

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

N818043394

FACILITY: SELFRIDGE TECHNOLOGIES DIV		SRN / ID: N8180
LOCATION: 56851 GRATIOT, CHESTERFIELD		DISTRICT: Southeast Michigan
CITY: CHESTERFIELD		COUNTY: MACOMB
CONTACT: Lawrence J. Raymond, Regulatory Compliance Officer		ACTIVITY DATE: 12/15/2017
STAFF: Adam Bognar	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled Inspection		
RESOLVED COMPLAINTS:		

On Monday, December 15, 2017, Michigan Department of Environmental Quality-Air Quality Division (MDEQ-AQD) Staff, I, Adam Bognar conducted a targeted scheduled inspection of Selfridge Technologies Division, located at 56851 Gratiot Avenue, MI. The purpose of this inspection was to determine the facility's compliance status with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) rules; Permit to Install No. 349-08; and 40 CFR Part 63 Subpart T – NESHAP for Halogenated Solvent Cleaning.

I arrived at the Selfridge Technologies Division at 9 am. I met with Mr. Lawrence (Joe) Raymond, Environmental Compliance Officer, and Brian Sluck, Maintenance/Waste Treatment Operator. I identified myself, provided credentials, and stated the purpose of the inspection.

During the pre-inspection meeting we discussed PTI No. 349-08, as well as the previous inspection report. I reviewed and collected the required records at this time. Mr. Raymond described the surface coating processes performed here and gave me a tour of the facility.

Selfridge Technologies plates, coats, and strips steel and aluminum parts for military aircraft. They operate Monday through Friday from 7 am to 4 pm. Around 7 people are employed here. Processes performed here include silver plating, tin plating, electroless nickel plating, black oxide coating, and copper cyanide stripping.

The electroless nickel tanks are covered under PTI number 349-08. All other process tanks appear to be exempt from Rule 201 requirements pursuant to Rule 290 or Rule 285 (2)(r). Mr. Sluck provided me with usage records for 2016 which indicate that emissions are lower than Rule 290 requirements (Attachment 7). Additionally, PTI number 349-08 includes an opt-out HAP limit of 9 TPY for individual HAPs and 22.5 TPY for aggregate HAPs.

Mr. Raymond explained that the nitric passivate line (Line #2) has recently been removed, however the nitric acid tank is still on site. The chemical PenDIP A is no longer used at this facility. An emergency generator was recently purchased. The generator will be used to keep batch processes running during a power outage. This is necessary because a single failed batch can cost Selfridge Technologies hundreds of thousands of dollars due to the expensive military grade parts.

Mr. Raymond explained that this facility, Selfridge Technologies Division, will be closing in approximately one year. The closing will occur concurrently with the installation of four new plating lines at the sister facility, Selfridge Plating, in Mount Clemens. Nearly all the tanks at Selfridge Technologies will be scrapped or sold. The tin plating line from Selfridge Technologies will be moved to Selfridge plating.

Permit Number 349-08: EUNICKEL1

This emission unit contains two electroless nickel tanks used to plate nickel onto parts. As implied, no electric current is used. Instead, a catalytic reaction causes the desired plating action. The nickel baths

are heated with a recirculating glycol system. Emissions are controlled by a Composite Mesh Pad (CMP) scrubber.

**Section I – Condition 1:** Nickel emission are limited to 0.0006 pph. The nickel emissions are controlled by a CMP scrubber. Based on my observations and the records I reviewed, the CMP scrubber appears to be properly operated and maintained and should achieve this emission limit.

**Section III – Condition 1:** This condition requires Selfridge to submit an approvable operation and maintenance plan. I have reviewed this plan and found it approvable. A copy of this plan is attached to this report (Attachment 1).

**Section IV – Condition 1:** This condition requires the CMP scrubber system be installed, maintained, and operated in satisfactory manner. Based on records the CMP scrubber appears to be operated/maintained satisfactorily. I observed that the fumes from the nickel tank were vented to the scrubber.

**Section IV – Condition 2:** A pressure gauge must be installed to measure the pressure drop across the CMP system. There was a pressure gauge installed. During the inspection the reading was approximately 0.3 inches of water, although it was difficult to read because the gauge was so high in the air. A second pressure gauge is present that is only used to perform calibrations on the primary gauge.

**Section V – Condition 1:** States that verification and quantification of the nickel emission rate is required if requested by the AQD. AQD has not requested a verification of nickel emissions.

**Section VI – Condition 1:** This condition requires that Selfridge perform inspections of the CMP system. Brian Sluck explained that he takes weekly pressure drop readings and performs quarterly inspections of the CMP system to ensure that it is operating properly.

**Section VI – Condition 2:** Recordkeeping for the above inspections is required. These records are kept. Mr. Sluck provided me with the records of these quarterly inspections for all of 2017 (Attachment 2).

**Section VI – Condition 3:** Requires weekly records to be kept of the pressure drop across the CMP system. Weekly CMP pressure drop records are kept. Mr. Sluck provided me with these weekly records for all of 2017 (Attachment 3). The records show no instances where the pressures deviate from the established range of 0.2 – 2.5 inches of water indicated in the operation and maintenance plan.

**Section VI – Condition 4:** Requires records to be kept of the annual calibration of the pressure drop monitoring device. The 2017 records indicate that a calibration was performed. The calibration record indicates that the primary gauge gave the same reading as the secondary calibration gauge (Attachment 2).

**Section VIII – Condition 1:** Stack dimension requirements. I did not perform a rooftop inspection to verify stack parameters. The stacks appeared to be discharged unobstructed vertically upwards to the ambient air.

#### **Permit Number 349-08: FGFACILITY**

PTI No. 349-08 is an opt-out permit for hazardous air pollutants (HAPs). Selfridge uses two trichloroethylene (TCE) cold cleaners with dimensions of (2' x 2' x 1'). The air/vapor interface is 2 square feet. Since nickel emissions are small when properly controlled (less than 5 lbs. per year), these two TCE cold cleaners are essentially the only source of HAPs at the facility. The cold cleaners are exempt from Rule 201 requirements pursuant to Rule 281 (2)(h); however, they are subject to 40 CFR Part 63 Subpart T – NESHAP for Halogenated Solvent Cleaning because of their use of TCE. Selfridge complies with Subpart T by employing a tightly fitting cover that is closed at all times

except during part entry and removal, maintaining a freeboard ratio of 0.75 or higher, and by following pollution reducing workplace practices. The lids were closed during the inspection and the proper use instructions were posted on the cleaners. The freeboard ratio of these cold cleaners is 1. Mr. Sluck stated that parts are always held above the cold cleaner until dripping stops to avoid excessive drag-out.

Section I – Special condition 1 and 2 – limits the emissions of each individual HAP to 9 tons per year, and the emissions from all aggregate HAPs to 22.5 tons per year based on a 12-month rolling time period. Mr. Sluck stated that two 55-gallon drums of TCE were purchased in all of 2017, and that only 1.5 of the 2 drums were used, or approximately 83 total gallons. Assuming a TCE density of 12.18 lb/gallon, the total TCE usage would be about 1000 lbs or about a half ton.

TCE usage is relatively small because the facility reclaims most of the dirty solvent with a recovery distillation device. Mr. Sluck provided me with records that detail how much TCE is recovered and reused (Attachment 4). The total amount of TCE added to the two tanks is approximately 583 gallons, or around 7100 lbs (3.5 Tons), but 500 gallons is recovered and reused. Even if no TCE was recovered they would still be well within permit limits.

#### Sand Blast Unit

The facility operates one aluminum oxide sand blast unit that exhausts to the in-plant environment after passing through an appropriately designed and operated fabric filter. This unit appears to be exempt from Rule 201 requirements pursuant to Rule 285 (2)(l)(vi).

#### Boiler

There is one natural gas fired boiler on-site. Mr. Raymond stated that the boiler output is rated at 600,000 BTU/hr. Even if the boiler efficiency is conservatively assumed to be only 10%, the heat input would be 6MM BTU. This unit appears to be exempt from Rule 201 requirements pursuant to Rule 282 (2)(b)(i).

#### Emergency Generator

Selfridge Technologies operates one natural gas fired emergency generator. The generator was recently purchased and is located outside the building. The generator has a maximum energy output of 130 kW or 444,000 BTU/hr.

The owner's manual for the emergency generator (Attachment 5) indicates that the maximum input of natural gas to the unit is 1618 standard cubic feet per hour. Assuming a heating value for natural gas of 1,000 BTU/SCF, the generator has a maximum heat input of approximately 1.6MM BTU. Mr. Sluck provided me with documentation showing that this generator is EPA certified for conformity with the Clean Air Act and 40 CFR Part 60 Subpart JJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (Attachment 6).

This unit appears to be exempt from Rule 201 requirements pursuant to Rule 282 (2)(g).

#### Ovens

There are three electric ovens used to bake certain parts after plating. This unit appears to be exempt from Rule 201 requirements pursuant to Rule 281 (2)(e).

I left the facility around 10:30 am.

Compliance Determination

**Selfridge Technologies appears to be in 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; Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) rules; Permit to Install No. 349-08; and 40 CFR Part 63 Subpart T – NESHAP for Halogenated Solvent Cleaning.**

NAME Adam Bagot DATE 2/23/2018 SUPERVISOR SF