

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

A008343471

FACILITY: SODUS HARD CHROME		SRN / ID: A0083
LOCATION: 3085 YORE AVENUE, SODUS		DISTRICT: Kalamazoo
CITY: SODUS		COUNTY: BERRIEN
CONTACT: Tom Sosnowski, President		ACTIVITY DATE: 02/28/2018
STAFF: Matthew Deskins	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Unannounced Scheduled Inspection		
RESOLVED COMPLAINTS:		

On February 28, 2018 AQD Staff (Matt Deskins) went to conduct an unannounced scheduled inspection of the Sodus Hard Chrome facility located in Sodus, Berrien County. According to AQD district file information, Sodus Hard Chrome is a minor source and their main business is the electroplating of hard chrome. They have one active air permit issued to them by the AQD (PTI No. 2-00A) according to the file and Permit Cards database relating to their hard chrome plating processes. Because the facility plates hard chrome, they are also subject to the federal regulation 40 CFR Part 63 Subpart N (NESHAP for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks (a.k.a. the Chrome NESHAP). The purpose of the inspection was to determine the facilities compliance status with the aforementioned permit and the Chrome NESHAP. Staff departed for the facility at approximately 9:30 a.m.

NOTE: The facility also might be subject to 40 CFR Part 63 Subpart WWWW (NESHAP for Area Source Plating and Polishing Operations). Since the AQD is not delegated by the EPA to enforce the NESHAP WWWW regulation at the present time, no compliance determination was made in regards to that regulation or if it applies to them.

Staff arrived at the facility at approximately 10:45 a.m. Prior to entering the facility, staff looked to see if any visible emissions could be seen and none were noted. Staff then proceeded into the office area and introduced them self to Sally Sosnowski and stated the purpose of the visit. She then referred staff to Tom Sosnowski (President) and went out into the plant to get him. They came back a few minutes later and staff introduced them self to Tom and stated the purpose of the visit. Tom mentioned he had no problem assisting staff with their inspection but at the present time he was in the process of loading up a semi-trailer that arrived 3 hours earlier than scheduled. He asked if staff could come back after lunch. Staff said that they could and departed at approximately 11:00 a.m. to go and conduct another inspection they had originally planned to do in the afternoon.

Staff arrived back at the facility at approximately 1:20 p.m. after the other inspection and having lunch. The office door was locked which Sally mentioned it might be when staff returned because she had an appointment. She had told staff if it was locked to just proceed to the plant entrance and go inside to locate Tom. Staff did that and Tom saw staff and came over to greet them. Tom then started explaining their operations and staff asked if they could go back to the office area first so staff could ask some general questions about operations prior to taking a walk through of the facility. We then proceeded back to the office. After some general conversation staff started conducting the inspection. The following is a summary of staff's discussions with Tom and will be followed by what was noted during the facility tour, their permit's special conditions, and their compliance status with them.

According to Tom, Sodus Hard Chrome currently employs 9 people. He said that business has been up and down lately and they are currently working two shifts Monday through Friday. He said that they work until noon on Saturdays. He said that most of their business still involves the chrome plating of large hydraulic cylinders/tubes (currently 24 to 40 feet in length). Most of these cylinders are used for cranes, off-shore drilling applications, and earth moving equipment. Staff then asked if any equipment or tanks have been added since the last AQD inspection and he said that they hadn't. He said that they still have the 4 chrome plating tanks (#6, #3/#5, and #4). He said that they still

haven't used tank #3 in years and still never put tank #4 into service. He said that tank #3 is strictly used for de-contamination purposes and they also use it for washing down the composite mesh pads. He went on to say that they take out the pads and wash them on a semi-annual basis or more if necessary. Staff then asked about the size of the tanks currently in use as well as their pollution control equipment. Tom said that tank #6 is their largest and is 50 foot in length. He said it can be divided into 2 tanks if needed (each would have their own rectifier). He said it is equipped with 6 composite mesh pads (3 per side) as well as a knock down pad that he installed in the ducts. He said it acts as kind of a pre-cleaner. Tank #5 is 36 feet in length and shares common emission controls with Tank #3. It is equipped with 4 composite mesh pads along with a knock down pad installed in the ducts. Both tanks #3 and #5 have their own rectifiers. Tom said that they still have the two smaller tanks (Tanks #1 and #2) that also vent to the #3/#5 control system but they are not used for plating, just chrome storage when needed. Staff then went over the requirements of the permit and staff's comments will be noted further below under the PTI's Special Conditions. Staff then went on tour of the facility with Tom.

Our first stop was at plating tanks #3/#5. As Tom mentioned previously, only tank #5 was in use. Staff also observed tanks #1 and #2 which were small tanks and didn't appear to be used for anything currently. Staff noted tank #4 which was located by tank #3 and it didn't appear to be used for anything currently as well. Staff then walked by #5 tank and it appeared that the ducts were collecting all of the fumes/vapor being emitted. Tom said that they use a push-pull type air flow system that is really efficient at collecting the vapors. Staff then walked over to where the magnehelic gauges and voltage meter were located on the unit. Staff noted that the unit isn't equipped with an ampere hour meter for the rectifiers. Tom said that they use a formula for calculating ampere hours and it is still based off of 3.0 amps per square inch of part plated. Staff then noted the pressure drop readings across the composite mesh pads were as follows: Stage 1 (1.8), Stage 2 (0.2), Stage 3 (0.2), and Stage 4 (0.2) for a total differential pressure of 2.4 inches.

Staff's next stop was at tank #6. It was in use and staff noted that the fumes from this tank also seemed to be collected efficiently. It was equipped with an ampere meter that displays in hours. Tom said that it is zeroed out each day and readings are recorded on a spreadsheet. Staff then noted that there are 3 composite mesh pads on each side of the tank. Readings on the magnelic indicated the total differential pressure was just a little bit over 6. Tom mentioned that they were aware of it and were going to be cleaning the composite pads.

Staff then went through the rest of the plant that consisted mainly of wet grinding machines. Tom said that the cylinders are usually ground before and after plating. The grinders would be exempt from permits under Rule 285(vi)(B). As mentioned in a previous inspection report, the facility doesn't have any parts cleaners or emergency generators but they do have one water boiler. The boiler was manufactured in 2007 and was rated at 1.26 MMBtu/hr. This unit appears to be exempt from 40 CFR Part 63 Subpart 6J for Industrial, Commercial, and Institutional Boilers since it is natural gas fired.

Staff then proceeded with Tom back to the office area. Once back at the office area, staff asked Tom if they had ever used any fume suppressants in the chrome tanks. Tom said that they had tried them once back in the 1970's but they didn't like how they worked so they just relied on the scrubber. Staff asked if he knew if any of the suppressants contained PFOS and he said that he couldn't remember. Staff then asked about any storm water discharge permits and about their sewer discharge. Tom said that they aren't required to have a storm water permit and their sewer discharges to the POTW.

The following lists the special conditions of PTI NO. 2-00A for the Hard Chrome Plating Operation and the facilities compliance status with them. Prior to the plant tour, Tom had provided staff with various spreadsheets that they record various things on as well as the on-going compliance status reports required by the NESHAP.

#### SPECIAL CONDITIONS

#### EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Flexible Group ID
EUCHROME6	Hard chrome electroplating line with composite mesh pad scrubber with mist eliminator for control.	FGCHROME1
EUCHROME3/5	Hard chrome electroplating line with composite mesh pad scrubber with mist eliminator for control.	FGCHROME1
EUCHROME4	Hard chrome electroplating line with composite mesh pad scrubber with mist eliminator for control.	FGCHROME1
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.		

#### FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGCHROME1	Three hard chrome electroplating lines with composite mesh pad scrubbers with mist eliminators for control	EUCHROME6, EUCHROME3/5, EUCHROME4

The following conditions apply to: FGCHROME1

**DESCRIPTION:** Three hard chrome electroplating lines

Emission Units: EUCHROME6, EUCHROME3/5, EUCHROME4

**POLLUTION CONTROL EQUIPMENT:** composite mesh pad scrubbers with mist eliminators

#### I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
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Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Total chromium	0.015 mg/dscm <sup>a</sup>	Test Protocol*	EUCHROME6	GC 13, SC VI.1, SC VI.2, SC VI.3	R 336.1225, 40 CFR Part 63 Subparts A & N
2. Total chromium	0.015 mg/dscm <sup>a</sup>	Test Protocol*	EUCHROME4	GC 13, SC VI.1, SC VI.2, SC VI.3	R 336.1225, 40 CFR Part 63 Subparts A & N
3. Total chromium	0.0075 mg/dscm <sup>a</sup>	Test Protocol*	EUCHROME3/5	GC 13, SC VI.1, SC VI.2, SC VI.3	R 336.1225, 40 CFR Part 63 Subparts A & N
<sup>a</sup> corrected to 70°F and 29.92 inches Hg * Test protocol shall specify averaging time					

AQD Comment for #1 Above: Appears to be in COMPLIANCE. The facility stack tested back in 1999 and met this emission limit. A three run testing average showed emissions being 0.01045 mg/dscm. The monitoring of differential pressures across the composite mesh pads during the testing became the baseline for determining compliance afterward. A total differential pressure of 4 inches of water column across the pads was established during the testing and the permit allows for + or – 2 inch variance of this. Records reviewed by staff appear to show that they have been within this operating range.

AQD Comment for #2 Above: N/A at the Present Time. Tank #4 has never been put in use for chrome electroplating.

AQD Comment for #3 Above: Appears to be in Compliance. The facility stack tested back in 1995 and met this emission limit. A three run testing average showed emissions being 0.00046 mg/dscm. The monitoring of differential pressures across the composite mesh pads during the testing became the baseline for determining compliance afterward. A total differential pressure of 5 inches of water column across the pads was established during the testing (for both tanks #3 and #5) and the permit allows for + or – 2 inch variance of this.

### III. PROCESS/OPERATIONAL RESTRICTIONS

1. Within 30 calendar days of the date of permit approval, the permittee shall submit to the AQD District Supervisor, an approvable revised operation and maintenance plan. The plan shall contain all information required by 40 CFR 63.342(f)(3)(i), which includes the following: (R 336.1225, 40 CFR Part 63 Subparts A & N)
  - a) Operation and maintenance criteria for FGCHROME1, add-on control device(s), and for the process and control device(s) monitoring equipment as well as a standardized checklist to document the operation and maintenance of the equipment;
  - b) The work practice standards for the add-on control device(s) and monitoring equipment;
  - c) Procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions do not occur; and
  - d) A systematic procedure for identifying process equipment, add-on control device(s) and monitoring equipment malfunctions and for implementing corrective actions to address such malfunctions.

**AQD Comment:** Appears to be in COMPLIANCE with the above. The facility submitted an Operation and Maintenance Plan under the original permit and none of the equipment nor control equipment was changed when this permit was updated (See Attached).

2. The permittee shall not operate the EUCHROME6 rectifiers more than 18 hours per day. (R 336.1225)

**AQD Comment:** Appears to be in COMPLIANCE. The facility works two shifts per day and staff noted that 17 hours was their typical operating schedule for the rectifier. They appear to be tracking the number of hours of operation.

3. The permittee shall not operate more than three (3) rectifiers at any time for FGCHROME1. (R 336.1225)

**AQD Comment:** Appears to be in COMPLIANCE. It appears that they only run the 2 rectifiers on tank #6 and the one on tank #5 at any one time.

#### **IV. DESIGN/EQUIPMENT PARAMETERS**

1. The permittee shall not operate any chrome plating tank in FGCHROME1 unless the associated composite mesh pad system with mist eliminator is installed, maintained, and operated in a satisfactory manner. (R 336.1225, 40 CFR Part 63 Subparts A & N)

**AQD Comment:** Appears to be in Compliance.

2. The permittee shall equip and maintain the composite mesh pad system with mist eliminator with a differential pressure monitoring device. (R 336.1225, R 336.1910, 40 CFR 63.343(c))

**AQD Comment:** Appears to be in Compliance. It is equipped with a mist eliminator and differential pressure monitoring gauges.

#### **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall perform inspections of the composite mesh pad (CMP) system as follows: (R 336.1225, R 336.1910, 40 CFR Part 63.342(f) and 63.343(c)(1)or(3))
  - a) Determine pressure drop across the CMP system on a daily basis. If the pressure drop across the control varies by more than  $\pm 2$  inch of water gauge, from the pressure drop determined during compliance testing, the permittee shall document the variation, and review the operation and maintenance procedures. The permittee shall document any corrective action.
  - b) Visually inspect the CMP system, on a quarterly basis, to ensure there is proper drainage, no chromic acid build up on the pads, and no evidence of chemical attack on the structural integrity of the control device.
  - c) Visually inspect the back portion of the mesh pad closest to the fan, on a quarterly basis, to ensure there is no breakthrough of chromic acid mist.
  - d) Visually inspect ductwork from tanks to the CMP system, on a quarterly basis, to ensure there are no leaks.
  - e) Perform wash-downs of composite mesh pads in accordance with manufacturer's recommendations. This includes a scheduled wash down for the multiple section of the scrubber during hours of plating operation as specified in the operation and maintenance plan required by SC III.1.

**AQD Comment: Appears to be in Compliance with the Above. They conduct inspections more frequently than on a quarterly basis.**

- 2. The permittee shall monitor emissions and operating and maintenance information in accordance with the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63 Subparts A and N. The permittee shall keep records of all source emissions and operating and maintenance information on file at the facility and make them available to the Department upon request. (40 CFR Part 63 Subparts A & N)**

**AQD Comment: Appears to be in Compliance with the Above.**

- 3. The permittee shall maintain records of inspections required to comply with applicable work practice standards of 40 CFR 63.342(f). 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 permittee shall keep all records on file and make them available to the Department upon request. (R 336.1225, R 336.1910, 40 CFR Part 63 Subparts A & N)**

**AQD Comment: Appears to be in Compliance with the Above. They document things on their monthly spreadsheet.**

- 4. The permittee shall keep records of the hours of operation of the EUCHROME6 rectifier to demonstrate compliance with SC III.2. All records shall be kept on file and made available to the Department upon request. (R 336.1225)**

**AQD Comment: Appears to be in Compliance with the Above.**

- 5. The permittee shall keep records for each rectifier of the date and times each is operated to demonstrate compliance with SC III.3. All records shall be kept on file and made available to the Department upon request. (R 336.1225)**

**AQD Comment: Appears to be in Compliance with the Above.**

#### **VIII. STACK/VENT RESTRICTIONS**

**The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:**

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter/ Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
<b>1. SVSTACK6</b>	<b>36</b>	<b>45</b>	<b>R 336.1225</b>
<b>2. SVSTACK3/5</b>	<b>36</b>	<b>45</b>	<b>R 336.1225</b>
<b>3. SVSTACK4</b>	<b>12</b>	<b>36</b>	<b>R 336.1225</b>

**AQD Comment: Appears to be in COMPLIANCE. The stacks appears to meet the diameter and height requirements mentioned above.**

**INSPECTION SUMMARY:** The facility appears to be in COMPLIANCE with PTI No. 2-00A and the Chrome NESHAP at the present time. Staff thanked Tom for his time and departed the facility at approximately 2:30 p.m.

NAME Matt Dah

DATE 3-2-18

SUPERVISOR MD 3/2/2018

