

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

P072759127

FACILITY: Tribar Technologies Inc (Plant 5)		SRN / ID: P0727
LOCATION: 48668 Alpha Drive, WIXOM		DISTRICT: Warren
CITY: WIXOM		COUNTY: OAKLAND
CONTACT: Ed Barriager , Waste Treatment Management		ACTIVITY DATE: 07/16/2021
STAFF: Joe Forth	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MINOR
SUBJECT: On-site Inspection		
RESOLVED COMPLAINTS:		

On July 16, 2021, I, Joseph Forth, Michigan Department of Environment, Great Lakes-Air Quality Division (EGLE-AQD) Staff, conducted a self-initiated inspection at Tribar Manufacturing Plant 5 (P0727) located at 48668 Alpha Drive, Wixom, MI. The purpose of the inspection was to determine the facility's compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451, as amended, EGLE-AQD Air Pollution Rules, the National Emissions Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 63, Subpart N- National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks, and Permit to Install (PTI) No. 121-16.

Tribar Manufacturing is a producer of metal plated plastic parts for the automotive industry. Plant 5 has approximately 50 employees and operates 24 hours a day, Monday-Friday. This location has several different plating tanks including: semi bright nickel, bright nickel, micro porous nickel, high sulfur, spray cleaner, PC ABS (Polycarbonate/Acrylonitrile Butadiene Styrene) etch, ABS etch, etch drag out, electroless nickel, tri-chrome, decorative chrome, chrome drag out, chrome strip and nitric strip. There is also a pre-plating process consisting of neutralizer, activator pre-dip, activator, accelerator, copper strike, and acid copper tanks. EUSYSTEM1 (semi bright nickel, bright nickel, micro porous nickel, high sulfur) is controlled by a packed bed wet scrubber and mist eliminator. EUSYSTEM2 (spray cleaner, PC ABS etch, ABS etch, etch drag out) is controlled by a two-stage composite mesh pad and a two-stage in-line mist eliminator. EUSYSTEM3 (neutralizer, activator pre-dip, activator, accelerator, copper strike, and acid copper tanks) is controlled by a packed wet bed scrubber. EUSYSTEM4 (electroless nickel) is controlled by a packed wet bed scrubber. EUCHROME5 (tri-chrome, decorative chrome, chrome drag out) is controlled by composite mesh pad (CMP) and fume suppressant. EUSYSTEM6 (chrome strip and nitric strip) is controlled by a packed bed wet scrubber. There is also a lab that tests the surface tension (dynes/cm) of the tanks making use of the fume suppressant. The rest of the space in the building is used for storage and offices.

I arrived at the facility and was met by Environmental Manager Ed Barriager. I presented my credentials and stated the purpose for the inspection. We then started

the tour of the facility; I recorded the differential pressure readings of the control equipment at the time of inspection (noted below). The tanks and area around them appeared to be properly maintained.

Compliance

PTI No. 121-16

All referenced records were collected electronically and can be found in: S:\Air Quality Division\STAFF\Joe Forth\P0727 Tribar Plant 5 FY21 Inspection

EUSYSTEM2

Acid etch process (four tanks) and chrome recovery system. The tanks are Tank 3 (spray cleaner), Tank 5 (PC ABS etch), Tank 6 (ABS etch) and tank 7 (etch dragout). The chrome recovery process consists of a porous pot tank that works as a closed loop with Tanks 5 and 6 and an evaporator that tank 7 overflows to.

I.1 A total chromium emission limit of $1.50E-4$ lbs/hr. Confirmed via stack test 11/09/2017. The total chromium emission rate for EUSYSTEM2 was less than $2.40E-05$ lbs/hr.

III.1 The permittee shall retain on-site an operation and maintenance plan for each scrubber, mesh pad, and mist eliminator. I was shown the operation and maintenance plans required for each piece of control equipment, the plans appeared to contain information that aligned with the operation and maintenance requirements mentioned in Special Conditions VI.2 and VI.3.

III.2 The permittee shall not operate Tanks 5 and 6 unless the chemical fume suppressant is applied in quantities to ensure the surface tension does not exceed 35 dynes/cm when measured by a tensiometer. Tribar monitors the dynes of all their baths multiple times per operating period (40 hours). During these 40 hours sometimes the surface tension reading will exceed the permitted 35 dynes/cm, when this occurs the system adds more surfactant to the bath to get the value back below the 35 dynes/cm limit. The permittee monitors the dynes approximately every 4 operating hours, which is required by the permit when an exceedance occurs. The records indicate more than 14 percent of the surface tension readings taken between January 2019 and July 15, 2021 were 36 dynes/cm or greater. Overall, the readings taken between January 2019 and July 15, 2021 ranged from 2.64 to 48.8 dynes/cm. A violation will be issued due to the frequency and size of the exceedances.

IV.1 The permittee shall not operate any process tank in EUSYSTEM2 unless the associated control equipment is installed and properly maintained and operated. The process tanks are equipped with scrubbers and maintain a pressure drop determined during compliance testing.

IV.2 The packed bed scrubbers and composite mesh pads in EUSYSTEM2 must be equipped with pressure differential monitors. Each piece of control equipment in EUSYSTEM2 was equipped with a pressure differential monitor. The max values for the Tank 5 scrubber are (in inches of water): Total (5.0), HEPA (2.8), Stage 3 (2.8), Stage 2 (2.7), Stage 1 (2.5). The values for the Tank 5 scrubber at the time of inspection were: Total (4.5), HEPA (1.5), Stage 3 (0.6), Stage 2 (0.4), Stage 1 (0.5). The max values for the Tank 6 scrubber are (in inches of water): Total (5.2), HEPA (5.0), Stage 3 (0.7), Stage 2 (0.5), Stage 1 (0.2). The values for the Tank 6 scrubber at the time of inspection were: Total (5.0), HEPA (1.4), Stage 3 (0.2), Stage 2 (0.5), Stage 1 (0.2).

V.1 Within 180 days of initial startup, verification of the total chromium emission rates of EUSYSTEM2 must be performed via testing at the owner's expense. The chromium emission rates were confirmed via stack test in 11/09/2017.

VI.1 The permittee must monitor the surface tension in Tanks 5 and 6 in EUSYSTEM2 once every 40 hours. The facility satisfactorily monitors and records the surface tension of EUSYSTEM2 several times every 40 hours. The surface tension readings are done multiple times per operating period (approximately every 4 hours).

VI.2 The permittee shall perform inspections of the packed bed scrubber including: checking the pressure drop, if it exceeds +/- 1 in of water column from the pressure determined during compliance testing the variation and any corrective action must be documented; visually inspect the scrubber quarterly to ensure proper drainage, no chromic acid build-up, or damage to the structural integrity; and add fresh make-up water as needed. The facility provided records of maintenance and inspections for all control equipment at the facility.

VI.3 The permittee shall perform inspections of the Composite Mesh Pad system including: checking the pressure drop, if it exceeds +/- 2 in of water column from the pressure determined during compliance testing the variation and any corrective action must be documented; visually inspect the mesh pad quarterly to ensure proper drainage, no chromic acid build-up, or damage to the structural integrity; perform wash-down of the mesh pads at a minimum of once a week; and add fresh make-up water as needed. The facility provided records of maintenance and inspections for all control equipment at the facility.

VI.4 The permittee shall maintain records of the inspections as required by SC VI.2 and VI.3. Each inspection record shall identify the device inspected, the date, approximate time of inspection, and a brief description of the working condition of the device during the inspection. The permittee shall also record any actions taken to correct the deficiencies found during the inspection. The facility provided records of maintenance and inspections for all control equipment at the facility.

VI.5 The permittee shall keep records of the surface tension of Tanks 5 and 6 in EUSYSTEM2, the amount of chemical fume suppressant added to each tank 5 and 6 in EUSYSTEM2 and the date and time of each addition. The facility provided fume suppressant and surface tension records for EUSYSTEM2.

VIII.1 The exhaust for EUSYSTEM2 discharges unobstructed vertically. Stack dimensions not confirmed during this inspection.

EUCHROME5

Decorative chrome process. This process consists of three tanks: Tank 45 (tri-chrome), Tank 49 (decorative chrome plating), and Tank 50 (chrome dragout).

I.1 A chromium emission limit of 0.006 mg per dry standard cubic foot. Confirmed via stack test on November 9, 2017.

I.2 A chromium emission limit of 4.20E-5 lbs/hr. Confirmed via stack test on November 9, 2017, the chromium emissions of EUCHROME5 were less than 6.02E-06 lbs/hr.

III.1 The permittee shall retain on-site an updated operation and maintenance plan pertaining to the operation and maintenance of the chrome tanks and their corresponding control equipment. Mr. Barriager showed me the operation and maintenance plan, it appeared to contain the necessary information. Including the directions for inspecting the composite mesh pad systems.

III.2 The permittee shall not operate EUCHROME5 unless the chemical fume suppressant is applied in quantities to ensure the surface tension does not exceed 33 dynes/cm when measured by tensiometer. The facility adds fume suppressant as needed to maintain the 33 dynes/cm surface tension limit. Tribar monitors the dynes of all their baths approximately every 4 hours during operation, despite the NESHAP only requiring one reading per operating period. During a reading if the surface tension reading exceeds the permitted 33 dynes/cm, the system adds more surfactant to the bath to get the value back below the 33 dynes/cm limit. Dating back to June 2019, the surface tension only exceeded 33 dynes/cm once and it was corrected as soon as the system detected it (November 26, 2019).

IV.1 The permittee shall not operate EUCHROME5 unless the CMP system is installed, operated, and maintained properly. The CMP system appears to be operating and maintained properly, visual inspections and maintenance are recorded.

IV.2 The permittee shall equip the EUCHROME5 CMP systems with pressure drop monitoring devices. The facility equips the EUCHROME5, and all, control technology with pressure monitors and records the values once per week.

V.1 Chromium emission rates for EUCHROME5 were verified via stack test on November 9, 2017.

VI.1 The permittee must monitor the surface tension EUCHROME5 once every 40 hours. The facility satisfactorily monitors and records the surface tension of EUCHROME5 at least once every 40 hours (approximately every 4 hours of operating time).

VI.2 The permittee shall perform inspections of the Composite Mesh Pad system including: checking the pressure drop, if it exceeds +/- 2 in of water column from the pressure determined during compliance testing the variation and any corrective action must be documented; visually inspect the mesh pad quarterly to ensure proper drainage, no chromic acid build-up, or damage to the structural integrity; perform wash-down of the mesh pads at a minimum of once a week; and add fresh make-up water as needed. The facility provided records of maintenance and inspections for all control equipment at the facility.

VI.3 The permittee ensures compliance with the emission limit via surfactant and scrubber/CMP systems. The permittee provided operation and maintenance information in accordance with the chrome NESHAP.

VI.4 The permittee shall maintain records of all inspections of the control equipment. The permittee keeps records of the date, working condition, and any deficiencies and action taken to correct the deficiencies for the equipment in EUCHROME5.

VI.5 The permittee monitors and keeps records of operation and maintenance information to show compliance with the chrome emission limit, as specified in 40 CFR 63 Subparts A and C.

VI.6 The permittee shall keep records of surface tension readings for EUCHROME5, and records of additions of fume suppressant. The permittee provided records for these requirements.

VII.1 Permittee has submitted notification for performance tests, the post performance test notification of compliance, and submits ongoing compliance reports every year.

VIII.1 The exhaust stack for EUCHROME5 discharges unobstructed vertically, stack dimensions not confirmed during this inspection.

IX.1 The permittee appears to have complied with the provisions of the NESHAP as specified in 40 CFR 63 Subparts A and N by complying with the emissions, operating, design, recordkeeping and reporting requirements of EUCHROME5.

FGSYSTEMS

Various metal treating tanks, including plating and stripping tanks, that do not contain chromium.

Emission Units: EUSYSTEM1, EUSYSTEM3, EUSYSTEM4, EUSYSTEM6

I.1 A nickel emission limit of 0.0029 lbs/hr for EUSYSTEM1. The AQD has not yet requested testing for the nickel emission limit.

I.2 A nickel emission limit of 1.96×10^{-5} lbs/hr for EUSYSTEM4. The AQD has not yet requested testing for the nickel emission limit.

III.1 The permittee shall retain on-site an updated operation and maintenance plan pertaining to the operation and maintenance of the chrome tanks and their corresponding control equipment. Mr. Barriager showed me the operation and maintenance plan, it appeared to contain the necessary information. Including the directions for inspecting and maintaining the scrubber systems.

IV.1 The permittee shall not operate any process tank in FGSYSTEMS unless the associated scrubber system and mist eliminator is installed, maintained, and operated in a satisfactory manner. Satisfactory operation shall include, but is not limited to, maintaining the pressure drop across each scrubber system per manufacturer specifications. The scrubber system and mist eliminator for FGSYSTEMS was installed and operating. The facility keeps pressure drop reading records for FGSYSTEMS. The current pressure drop readings (inches of water) at the time of inspection were as follows:

System 1 Max: Mist (1.1), Overall (3.0)

System 1 at time of inspection: Mist (0.4), Overall (1.4)

System 6 Max: Mist (1.0), Overall (3.5)

System 6 at time of inspection: Mist (0.8), Overall (2.2)

System 3 Max: Mist (0.7), Overall (3.5)

System 3 at time of inspection: Mist (0.2), Overall (1.2)

System 4 Max: Mist (1.1), Overall (3.0)

System 4 at time of inspection: Mist (0.6), Overall (1.8)

The pressure drop records show that the pressure drop for System #6 is frequently in exceedance of the maximum values. The facility is not in compliance with this condition, and it will be included in the violation notice.

IV.2 The permittee shall equip and maintain each scrubber system in FGSYSTEMS with a pressure differential monitoring device. The permittee has each scrubber system in FGSYSTEMS equipped with a pressure differential monitor.

VI.1-2 The permittee shall monitor and record the pressure drop across each scrubber system in FGSYSTEMS on a daily basis. The permittee monitors and records the pressure drop for each scrubber system daily.

VIII.1-4 The exhaust stacks of FGSYSTEMS discharge unobstructed vertically. Stack dimensions not verified during this inspection.

Conclusion

The permittee appears to not be operating in compliance with Permit to Install (PTI) No. 121-16. The permittee is in violation of EUSYSTEMS2 Special Condition III.2 and FGSYSTEMS IV.1. A violation notice will be issued.

NAME *Joseph M. Felt*

DATE 9/9/21

SUPERVISOR *K. Kelly*