

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

N685750448

FACILITY: PPI Aerospace		SRN / ID: N6857
LOCATION: 23514 Groesbeck Highway, WARREN		DISTRICT: Southeast Michigan
CITY: WARREN		COUNTY: MACOMB
CONTACT: Paul Clark , President		ACTIVITY DATE: 09/10/2019
STAFF: Adam Bogнар	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled Inspection		
RESOLVED COMPLAINTS:		

On Tuesday, September 10, 2019, Michigan Department of Environment, Great Lakes, and Energy-Air Quality Division (EGLE-AQD) staff, I, Adam Bogнар, conducted a scheduled inspection of PPI Aerospace ("PPI" or the "Facility") located at 23514 Groesbeck Highway, Warren, 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 Environment, Great Lakes, and Energy-Air Quality Division (EGLE-AQD) rules; 40 CFR Part 63, Subpart T – National Emission Standards for Halogenated Solvent Cleaning; and Permit to Install Nos. 120-02 and 294-00F.

I arrived at the facility at around 10 am. I met with Mr. Paul Clark. I identified myself, provided credentials, and stated the purpose of the inspection. Mr. Clark accompanied me during my inspection and explained the current operations at PPI Aerospace. Ms. Janette Lutz, Consultant, joined us for the record review after the facility inspection.

PPI Aerospace performs surface finishing, electrolytic and electroless metal plating, and conversion coating of metal parts for various aerospace applications. The facility employees around 40 people and normally operates two shifts Monday through Friday from 6:00 AM to 10:00 PM. Facility is located in southern Macomb County and is bordered by commercial and industrial properties to the north, south, and west, and residential properties to the east.

Processes at this facility include electroless nickel plating, chrome conversion coating, silver plating, copper plating, cadmium plating, black oxide conversion coating, and other metal treatment processes. The chrome electroplating tanks have been removed from this facility. A complete list of plating tanks and their location is included in the recent PTI application (PTI No. 294-00F issued September 6, 2019). Most of the tanks are ventilated indoors and appear to be exempt from Rule 201 requirements pursuant to Rule 285(2)(r).

Eight tanks are equipped with a ventilation system that vents through a packed bed scrubber system to a stack. These tanks include four hydrochloric acid dip tanks, a sulfuric acid dip tank, and a nitric acid and sodium dichromate passivation dip tank, and a rack strip tank. For these tanks, PPI provided calculations demonstrating that the emissions are below the limits of Rule 291. See permit application 294-00F for this Rule 291 demonstration. These tanks appear to be exempt from Rule 201 requirements pursuant to Rule 291.

The packed bed scrubber system was installed to comply with 40 CFR Part 63, Subpart N – National Emission Standards for Chromium Electroplating and Anodizing. PPI Aerospace no longer performs any chrome electroplating. Mr. Clark stated that he is looking into getting rid of the packed bed scrubber. He plans to make improvements to the building ventilation system so that all tanks can be ventilated to the in-plant environment. The packed bed scrubber is old and appears to be near the end of its service life. Additionally, Mr. Clark stated that the scrubber is much larger than what would be required to scrub emissions from these eight tanks. The large scrubber/blower makes it difficult to maintain a proper air balance within the facility.

The gauges on the scrubber showed that water was flowing through the unit at 150-200 gallons/minute, which is the design flow rate for the scrubber. The scrubber pressure drop gauges, one on the unit and one inside the plant, were both broken during my inspection. Mr. Clark stated that he would get the gauges fixed as soon as possible.

#### **Permit to Install No. 294-00F**

PTI No. 294-00F was issued on September 6, 2019 to update the facilities permit to reflect current facility operations. PTI No. 294-00F was issued for a batch vapor degreaser, metal treatment lines (plating/surface coating), and one cold cleaner used as part of the masking process.

#### **EUDEGREASER**

PPI Aerospace operates one Detrex VS800 batch vapor degreaser with a built-in freeboard chiller (condenser). Trichloroethylene (TCE) is used as the degreasing solvent. The degreaser contains approximately 300-400 gallons of TCE when in use. The degreasing process begins with the parts attached to a hoist above the degreaser. An operator opens the degreaser lid, lowers the parts into the degreaser freeboard area, and then closes the lid. A reboiler at the bottom of the degreaser causes TCE to continuously vaporize and re-condense on the parts and condensers. This process removes oils, greases, and other debris from the parts. The parts are allowed to sit in the degreaser until dripping ceases before being removed.

An operator periodically takes a sample of the degreasing solvent to check for pH via titration. Degreasing operations tend to cause the TCE to take on water and become slightly acidic. This acidity reduces the efficiency of the degreaser. A caustic stabilizer (NA-15) is added to the TCE if the acidity becomes too high. The stabilizer also contains TCE. Stabilizer additions are accounted for in the degreaser recordkeeping spreadsheet.

No parts were being degreased in this unit during my inspection. I observed that the chiller and condensers had evidence of ice buildup on them, indicating that the chiller was functioning. All gaps in the degreaser lid appeared to be covered with a rubber like material. An operator keeps records of the hoist speed to ensure parts are introduced to the degreaser at a speed of 3 ft/min or less.

Section I – SC 1,2: Limits trichloroethylene (TCE) emissions to 8.9 tons/year and 150 kg/m<sup>2</sup>/month. Based on the records I reviewed, these limits have not been exceeded. Since the last AQD inspection, the highest reported yearly emission rate since was 7.3 tons during the 12-month rolling period ending in April 2019. The 150 kg/m<sup>2</sup>/month limit is based on a 3-month rolling average of monthly emissions. This emission limit has not been exceeded since the limit was established in this permit (September 2019). I did not evaluate historical 3-month averages.

Section III – SC 1: States that PPI shall ensure that on the first operating day of every month that EUDEGREASER contains only clean liquid solvent. This includes, but is not limited to, fresh unused solvent, recycled solvent, and used solvent that has been cleaned of soils. Additionally, a fill line must be established, and the degreaser solvent must be filled to the same fill line at the beginning of each month prior to calculating monthly TCE emissions.

PPI uses a long metal rod with a marking on it to measure solvent depth. The rod is lowered vertically into the degreaser until it hits the bottom. At the beginning of each month, TCE is added to the tank until it reaches the marker on the rod. When the tank is filled until the degreaser solvent reaches the marker on the rod, there is approximately 10-12 inches of liquid depth in the tank. Each inch of depth is approximately 32 gallons of TCE.

The degreaser is not cleaned of soils and filled with clean liquid solvent at the beginning of every month. This is a violation of PTI No. 294-00F (Section III – SC 1) and NESHAP T. The degreaser must contain only clean liquid solvent on the first operating day of each month. A violation notice will be issued to PPI Aerospace for this issue.

Fresh solvent is only added to bring the liquid level to the fill line. The entirety of the degreaser solvent is replaced as needed when the amount of contaminants in the solvent begin to greatly reduce degreasing efficiency. This usually works out to once every six months where all of the TCE degreaser is disposed of and fresh TCE is added. The degreaser operator monitors the acidity of the TCE regularly for quality control. High acidity in the TCE is an indicator of contaminants, such as water and oils, in the TCE.

Section III – SC 2: Requires PPI to submit a malfunction abatement plan (MAP) to the AQD within 30 days of permit issuance. Mr. Clark stated that he is working on creating a MAP and will submit it to the AQD before the deadline (October 6, 2019).

Section III – SC 3: Requires that waste solvent from EUDEGREASER to be stored in closed containers and disposed of properly. Waste TCE is stored in closed 55-gallon drums. There are currently six drums full of waste TCE on site. Mr. Clark is currently shopping around for a waste management company to dispose of the waste, as their last waste disposal company is no longer accepting TCE. I spoke with Mr. James Day of EGLE-Materials Management Division about the fact that these six waste TCE degreaser solvent drums were sitting at PPI Aerospace. Mr. Day is the Material Management Division inspector for PPI Aerospace.

Section VI – SC 1-8: Specifies recordkeeping requirements for EUDEGREASER. PPI must keep records of solvent additions, solvent deletions (removals), the TCE content of all solvents added to EUDEGREASER, and the TCE content of all waste removed from EUDEGREASER. This information must be used to calculate and

record the monthly TCE emission rate, the 12-month rolling TCE emission rate, and the 3-month rolling average TCE emission rate per square meter per month. These records are kept. I reviewed these records during my inspection and collected copies of these records (see attached document).

This condition also requires that PPI determine the potential to emit (PTE) from all solvent cleaning operations. PTE was determined as a part of the recent PTI application for this permit. The potential to emit for the degreaser was determined to be 90 tons per year based on the PTE equation provided in 40 CFR 63.465(e). PTE for all other HAP sources in the facility was also provided in this PTI application.

Section VII – SC 1,2,3: Specifies reporting requirements for EUDEGREASER. PPI must submit a solvent emission report on February 1 every year that specifies the size and type of degreaser, the average monthly solvent consumption, and the 3-month rolling average emission estimates. Additionally, an exceedance report must be sent to the AQD on a quarterly basis. AQD records indicate that no degreaser reports have been submitted since April 2017. PPI was issued a violation notice for violating these reporting requirements on June 12, 2018. Going forward, PPI will need to submit quarterly exceedance reports as well as the annual solvent emission report. I advised PPI aerospace that they should submit an exceedance report on October 30<sup>th</sup>, 2019 as the first of the quarterly reports.

Section IX – SC 2: States that PPI Aerospace shall comply with all provisions of 40 CFR Part 63 Subparts A and T as they apply to EUDEGREASER. Based on my observations during my inspection, PPI Aerospace is not in compliance with these requirements. The work practice/operating standards of the TCE batch vapor degreaser at PPI Aerospace are in violation of NESHAP T. PPI Aerospace failed to ensure that the vapor degreaser contains only clean liquid solvent on the first operating day of every month. I was not able to observe start up/shut down procedures or how each batch is degreased. I requested that PPI send me their start-up, shut-down, and operating procedures for the degreaser by October 6, 2019.

Additionally, AQD has not received any quarterly exceedance reports or annual solvent emission reports in accordance with NESHAP T.

#### **FGFACILITY**

FGFACILITY includes all equipment facility-wide, including exempt and grandfathered equipment. This flexible group table contains ROP opt-out limits for HAPs. HAP emissions are limited to 8.9 tons/year of each individual HAP and 22.4 tons/year of aggregate HAPs. To show compliance with these limits, PPI is required to keep 12-month rolling records of individual and aggregate HAP emissions. This information was not available during my inspection. It appears that PPI maintains records of all HAP emissions at the facility, but has not created a document that sums and consolidates facility wide emissions into rolling totals. I asked Mr. Clark to create a spreadsheet that shows the individual and aggregate HAP rolling 12-month totals by October 6, 2019.

Currently, individual and aggregate HAP totals can be determined by summing the HAP emissions from the degreaser, masking process, and metal surface treatment processes. The degreaser and masking process emissions are accounted for and kept in two separate documents. To account for the metal surface treatment emissions, PPI intends to use the HAP PTE calculated in the recent PTI application as the total HAP emissions from these tanks. HAP emissions from the masking and surface treatment processes is relatively insignificant compared to degreaser emissions. Compliance with this condition will be evaluated once PPI submits the facility-wide emission calculations to the AQD.

#### **PTI No. 120-02**

PTI No. 120-02 is a general permit for coating booths. The permit restricts VOC emissions to 2000 lb/month/booth and 10 tons per year per booth. Additionally, facility-wide VOC emissions are restricted to 30 tons/year. Equipment associated with this general permit includes the masking process and two coating booths that are under construction.

There is a "masking" room used to apply a waxy coating to workpieces. The masking process involves cleaning parts, then applying, with a brush, a masking agent to areas of the part that PPI does not want plated/coated. In this way, PPI can plate/coat only certain areas of a workpiece while leaving other bare. No spraying occurs in the masking room. There are VOC/HAP contained in the masking wax. Emissions from the masking application area are exhausted through hoods, uncontrolled, to a stack that is vertical and unobstructed. In accordance with the recordkeeping requirements of PTI No. 120-02, PPI maintains records of the date, quantity, and type of masking agent used. I was able to view these records during my inspection. Based on the records I reviewed, emissions from the masking process are much lower than the emission limits in this permit.

PPI has two spray booths that are currently in construction (not yet operational). These are located in a

separate building at the same location. These two new booths are constructed such that the area outside the booth is a temperature and humidity controlled environment. Mr. Clark stated that the water-based paints they have been using are very sensitive to temperature and humidity during the curing process. These two booths will eventually replace the coating process that is currently performed at the sister PPI Aerospace facility on Amber Street, Warren, MI. Mr. Clark stated that the owner decided to sell the Amber Street facility. PPI is currently working to move all processes at the Amber Street facility to this facility.

### **Sand Blasting**

Adjacent to the masking room is a shot/sand blasting area. Aluminum oxide sand material is sprayed onto parts at high speed to create a sanding effect. These five sand blast units are exhausted through one of two Torit dust collectors and to the general in plant environment. These sand blast units appear to be exempt from Rule 201 requirements pursuant to Rule 285 (2)(l)(vi).

### **Boiler**

An Industrial Boiler Company natural gas fired boiler is used to provide heat to the surface treatment dip tanks. The boiler has a maximum heat capacity of 5.2 MMBtu/hr and was manufactured in 1987. The boiler appears to be exempt from Rule 201 requirements pursuant to Rule 282(2)(b)(i). The boiler is not subject to 40 CFR Part 63, Subpart DDDDD because the facility is not a major source of HAPs. The boiler does not appear to be subject to the New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Units (40 CFR Part 63, Subpart Dc) because the rated heat input capacity is less than 10 MMBtu/hr. Compliance with the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers (NESHAP JJJJJJ) was not evaluated because the AQD does not have delegation to enforce the standards of NESHAP JJJJJJ for area sources.

### **Cold Cleaner**

There is one cold cleaner with an approximately 6 ft<sup>2</sup> air vapor interface. This unit is used to clean the masking agent off of parts after it is no longer needed. MEK is used as the cleaning solvent. MEK has a Reid vapor pressure of 3.5 psia and was removed from the HAP list by the EPA in December 2005. The ratio of the freeboard to the width of the cleaner appeared to be greater than 0.7. The lid was closed, and usage instructions were posted. This cold cleaner is covered by PTI No. 294-00F and appears to meet the requirements of AQD Rule 707.

### **NESHAP WWWWWW**

National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations (NESHAP WWWWWW) – PPI Aerospace appears to be subject to NESHAP WWWWWW; however, the AQD does not currently have delegation to enforce the standards of NESHAP WWWWWW. Compliance with NESHAP WWWWWW was not evaluated.

### **Violation Notice**

After the last AQD inspection by AQD staff Kerry Kelly, PPI Aerospace was issued a violation notice on June 12, 2018 for violating several conditions of PTI No. 294-00D, several conditions of PTI No. 120-02, and Rule 201 requirements. A second violation notice was issued on July 25, 2018, because PPI Aerospace failed to respond to the first violation within the 21 days allowed. Below is a list of the violations and their current status.

- **Resolved** - Degreaser cover was not completely covering the degreaser opening: PPI has installed rubber like flaps that cover all openings on the degreaser when the lid is closed. (PTI No. 294-00D)
- **Partially Resolved** - PPI failed to maintain records of monthly and 12-month rolling TCE emissions, monthly cover inspections, the HAP content of solvent used, maintenance and repair records, hoist speed determinations, idling emission rate, and semi-annual/annual NESHAP T reports. I verified during this inspection that PPI now keeps all of the records listed above. AQD has not received any semi-annual or annual NESHAP T reports from PPI. I sent an email reminder to PPI on September 19, 2019 reminding them of the reporting requirements of PTI No. 294-00F. (PTI No. 294-00D)
- **Resolved** - PPI failed to keep records of scrubber flow rate monitoring. PPI now maintains these records. This is no longer a permit requirement. I asked PPI to maintain daily records of scrubber flow rate and pressure drop to demonstrate compliance with AQD Rule 910. (PTI No. 294-00D)
- **Not Resolved** – PPI failed to maintain records of facility-wide monthly and 12-month rolling individual and aggregate HAP emissions. PPI did not have these records during my inspection. I asked PPI to send me these records by the end of September 2019. (PTI No. 294-00D)
- **Resolved** – PPI failed to maintain records of coating purchase orders, gallons of coating and clean up solvent used, and monthly and 12-month rolling VOC emissions from the masking process. I verified during this inspection that PPI now maintains the records listed above. (PTI No. 120-02)
- **Resolved** – PPI operated a hydrochloric acid tank vented to a scrubber without first obtaining a permit to

install. PPI has since modified their permit to install to include all tanks that are vented to the scrubber. (Rule 201)

- **Resolved** – PPI operated a process involving boiling waste copper strip solution to evaporate liquids. It appears that PPI no longer performs this process. I did not see any evidence of this during my inspection. (Rule 201)

An additional violation notice was issued on June 19, 2018 for failure to submit a 2017 Michigan Air Emissions Reporting System report (MAERS report). PPI retroactively submitted a MAERS report for 2017 reporting year. Additionally, PPI submitted a MAERS report for 2018.

#### **Consent Order**

PPI Aerospace was referred to the EGLE-AQD enforcement section due to the violations discussed above. AQD plans to issue a consent order to PPI Aerospace. PPI Aerospace has been sent a draft consent order. PPI Aerospace sent AQD enforcement section tax information relevant for assessing a penalty amount. AQD and PPI Aerospace are currently negotiating the conditions of a consent order.

#### **Compliance Determination**

PPI Aerospace is not operating in compliance with the requirements of the federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); Michigan Department of Environment, Great Lakes, and Energy-Air Quality Division (EGLE-AQD) Administrative Rules; 40 CFR Part 63, Subpart T – National Emission Standards for Halogenated Solvent Cleaning; and Permit to Install Nos. 120-02 and 294-00F.

The batch vapor degreaser is not cleaned of soils and filled with clean solvent at the beginning of every month. This is a violation of PTI No. 294-00F (Section III – SC 1) and NESHAP T. The degreaser must contain only clean liquid solvent on the first operating day of each month. A violation notice will be issued to PPI Aerospace for this issue.

PPI Aerospace failed to maintain records of 12-month rolling individual and aggregate facility-wide HAP emissions; however, the raw data for these records was readily available. I asked PPI to consolidate this raw data into the required facility-wide emission records, and to send me this data by October 6, 2019. I discussed this issue with AQD Warren district supervisor Ms. Joyce Zhu. AQD will use discretion and not cite PPI Aerospace again for this recordkeeping violation.

PPI Aerospace has not submitted Quarterly exceedance reports or annual solvent emission reports pursuant to PTI No. 294-00F and NESHAP T. The violation notice sent June 12, 2018 will not be resolved until the recordkeeping and reporting issues are remedied.

NAME Tom Bagoz

DATE 9/25/2019

SUPERVISOR SK