" H_2O.

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.

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.

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.

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 is uncontrolled.

Emission limits for EUSEMIBRINI include nickel- 0.19 lb/hr, formaldehyde- 0.04 lb/hr. Emissions from the 2017 test were nickel- 0.00153 lb/hr and formaldehyde 0.0137. Both results indicate compliance. Limits for EUBRITENI, EUPLATINUM and EUDURNINI combined include nickel- 0.27 lb/r, formaldehyde- 0.04 lb/hr and sodium hydroxide 0.33 lb/hr. Emissions from the 2017 test were nickel- 0.00077 lb/hr, formaldehyde- 0.0144 lb/hr and sodium hydroxide 0.0312 lb/hr. Again, sodium hydroxide was near the limit and should be closely evaluated/observed during the next stack test which is required by April of 2021.

FGCHROME1

This flexible group includes three decorative chrome electroplating tanks and a shared composite mesh pad scrubber system and fume suppressant for control. The start up 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.

Emission limits for FGCHROME1 include total chromium- 0.006 mg/dscm and total chromium- 0.003 pph. Emissions from the 2017 test was total chromium- 0.00183 mg/dscm and total chromium- 0.000248 lb/hr. Both results indicate compliance with permitted limits and testing was conducted within the required timeframe.

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

The O&M Plan requirements are contained in the facility MAP. The surface tension during testing as established by an average per tank are as follows: Tank 1- 42.43, Tank 2- 46.01 and Tank 3- 48.36 dynes/cm. On April 13, 2017 AQD approved alternate surface tension numbers during testing for FGCHROME1. This is why the surface tension values listed above are above the limit of 45 dynes as identified in the permit. The MAP still lists the normal operating range of 45 dynes and below with a daily monitoring frequency. Surface tension readings taken the day of the inspection are as follows: Tank 1- 35.5, Tank 2- 37 and Tank 3- 40 dynes/cm. All values indicate compliance. According to Chris Fiebelkorn, Lab manager there have been no surface tension exceedances in the past year at this facility. Data collected during the inspection on the control device is as follows: Pressure drop of scrubber was 3.4" H_2O, pressure drop of the evaporator was 3.0" H_2O.

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. Visual inspection did not identify any obvious issues. Emission limits include nitric acid 1.9 lb/hr and sodium hydroxide 0.4 lb/hr. The nitric scrubber was tested on November 20, 2013 with emissions of nitric acid at 0.035 lb/hour and emissions of sodium hydroxide at 0.087 lb/hr both of which indicate compliance. No further testing is required at this time. The facility is performing inspections of the packed bed scrubber system as required. Data collected during the inspection on the control device is as follows: Flow- 266.8 gpm, bleed off 3.7 gpm and pressure drop of scrubber was 1.955" H_2O.

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 is due no later than January 31, 2019. The USEPA CEDRI reporting system must be used.

CONCLUSION

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

NAME [signature] DATE 9-13-18 SUPERVISOR [signature]