

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

N278739078

FACILITY: ELECTRO CHEMICAL FINISHING		SRN / ID: N2787
LOCATION: 2610 REMICO S W, WYOMING		DISTRICT: Grand Rapids
CITY: WYOMING		COUNTY: KENT
CONTACT: Steve Hulst, Quality Manager/EHS Manager		ACTIVITY DATE: 03/16/2017
STAFF: April Lazzaro	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Unannounced, scheduled inspection.		
RESOLVED COMPLAINTS:		

Staff, April Lazzaro arrived at the facility to conduct an unannounced, scheduled inspection and met with John Vrugink, Environmental Specialist. Mr. Vrugink contacted Steve Hulst, Quality and Environmental Health and Safety Manager who was at the 44th Street facility and he arrived shortly thereafter. I explained that the inspection would include determining compliance with PTI 584-91D, 40 CFR Part 63 Subpart N- National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks (NESHAP), Consent Order No. 4-2016 and permit exemptions.

FACILITY DESCRIPTION

Electro Chemical Finishing (ECF) is an Decorative Chromium electroplating facility that provides plating services to the automotive, housewares and plumbing industries. Since the last inspection, the facility has replaced three large scrubbers and one small scrubber with brand new units. Details of this equipment is further described below.

EUALINE

The EUALINE has its own dedicated scrubber which is a composite mesh pad (CMP) system. This system is new since the last inspection, and was installed to resolve a violation for improper operation of the former control device. The tanks associated with EUALINE that are identified in the Operation & Maintenance (O&M) Plan are tank CF-8, CF-9 (trivalent chrome) and CF-12 (hexavalent chrome). A stack test was also conducted on this scrubber, which demonstrated compliance with the NESHAP. The CMP is equipped with Stage 1, 2 and 3 pressure drop readouts as well as an overall gauge. Per the permit and the O&M Plan the facility is conducting daily observations and writing down the pressure drop observed. ECF has instituted a new procedure that has two employees on the roof during this activity to ensure safety of the employees. Additionally, they take a spot light to shine through the sight panels to see the placement of the mesh pads. Every Monday they do a manual test of the spray nozzles and observe them to ensure they are operating. During the inspection, AQD staff observed the following: Stage 1- 0.3", Stage 2-0.6", Stage 3- 1.1", Overall – 1.8". These fall within the appropriate range as established during stack testing. The first few times that the quarterly wash downs were performed ECF had the manufacturer out to show them how. Now the ECF maintenance staff conducts the activity. During the inspection, we discussed the fact that the trivalent chromium electroplating solution comes already mixed with the wetting agent as required by the NESHAP.

The EUALINE is limited to 4,000 hours of operation per year based on a 12-month rolling time period. Current reported 12-month rolling hours of operation through February 2017 are 196.2. I confirmed that this is being correctly accounted for based on the time that current is actually being applied to the tank. The surface tension records were requested and reviewed. All measurements were within the required values. I was able to observe the laboratory and how some measurements are conducted. The chromic acid etch tanks do not have an electrical current and as such are not subject to the NESHAP, however the PTI limits it and requires monitoring. The etch surface tension measurements are taken with a tensiometer and the chrome surface tension measurements are taken with a stalagmometer. The highest surface tension reading for tank CF-12 obtained was 36.55 dynes/cm, which is below the limit of 40 dynes/cm. The ECF policy is to add chemical fume suppressant at 35 dynes/cm.

The facility is required to maintain copies of the ongoing compliance status reports for area sources onsite. Copies of these reports are attached, and ECF states that for 2015 and 2016 they utilized the surface tension/stalagmometer parameter to monitor compliance. Surface tension records were reviewed and no exceedances of the limit were identified.

Recordkeeping as required by the permit and the O&M Plan was requested and received timely. A review of the O&M records did not identify any deficiencies found by ECF during their inspections. The term wash-down of the composite mesh pads is not used in the O&M Plan explicitly. However, in an e-mail Mr. Hulst stated that the unit is designed to automatically complete a wash down every six hours, and they check the nozzle spray pattern weekly.

EUBLINE

The EUBLINE electroless nickel preplating process with chromic acid etch are connected to a new CMP scrubber that replaced the former EUBLINE packed bed scrubber that was in disrepair and found to be in violation during the previous inspection. The tanks associated with EUBLINE that are identified in the O&M Plan are tank B1 and B2 (electroless chromic acid etch) which all exhaust to the new CMP scrubber.(shared with EUCLINE) The remaining tanks of EUBLINE for the electroless nickel process are vented to the existing packed bed scrubber. (shared with EUCLINE) I asked about the stack height for the new scrubber, and we looked at it visually. Based on the permit application file review, there was a last minute change on the stack dimensions where the company consultant wanted to use the existing scrubber stack and provided that information for modeling. The permitted stack dimensions are a maximum of 32" diameter and a minimum height of 35'. I sent Mr. Hulst the 8/24/17 e-mail from the consultant that asked to change the diameter and height of the stack in the permit. I asked for the current measurements of the stack at the facility. Mr. Hulst stated in an e-mail that ECF contacted the manufacturer who confirmed that the stack diameter at the outlet was 32".

The EUBLINE is limited to 4,000 hours of operation per 12-month rolling time period. Current reported 12-month rolling hours of operation through February 2017 are 2,736.6.

Due to the fact that the chromic acid etch tanks do not have an electrical charge, they are not subject to the NESHAP N, however they are required by state law to utilize a chemical fume suppressant to ensure the surface tension does not exceed 60 dynes. A large quantity of surface tension records was reviewed and no exceedances of this limit were identified. The company started measuring the surface tension of the chromic acid etch tanks via tensiometer on June 1, 2016. The readings went from an average of 51.5 dynes/cm to 23.18 dynes/cm. Mr. Hulst clarified in the lab that that is due to the process preferences of ECF.

The CMP scrubber was observed in operation. Pressure drop data obtained during the inspection is as follows: stage 1= 0.2" H₂O, stage 2= 0.4" H₂O, stage 3= 0.8" H₂O and the HEPA filter was at 2.4" H₂O, which are within the parameters established in the O&M Plan.

The packed bed scrubber was observed in operation. Pressure drop data obtained during the inspection was 0.7" H₂O, which is within the parameters established in the O&M Plan.

Recordkeeping as required by the permit and the O & M Plan was requested and received timely. A review of the O & M records did not identify any deficiencies of the plan, nor the plan requirements. The term wash-down of the composite mesh pads is not used in the O & M Plan explicitly. However, in an e-mail Mr. Hulst stated that the unit is designed to automatically complete a wash down every six hours, and they check the nozzle spray pattern weekly.

EUCLINE

The EUCLINE system and includes tank C-20 (hexavalent chrome) that is ducted to the new, CMP scrubber system (shared with EUBLINE). The remaining tanks consisting of a acid copper strike tank, bright acid copper tank and nickel activator and nickel process that is ducted to the existing packed bed scrubber (shared with EUBLINE). A variety of other tanks are vented to the in-plant environment.

The chrome surface tension measurements are taken daily with a stalagmometer. The highest surface tension reading for tank C-20 obtained was 38.8 dynes/cm, on September 2, 2016 which is below the limit of 40 dynes/cm. The ECF policy is to add chemical fume suppressant at 35 dynes/cm.

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EUSLDGDRYER

The EUSLDGDRYER system consists of an electric sludge dryer and scrubber. The scrubber was replaced in September of 2016. This emission unit was not in operation at the time of the inspection, however documentation shows water flow rate and pressure drop within the parameters established in the O&M Plan.

All packed bed scrubbers share the same recirculation tank, which is monitored as part of the O&M Plan. At the time of the inspection, the pH was 4.5, the GPM on the CLINE was 67.8 and the GPM on the EUNITRIC was 46.6.

EUNITRIC/RACKSTRIP

The EUNITRIC/RACKSTRIP system is a packed bed system and was updated with a new scrubber in November 2015, which is currently operating under the Rule 290 exemption. This scrubber is included in the O&M Plan, and the overall pressure drop was 1.5" H₂O, which is within the range established in the plan. Emissions data was provided, and the emissions of nitric acid are reportedly 52.9 pounds per month.

ECF operates a small scrubber on the waste water treatment system that used to be permitted, and during the last inspection it was recommended that ECF determine the current status of it. No information was on file as to the most current status of this, so I e-mailed Mr. Hulst for more information. He responded that the waste water treatment scrubber is exempt from permitting pursuant to Rule 285(2)(m). This scrubber is included in the O & M Plan. It is set up so that any time the blower from the WWTP is on, the pump for the scrubber recirculation will be on.

Consent Order No. 4-2016 is a multimedia Administrative Consent Order that covers requirements for AQD, Water Resources Division and the Office of Waste Management and Radiological Protection. This discussion is only pertinent to the AQD portion of the order, which requires that ECF comply with all requirements of the NESHAP for chrome and the halogenated degreaser and the current version of PTI No. 584-91C.

ECF also operates a lacquer booth pursuant to the Rule 287(2)(c) exemption. Current paint usage is 40 gallons per month.

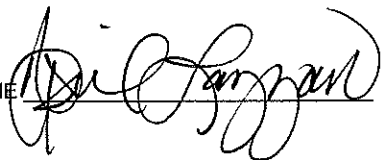
ECF still has the halogenated solvent degreaser on-site; however it is empty and is not being operated.

All records obtained are attached to this report via data disk, including photos of control equipment.

SUMMARY

Electro Chemical Finishing was in compliance at the time of the inspection.

NAME



DATE

3-28-17

SUPERVISOR

