

DEPARTMENT OF ENVIRONMENTAL QUALITY  
 AIR QUALITY DIVISION  
 ACTIVITY REPORT: Self Initiated Inspection

N716643630

|                                       |                               |                           |
|---------------------------------------|-------------------------------|---------------------------|
| FACILITY: Stelmi America LLC          |                               | SRN / ID: N7166           |
| LOCATION: 1601 Brooks Drive, MARSHALL |                               | DISTRICT: Kalamazoo       |
| CITY: MARSHALL                        |                               | COUNTY: CALHOUN           |
| CONTACT: Michael Hall, Plant Manager  |                               | ACTIVITY DATE: 02/28/2018 |
| STAFF: Rex Lane                       | COMPLIANCE STATUS: Compliance | SOURCE CLASS: MINOR       |
| SUBJECT: Self Initiated Inspection    |                               |                           |
| RESOLVED COMPLAINTS:                  |                               |                           |

On February 28, 2018, AQD staff (Rex Lane and Cody Yazzie) arrived at 9:15 am at Stelmi America, LLC (Stelmi) located at 1601 Brooks Drive, Marshall, MI to conduct an unannounced air quality inspection. The facility was last inspected by the AQD on 12/10/15 and was determined to be non-compliant at that time. Staff made contact with Mr. Michael Hall, Plant Manager and stated the purpose of their visit. The facility requested that Mr. Cody Yazzie sign a confidentiality agreement prior to the inspection (see 12/10/15 inspection report for further details).

Stelmi receives steel bars (3/4" – 5" diameter) from outside vendors and hard chrome plates the bars for hydraulic cylinders used in mobile heavy construction equipment. The facility is a large hard chrome facility under 40 CFR Part 63, Subpart N (Chrome NESHAP). The facility has five existing enclosed hard chrome tanks that are permitted under Permit to Install (PTI) No. 178-02B. The facility also completed installation of one of the two new enclosed hard chrome tanks covered under PTI No. 67-15. The maximum rectifier capacity of the hard chrome tanks ranges between 1,000 and 20,000 amps/hour. Required PPE for inspection of the facility is safety glasses and steel toed boots.

We went to a conference room and were joined by Mr. Grant Blom, Production Control Supervisor. Staff stated that MDEQ-AQD had an inspection initiative for this fiscal year to inspect all known chrome plating operations in Michigan to determine if the facility currently uses or ever used a wetting agent or chemical fume suppressant that contained PFOS (i.e. perfluorooctane sulfonic acid). Stelmi commenced operations in Marshall in 2002. Mr. Hall stated that the facility has never used a wetting agent or chemical fume suppressant in any of their hard chrome plating lines. Staff asked a few more questions from the PFOS checklist and about any changes at the facility since the last inspection. The facility has removed a bar grinding machine, replaced an old salt spray cabinet with a new one and is in the process of installing a third bar polishing machine. Staff also provided a list of records that they would want to review during the inspection. We also discussed AQD administrative consent order No. 20-2009 and a copy of the order was provided to Mr. Hall. The minimum five-year term of the order has past but does not self-terminate. Staff directed Mr. Hall to Paragraph 20 of the order which explains the process the facility must go through to request termination of the order.

Process equipment that was discussed during the pre-inspection meeting or observed during the inspection that is exempt from air use permitting requirements is identified below:

- A gas fired hot water boiler (Raypak) that is rated at 0.99 MMbtu/hour and is exempt from permitting under Rule 282(2)(b)(i). State of Michigan (LARA) last inspected the boiler on 9/18/15.
- An electrically heated induction hardening machine that is exempt from permitting under Rule 282(2)(a)(i).
- A cold cleaner that uses mineral spirits and is exempt under Rule 281(2)(h). The lid was closed during the inspection and staff provided replacement instruction use labels to Mr. Blom.
- The facility has three bar polishing machines that use machining coolant and sanding belts of various grit sizes. The metal fines are collected and sold to a metal recycler and the wet filter cake is processed according to its waste characteristics. The grinding and polishing processes vent internally and are exempt from permitting under Rule 285(2)(l)(vi)(B). This process may be subject to 40 CFR Part 63, Subpart WWWWWWW. MDEQ-AQD has not taken delegation of 40 CFR Part 63, Subpart WWWWWWW from USEPA, therefore no compliance determination was made for this regulation.
- The facility has both process water treatment equipment for incoming city water and process wastewater treatment equipment. The facility's sanitary wastewater discharges to the City of Marshall but there is no process wastewater discharge. All process wastewater is treated on-site and process sludge goes through a filter press and placed into drums for disposal by the EQ Company. The effluent goes through an RO process before reuse in the plating process. A schematic diagram of the process water and wastewater treatment system is attached to this report. The process water and wastewater treatment equipment is exempt from permitting under Rule 285(2)(m).

- The facility has a salt spray cabinet that is used to test corrosion resistance of plated bar samples. The salt spray cabinet is exempt from permitting under Rule 283(2)(b).
- The facility uses disposable rags and Windex spray to manually wipe down and remove any residue remaining on the bars prior to plating. This process is exempt from permitting under Rule 285(2)(r)(iv).

**PTI # 178-02B:**

At the time of the inspection, all five enclosed hard chrome tanks (EUCHROME1 through EUCHROME5: FGPLATING) were in operation. The facility uses a different ID naming system internally for these tanks (C1 through C4; P1) and each plating line is labeled with both IDs. All five plating lines exhaust to a shared composite mesh/packed bed scrubber with an in-stack mist eliminator. The mist eliminator filter is manually washed down by an operator and this is recorded by the unit. Process and control device parameter data was recorded during the inspection and is attached to this report.

Special condition (SC) I.1 – The most recent performance test was conducted on 2/22/11 under AQD Consent Order No. 20-2009 and demonstrated compliance with the total chromium concentration emission limit.

SC III.1 – The facility's initial operation and maintenance (O&M) plan was submitted on 4/21/03. The last malfunction abatement plan (MAP) and O&M plan revision was submitted on 8/25/16 and was approved by the AQD on 10/5/16.

SC III.2 – Sump and fresh make-up water is pumped to the top of the packed-bed scrubber system.

SC IV.1 – FGPLATING is equipped with a packed-bed scrubber system and is preceded by a condenser and in-line mist pad eliminators.

SC IV.2 – Permittee is required to equip and maintain the packed-bed scrubber system with differential pressure monitoring devices. A final stage in-stack mist eliminator was installed to comply with the Chrome NESHAP total chromium emission limit. The magnehelic gauge for the in-stack mist eliminator is now equipped with drainage lines to prevent moisture buildup in the pressure tap lines.

SC VI.1 through VI.3 – Facility provided records that document daily monitoring and recording of velocity pressure, packed bed scrubber pressure drop and housekeeping practices. Based on available records, the facility assumes that each plating tank is operated at its maximum rectifier capacity for 24 hours each day the tank is in operation. The packed bed scrubber system and collection ductwork is inspected on a quarterly basis and records are maintained.

SC VIII.1 – Staff did not determine compliance with stack/vent restrictions during this inspection.

**PTI # 67-15:**

EUCHROME6 (facility ID: C5) commenced operation on 9/17/15. EUCHROME6 was in operation at the time of the inspection. The magnehelic gauge for the in-duct mist eliminator has been moved down to eye level since the 2015 inspection. Facility has also labeled the magnehelic gauges for the composite mesh pad scrubber system (Ultra MACT by MAPCO). The in-line mist eliminator filter is automatically washed down every eight hours and the composite mesh pads every four hours per the attached washdown program form. Process and control device parameter data was recorded during the inspection and is attached to this report.

Condition I.1 – Total chromium emission test for EUCHROME6 was completed on 1/25/16 and demonstrated compliance with the emission limit. The average emission rate during the test was 0.0047 mg/dscm versus the permit limit of 0.006 mg/dscm. The average pressure drop during testing was 1.94" at an exhaust flow rate of 1,200 cfm.

III.1 – Startup, shutdown and malfunction events are addressed in the O&M plan. Review of wet scrubber malfunction and exceedance records indicate that there have been no events for last two years per the attached 2016 and 2017 ongoing compliance status reports.

III.2 – O&M plan was received on 8/31/15 and includes housekeeping practices.

III.3 – O&M plan is required to be revised if it fails to address or inadequately addresses an event that meets the characteristic of a malfunction at the time the plan is initially developed.

III.4 – Requires permittee to notify department by phone within two days after commencing actions during periods of malfunction that are inconsistent with procedures specified in the O&M plan.

IV.1 – Facility has installed an inline mist eliminator and composite mesh pad system on EUCHROME6.

IV.2 – Facility has installed magnehelic gauges on the inline mist eliminator and composite mesh pad system for EUCHROME6. Allowed differential pressure range for the control equipment has been established based on the 1/25/16 performance test.

V.1 – The initial performance test for EUCHROME6 was on 1/25/16. If EUCHROME7 is installed under the air use permit, a performance test will be required to be performed within 180 days after commencement of trial operation.

V.2 – Per the facility, EUCHROME6 commenced operation on 9/17/15. Emission test was completed within 180 days after commencement of trial operation.

VI.1 – Emission test demonstrated compliance with 40 CFR Part 63, Subpart N emission limit. The scrubber system was operating within the allowed pressure drop range during the inspection.

VI.2 – Facility is required to monitor EUCHROME6 (FGCHROME1) to demonstrate continuous compliance with the emission limitations of 40 CFR 63.342. Acceptable control equipment operating ranges were established during the initial performance test. The scrubber system was operating within the allowed pressure drop range during the inspection.

VI.3 – Staff reviewed records indicating facility is performing required daily pressure drop readings across the composite mesh pad (CMP) scrubber system. The facility also has records demonstrating completion of quarterly inspections of the CMP scrubber system. Wash down of the composite mesh pads occurs automatically and the washdown schedule is attached to this report.

VI.4 through VI.5 – During the inspection, staff reviewed daily process and scrubber monitoring records, daily and weekly operator maintenance logs kept at each plating line, weekly substance and housekeeping and maintenance checklist kept at the CMP scrubber system, preventative maintenance and housekeeping log and quarterly CMP scrubber system operation, maintenance and inspection records. Copies of the 2016 and 2017 on-going compliance status reports are attached.

VII.1 through VII.4 – Per the facility, EUCHROME6 commenced operation on 9/17/15. Notice of construction report was received on 3/30/15. The facility has submitted the required notices and reports required under 40 CFR Part 63, Subpart N.

VIII.1 - Staff did not determine compliance with stack/vent restrictions during this inspection.

Staff thanked Messrs. Hall and Blom for their cooperation during the air quality inspection and left the facility at 12:15 pm. At the time of the inspection, the facility appeared to be in compliance with the requirements of Permit to Install Nos. 178-02B and 67-15 and the requirements of 40 CFR Part 63, Subpart N. -RIL

NAME RIL

DATE 3/14/18

SUPERVISOR MR 3/14/2018

