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

A174438430

FACILITY: Tawas Plating Company & Tawas Powder Coating, Inc.		**SRN / ID:** A1744
LOCATION: 510 INDUSTRIAL AVENUE, TAWAS CITY		**DISTRICT:** Saginaw Bay
CITY: TAWAS CITY		**COUNTY:** IOSCO
CONTACT: kevin jungquist , president		**ACTIVITY DATE:** 02/03/2017
STAFF: Sharon LeBlanc	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MINOR
SUBJECT: Scheduled site inspection for 2017 Fiscal Year.		
RESOLVED COMPLAINTS:		

On Friday, February 3, 2017, a scheduled, site inspection was conducted by AQD District Staff at the Tawas Plating and Tawas Powder Coating (SRN A1744). The referenced facility is located at 510 Industrial Ave. Tawas City, Iosco County, Michigan. The facility was in operation upon arrival, and District Staff met with Mr. Kevin Jungquist, President who provided a tour and answered questions regarding facility operations.

Two Permits to Install (PTI) 876-87 and 710-88 are associated with the facility, and were approved on February 12, 1988 and October 26, 1988. The referenced permits are for a non-cyanide zinc electroplating with a chromate conversion process, electroless nickel plating process and a powder coating process with a burnoff oven. It should also be noted that the permit application for the zinc and nickel lines also included information for a evaporator, but no permit conditions were included with respect the unit.

Site inspection activities were conducted with the intent of confirming the operational status of the permitted equipment and that monitoring/reporting activities were being conducted per the referenced permit and applicable exemptions.

FACILITY DESCRIPTION

The Tawas Plating Company & Tawas Powder Coating, Inc. was established in 1954. The company operates in Tawas City, Michigan. The company is ISO 9001:2008 certified and participates in the Michigan Strategic Goals Program.

The subject site is located in the Tawas City industrial park, west of US 23 (AKA W. Lake Street) just off Ninth Ave. Approximately one-mile south of the intersection of M-55 and US 23. The facility is bounded to the west and southwest by Bopp- Busch Mfg. a tool and die division and is located in a mixed residential and commercial area less than a mile from Lake Huron/Saginaw Bay.

PROCESS & EQUIPMENT

Nickel and Zinc Plating Lines -Electroless nickel plating uses a liquid nickel sulfate to form a nickel-phosphorous alloy deposit onto suitable substrates using a chemical reduction process rather than an external electrical current. The nickel line consists of 7 plating tanks and 10 cleaning tanks (185 degrees). Plated parts are cured overnight in electric heat treat ovens (total of 3, one of which is a replacement) to complete the process. When chemicals in the line tanks are spent, the various nickel line tanks are drained and nitric acid is used to strip the tanks before they are prepped and refilled.

Facility staff report that the spent nickel is pumped into a tanker and transported offsite for disposal. The company is looking at expanding the electroless nickel plating production by adding an additional line. Contact has been made with AQD Permit Staff by the company in order to move forward with permitting.

Information available at the company website and the permit application indicated that the zinc electroplating (two lines) involves placing a clean ferrous component in an aqueous zinc solution and utilizing electric current to deposit zinc metal. The facilities' non-cyanide zinc electroplated parts undergo a chromate conversion by immersing the part into a tri-valent chrome passivate solution (rather than the hexavalent chromium used previously) and an additional sealer step. Colored coatings are applied to the zinc plated parts to add corrosion resistance (passivate).

Powder Coating -Powder coatings are applied electrostatically then cured under heat forming a "skin". Prior to coating, the parts go through a wash line and drying oven prior to coating. The powder coating is conducted in a booth that is vented internally. Powder coating process equipment includes two burn off ovens to remove the coating from the racks used to hold the parts during the powder coating process. The coating booth has vent filters, which vent into the building. The two burn off ovens have stacks on the south end of the building.

The original burn off oven was permitted under 710-88. No estimate of emissions were calculated nor required at that time. A second burn off oven was installed at the facility in 1998. Tawas Powder Coating applied for a Rule 290 Permit to Install exemption in February of 1998. Emission estimates were calculated for that burn off oven only and submitted in the application. More recent estimated emissions for both burn off ovens indicated that emissions for both units were below the Rule 290 limits of <500 lbs per month (controlled) or 1,000 lbs per month (uncontrolled).

Waste Stream, - The facility concentrates their waste stream, the nickel related fluids are processed thru atmospheric evaporators and sand filters, ultimately to be trucked out. Liquid wastes associated with the zinc plating process are reported to go to a waste water treatment plant. District files contain correspondence dated October 30, 1989 from McNamee Industrial Services report that the pre-treatment waste stream from The Tawas Plating Co. did not contain any VOCs, and that based on the data no VOCs would be emitted to the atmosphere by the atmospheric evaporators.

Heating - In addition, the facility uses one natural gas boiler 125 HP to heat the coils running thru the majority of the plating tanks. The facility also operates three heat treat ovens with 12 hour cycles (7 hour bake periods) previously mentioned in the plating process.

EQUIPMENT

Information provided in the permit applications regarding the process equipment and materials are general. Unpermitted equipment was identified during the 2012 inspection and was still present during the 2017 inspection. The equipment at that time was understood to be exempt from permitting under the following exemptions:

The following Rule 201 exemptions may be applicable to portions of the active facility or to any future facility changes would need to meet the revised rules (December 20, 2016):

- Rule 282 (2)(a)(i)

This rule appears to be applicable for the 3 electric heat treat ovens onsite, and states "Any of the following processes or process equipment which are electrically heated or which fire sweet gas fuel or no. 2 or no. 2 fuel oil at a maximum total heat input rate of not more than 10,000,000 BTU per hour....(i) Furnaces for heat treating or forging glass or metals, the use of that does not involve ammonia, molten materials, oil-coated parts, or oil quenching."

- Rule 285 (2)(r)

From discussions with facility staff it appears that some changes in the zinc and nickel plating process has occurred since the original permit was issued...The elimination of the chromate conversion process using chromic acid with a surficial sealant in the line is an excellent example. These changes may be exempt under one of the two exemptions :

"Equipment used for any of the following metal treatment processes if the process emissions are only released into the general in-plant environment: (i) Surface treatment. (ii) Pickling. (iii) Acid dipping. (iv) Cleaning. (v) Etching. (vii) Electro-polishing. (vii) Electrolytic stripping or electrolytic plating."

The facility has a number of ventilation fans in the work area(s). Which may impact the facilities option to use this exemption as the emissions are fugitive from the tanks, but are in part drawn out of the building via ventilation fans.

- Rule 285 (2)(l)(iii)

This exemption may be applicable for changes to the process regardless of changes in ventilation into the outer atmosphere: "The following equipment and any exhaust system or collector exclusively

serving the equipment:....(iii) Equipment for surface preparation of metals by use of aqueous solutions, except for acid solutions."

COMPLIANCE HISTORY

No complaints are of record for the facility. To date the facility has not been required to report annual air emissions as part of the Michigan Air Emissions Reporting System (MAERS). A review of District Files indicated that the most recent site inspection for the facility was conducted on June 12, 2012. At the time of the inspection, it was found to be in compliance with it's permits and air rules.

As part of the 2012 inspection it was determined that the facility was not subject to the NESHAP (subpart N) for hard and decorative chrome platers but was subject to NESHAP Subpart WWWWWW for Plating and Polishing Operations for it's electroless plating activities..

The compliance date for Subpart WWWWWW was July 1, 2010. Facilities subject to the NESHAP are required to submit annual emission reports. Upon being brought to the attention of the facility, they responded to the requirements promptly, and submitted the required initial notification as well as the notification of compliance status report and the 2010 and 2011 annual certification reports on July 2, 2012. The submittals were forwarded to EPA Region 5.

COMPLIANCE EVALUATION

Facility status has been determined based on permit requirements outlined in permit No.s 976-87 and 710-88.

Operational Status – During the facility tour the facility was open with most phases of process activities ongoing.

Material Usage Rates – Permit No. 876-87 (the zinc and nickel lines) restricts the substitution of any raw materials for those described in the permit application that would result in an appreciable change in the quality or increase in quantity of the emissions of an air contaminant without prior notification. [Special Condition 11 (SC11)] Permit review contained only general information with regards to materials used. The facility has reported some changes over the years to more environmentally friendly chemicals in the process(es).

Permit No. 710-88 (powder coating line) SC 19 restricts the substitution of any fuel described in the permit application. No change in fuel has been made by the facility since permitted.

Emission Points/Limits – With reference to the existing plating activities, the 2000 compliance inspection report indicated that process emissions were released in the general environment. At the time of the June 2012, inspection six overhead ventilation fans had been installed in the plating activity areas.

Permit 710-88 SC15 and SC16 restrict visible emissions from the powder coater and burnoff oven, respectively. No visible emissions were noted from the stacks at the time of the most recent inspection.

SC20 restricts the exhaust gases from the oven to discharge from a stack at the exit points indicated in the permit files. In the powder coating building, five stacks were present at the time of initial permitting. These included two on the rinse line (water only), one on the drying oven (NG combustion), one on the curing oven (NG combustion) and one on the burn-off oven. Since that time an additional stack was added for the second burn-off oven, installed in 1998 Stack locations were confirmed as part of the most recent site inspection.

Permit No. 876-87 restricts visible emissions from the chromium plating tanks (SC10). In addition, the referenced permit (SC12) requires the applicant to place foam beads or balls on the chromic acid plating tanks. No visible emissions were noted in any of the plating areas at the time of the inspection, and as previously discussed the chromate conversion process has been discontinued and replaced by a sealant application. So the two referenced conditions are no longer applicable.

Operational Parameters – Operational parameters for the facility are limited to permit 710-88 required the installation and proper operation of a powder filter (SC 18). Onsite staff reported that the powder filter system is monitored via the differential pressure to help determine proper operation.

Equipment Maintenance – No special conditions exist for equipment maintenance in either of the two permits associated with the facility.

Monitoring and Testing – Monitoring and testing requirements are limited to Permit 710-88 SC17, which requires verifications of PM rates from the burnoff oven by testing if requested. No request for testing was found in District Files.

Record Keeping and Reporting – No recordkeeping or reporting requirements are associated with the two referenced permits.

SUMMARY

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Site inspection activities were conducted with the intent of confirming the operational status of the permitted equipment and that monitoring/reporting activities were being conducted per the referenced permit and applicable exemptions.

The facility has indicated that it may install another plating line in the future, and has been in contact with permitting staff regarding the activities. As a result of information obtained as a part of the inspection activities, it appears that the facility is in general compliance with permit conditions.

NAME Shanan LeBlanc DATE 3/29/17 SUPERVISOR C. Hare