

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

N089573550

FACILITY: Lacks Enterprises, Inc.		SRN / ID: N0895
LOCATION: 4260 AIRLANE SE, KENTWOOD		DISTRICT: Grand Rapids
CITY: KENTWOOD		COUNTY: KENT
CONTACT: Karen Homrich , Environmental Manager		ACTIVITY DATE: 08/01/2024
STAFF: April Lazzaro	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MAJOR
SUBJECT: Unannounced, scheduled inspection during stack testing.		
RESOLVED COMPLAINTS:		

Staff, April Lazzaro arrived at the facility to conduct an unannounced, scheduled inspection during a two-day stack testing event that occurred on July 30 and 31, and met with Karen Homrich, Environmental Manager. No odors or visible emissions were noted upon arrival to the facility; however, mild plating odors were noted on the roof top.

FACILITY DESCRIPTION

The Airplane North (FGN-1) and South (FGS-1) facilities are permitted to conduct decorative hexavalent chrome plating on plastic parts. The process consists of pre-treatment, alkaline cleaning, acid dipping, and strike plating of copper, copper/nickel electroplating, nickel electroplating, chromium etching and chromium electroplating. Electroless copper or nickel electroplating, 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-N0895-2024. No odors or visible emissions were observed as I arrived at the facility.

The FGS-1 facility has not conducted hexavalent chrome plating since 2019 and are currently conducting nickel plating in the existing nickel plating tanks utilizing the Rule 283(2)(a) exemption. Additionally, Lacks submitted a meaningful change demonstration pursuant to Rule 285(2)(b), indicating that if the work extends into production scale activities, emissions will not exceed the limits for nickel currently established in the permit.

The decorative hexavalent chrome plating operations are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Chromium emissions in Subpart N. All Lacks plating operations use the same PFOS free surfactant product manufactured by Dynamix, Inc. This surfactant is, however, a source of PFAS.

An administrative consent order, AQD 2023-19 was signed into effect on November 30, 2023, and includes provisions that apply to the Lacks Airplane facility. Specifically, the ACO addresses alleged violations of Rule 910 for failure to properly maintain and operate emissions control devices for the chrome plating and chrome etch tanks, and NESHAP N. The ACO states, the Company shall comply with the requirements of Rule 910 and 911 for EUPS-7 in FGS-1 and EUPN-10 and EUPN-12 in FGN-1 as specified in ROP No. MI-ROP-N0895-2018a, and any subsequent ROP revision. On May 18, 2024, the chrome plate scrubber (AN8) was replaced on EUPN-12. Emissions testing was conducted on August 1, 2024, and results are pending.

COMPLIANCE EVALUATION

The Operation and Maintenance (O&M) Plan requirements are contained in the facility MAP. The O & M Plan establishes the operating parameters of the control devices and equipment associated with each emission unit.

FGN-1

The equipment, including applicable control devices, stacks and fans for EUPN-1, EUPN-2, EUPN-3, EUPN-6, EUPN-11/14 and EUPN-13 was observed and visually evaluated, and no obvious issues were identified at the time of the inspection.

The quarterly inspection reports for the third and fourth quarter 2023 and first and second quarter 2024 were requested and reviewed for all emission units. One issue was noted on the nitric scrubber (EUPN-13), related to an alarm light for which a work order was generated to correct.

Control device alarm reports were also requested and received. All alarms appeared short in duration and promptly addressed. It is noted that the nitric strip scrubber had numerous, ongoing, short duration alarms that should be assessed further by Lacks.

The majority of emission limits are verified through stack testing. While the data from the chrome plating scrubber and chrome etch scrubber have not yet been received, previous testing indicates compliance with applicable emission limits.

Emissions of volatile organic compounds (VOC) from the pre-etch tank are limited to 540 pounds per year per 12-month rolling time period as determined at the end of each calendar month. Reported etch emissions for the 12-month period ending in July 2024 were 310.30 lbs. The highest reported VOC emissions were in the 12-month period ending in June 2023 at 343.46 pounds. The emissions data provided indicate compliance with the emission limit.

EUPN-10

EUPN-10 consists of three chrome etch tanks, one etch regeneration unit and one evaporator/reclaim unit controlled by a composite mesh pad scrubber. This scrubber was replaced in early July 2022. The evaporator was not replaced at that time.

During the testing, the pressure drop of the scrubber was observed at 1.8" H₂O, and the evaporator pressure drop was 2.2" H₂O. Evaporator temperature was 117.3°F. At the time of the inspection, Tank 1 surface tension reading was 40 dynes/cm, Tank 2 was 35 dynes/cm and Tank 3 was 39 dynes/cm. The pressure drop and surface tension values will be recorded during each test run and will be used to establish new (if different) parameters that will be incorporated into the facility O&M Plan. Production was at maximum routine conditions during the testing.

On July 26, 2024, Lacks notified the AQD of an abnormal condition that occurred with this emission unit. During a routine inspection on July 24, 2024, maintenance staff discovered an apparent chrome release from the chrome etch scrubber. At that time, the facility stopped production to investigate. The unit was cleaned and inspected, and the HEPA filters were replaced. Additional information was requested, specifically to determine if the notification was intended to be pursuant to Rule 911, which is a rule that requires a company to notify the AQD when an emission limit has

been exceeded. Lacks clarified that it was not a Rule 911 notification. They indicated they believe that following a failure of the etch reclaim pump on July 19th, a new pump was installed that same day that was too large, causing excessive foaming in the etch reclaim system. The excessive foaming event occurred at startup on July 21, 2024, however no specific timeframe for the event was provided. Lacks indicated that to prevent a similar occurrence in the future, they will add a new meter to the reclaim system to continuously monitor flow, that would be equipped with an alarm and automatic shut off. That meter had not yet been installed. Following a review of this information, AQD informed Lacks that it appeared to be a potential emission limit exceedance reportable pursuant to Rule 912, due to visible evidence of hexavalent chromium emissions from EUPN-10, which has an emission limit for total chromium of 0.00037 pounds per hour. Calculations of emissions estimates were requested for the event with a submittal date of August 27, 2024. Lacks requested an extension of this deadline to September 13, 2024, which was approved. The information received on September 13, 2024, indicates that the emission limit was believed to have been exceeded. This is a violation of MI-ROP-N0895-2024, Special Condition No. 1.2. A Violation Notice will be issued. In the Rule 912 notification, Lacks has provided appropriate corrective action measures and as such a response to the Violation Notice will not be required.

Specifically, Lacks stated that they have, “implemented corrective measures to monitor the flow rate to prevent a future scrubber foaming event caused by an excessive flow rate. The meter will be tied into our ePlate software with setpoint ranges and alarms. If the flow is to ever reach a set high value that would risk a foam event, the pump will be shut down and an alarm will sound. The pump will not run unless it is within an allowable range. If there is a foam event, the scrubber will be visually inspected. Once the recent stack test results are back, Lacks will update the flow rate monitoring along with pressure drop and surface tension limits for the chrome plate unit in the operating and maintenance plan.” The AQD will review the O&M Plan upon receipt to ensure the additional measures have been implemented.

The quarterly inspection reports for the third and fourth quarter 2023 and first and second quarter 2024 were requested and reviewed.

EUPN-12

EUPN-12 consists of three chrome plate tanks and one purification tank, and one evaporator/reclaim unit controlled by a composite mesh pad scrubber. The repairs to the ductwork and scrubber body that were conducted after the 2020 compliance inspection appear to have been maintained and were still in place. I did not observe any issues in the repaired areas, nor did I identify new issues with this scrubber. This scrubber was replaced on May 18, 2024, as part of a Supplemental Environmental Project that was part of the Consent Order. The evaporator was replaced in 2021. On June 28, 2024, Lacks submitted an exemption demonstration for the replacement of one hexavalent chrome plating tank. In this permit, the entire plating line is defined as the emission unit, and as such the replacement of one tank is not considered reconstruction. Tank replacement under the NESHAP is also not considered reconstruction under the regulation.

During the testing, the pressure drop of the scrubber was observed at 3.09” H₂O, and the evaporator pressure drop was 3.25” H₂O. Evaporator temperature was 135.6°F. At the time of the inspection, Tank 1 surface tension reading was 48 dynes/cm, Tank

2 was not in use and Tank 3 was 47 dynes/cm. The pressure drop and surface tension values will be recorded during each test run and will be used to establish new (if different) parameters that will be incorporated into the facility O&M Plan. Production was at maximum routine conditions during the testing.

EUPN-14

EUPN-14 consists of one pre-etch tank which has replaced the conditioner/DCP tank. Emissions are limited to 540 lbs of volatile organic compound (VOC) emissions per 12-month rolling time period. Reported VOC emissions for the 12-month rolling time period ending in July 2022, based upon the use of approved emission factors are 346.45 lbs.

Each of the stacks on the roof along with any/all accompanying control devices were observed while I was on the roof.

FGS-1

This flexible group includes 10 emission units that comprise the South Plater-electroplating of copper, nickel and decorative chrome on plastic parts and is located at Airplane South. This flexible group is not currently operational. Lacks continues to report the delay in stack testing in the deviation reports which is appropriate.

As previously noted, the line is currently conducting nickel plating utilizing the Rule 283 exemption. Lacks indicated that this process is still in the R&D phase and may be ready for production by 2025.

FGEMERGENCYRICE-SI

This flexible group contains one existing spark ignition emergency generator, EUALNWGENSET. Records of maintenance were requested and received timely, and it is noted that the most recent oil change was conducted by the manufacturer's sales and service team on September 26, 2023, and no issues were noted at that time.

FGBOILERS

This flexible group contains 4 existing Gas 1 boilers, EUBUILER1-S, EUBOILER2-S, EUBOILER1-N, EUBOILER2-N. Lacks has conducted the appropriate tune-ups and maintenance as required.

CONCLUSION

The Lacks Airplane facility was in non-compliance at the time of the inspection.

NAME April Lazzaro

DATE 09/16/2024

SUPERVISOR HH