

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

P021836904

FACILITY: API INMET INC. FORMERLY AEROFLEX/INMET INC.		SRN / ID: P0218
LOCATION: 293 and 300 DINO DRIVE, SCIO TWP		DISTRICT: Jackson
CITY: SCIO TWP		COUNTY: WASHTENAW
CONTACT: Tom Garcia , Site Manager, VP Operations		ACTIVITY DATE: 09/16/2016
STAFF: Zachary Durham	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Scheduled, unannounced inspection of PTIs 33-11, 37-11, and 78-12.		
RESOLVED COMPLAINTS:		

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Purpose

This was a scheduled, unannounced inspection of the facility located at 293 and 300 Dino Dr., Ann Arbor, MI 48103. The purpose of the inspection was to determine compliance with the company's Permits to Install (PTIs) 33-11, 37-11, and 78-12 for equipment used in the manufacturing of electronic components. I arrived on site at about 10:00am on 9/16/16 and met with Susan, Jeff, and Tom.

Background

API Inmet, formerly Aeroflex/Inmet, has several vapor degreasers, plating lines, laser cutting units, screen printing units, and various other small scale work stations to develop blank wafers to meet final product specifications. The coatings being applied to the substrate will either provide a conductive or resistive path for electrical currents. The final chips are used in many electronic products. The processes they operate require the utmost precision for the applications they are used in. This small scale, low tolerance process restricts the throughput of the facility, which contributes to the facility being classified as a minor source.

The facility is also looking to add a new spray pyrolysis deposition (SPD) coating system. The unit is a benchtop scale system that will use a maximum of 3 gallons per month of liquid coating solution. They have provided the Safety Data Sheets (SDS) for each chemical that will make up their coating. The equipment has not yet been purchased, nor has an application for a PTI been submitted to AQD. At this time permit exemption Rule 287(c) and Rule 290 are still under consideration for this process.

They are subject to the National Emission Standard for hazardous Air Pollutants (NESHAP) in 40 CFR Part 61, Subpart C for Beryllium. They are also subject to the NESHAP in 40 CFR 63, Subpart W for Plating and Polishing Area Sources. The AQD does not have delegation of either of the aforementioned NESHAPs.

Compliance Evaluation

PTI 33-11

EURESISTORPLTG

This is the emission unit (EU) for gold, silver and nickel plating lines. They control emissions by the use of wetting agents and fume suppressants as required by NESHAP WWWWWW. The material limits set out in this part are based on a 12-month rolling period and are as follows:

- 55 gallons of Barret SN (0 gallons used during the past 12 months)
- 30 gallons of Nickel Sulfamate (9.372 gallons used during the past 12 months)
- 10 pounds of Nickel Chloride (3.13 pounds used during the last 12 months)
- 50 pounds of potassium cyanide (56.8 pounds* used in the last 12 months – see note below)
- 500 ounces (31.25 pounds) of silver cyanide (26.42 pounds* used in the last 12 months – see note)

Attached is a 12-month rolling record of chemicals used in EURESISTORPLTG.

EUNMETPLTG

This is the EU for gold and silver plating. There is no identified control equipment. The material limits in this part are based on a 12-month rolling time period and are as follows:

- 10 pounds of potassium cyanide (56.8 pounds* used in the last 12 months – see note below)
- 10 pounds of potassium silver cyanide (26.42 pounds* used in the last 12 months – see note)

Attached is a 12-month rolling record of chemicals used in EUNMETPLTG.

*Note: The attached 12-month rolling record combines the chemicals used in both EU's discussed above. As combined, total throughput is below the material limits, though they are not able to differentiate between each EU at this time. Included is an email from Jeff stating how the chemicals are used in each plating line. I have communicated to the company that they will receive a compliance concern letter along with a recommendation to modify PTI 33-11 to include language of how the plating lines are currently operated.

FGEVAP

This is the flexible group (FG) for 2 wastewater evaporators, however only 1 evaporator was ever installed. The evaporator has an internal mist eliminator installed per required equipment parameters.

PTI 37-11

FGVaporDegr

This is the FG for the vapor degreasers and solvent recovery still located throughout the facility spaces. A material limit of 220 gallons of solvent per 12-month rolling time period determined on a net usage basis is identified in this part. Attached is a record of solvent addition and removal, which equates to 40 gallons during the last 12 months from September 2015 – August 2016. During the inspection I observed waste solvent being stored in closed containers. It appeared that the company is following all conditions of the procedure to minimize solvent carryout in Special Condition (SC) IV under Design/Equipment Parameters for this section. Additionally, no portions of this FG are discharged to ambient air at any time.

PTI 78-12

FGBEOLC&S

This is the FG for Beryllium oxide wafer laser cutting and snapping processes, which is subject to the NESHAP under 40 CFR Part 61 Subpart C. Both the laser cutting and snapping processes are under vacuum and controlled by HEPA filters. Attached is the most recent HEPA filter work order from 7/31/13 to perform a filter change. Also attached are photos of the stacks on the roof of the building and the manometer readings from laser cutting and snapping process. The company indicated that filters are changed as the manometer reading begins to approach 2 inches of water.

Summary

After arriving at the facility I entered the building and phoned Susan from the reception area. I conducted the pre-

inspection meeting with Susan, Jeff, and Tom present and distributed the Environmental Inspections brochure. We discussed the PTIs and also the new equipment the company is looking to purchase to expand their operations. After the initial meeting, I signed in and we began the tour of the facility.

We started at the 300 Dino Dr. building and observed one of the vapor degreaser units. The operations in this building were limited, and included a lot of office space. Most of the equipment is located in 293 Dino Dr. in the same contiguous property, and we proceeded there next.

I observed the rest of the degreasers and still, the plating lines, and the Beryllium oxide work areas. We also headed to the exterior of the building where I observed a small permit exempt emergency natural gas-fired generator. I was told that there are three on site; a 125kW, a 20kW, and a 30kW. From the outside we accessed a back door to observe the evaporator in operation.

Finally we ascended the ladder to the roof to view the stacks and also the units containing HEPA filters to control Beryllium oxide emissions. No visible emissions were seen during my inspection. I took several photos that are attached to this report.

Having concluded the walk-through portion of the inspection, we proceeded back to a conference room. I requested the records that are required to be maintained as well as my initial thoughts concerning the exemption rules for the SPD unit and I left. Jeff emailed me the records following the inspection within the time frame that I asked for.

Compliance Determination and Recommendations

I have determined that the facility is in compliance with their PTIs.

I recommend that the company respond in a timely fashion to the compliance concern letter this is being sent to them to avoid future non-compliance. Their response should address how current plating operations are conducted as opposed to the language written in the permit. One approach could be applying for a permit modification that includes the combined chemical throughput that they are already maintaining.

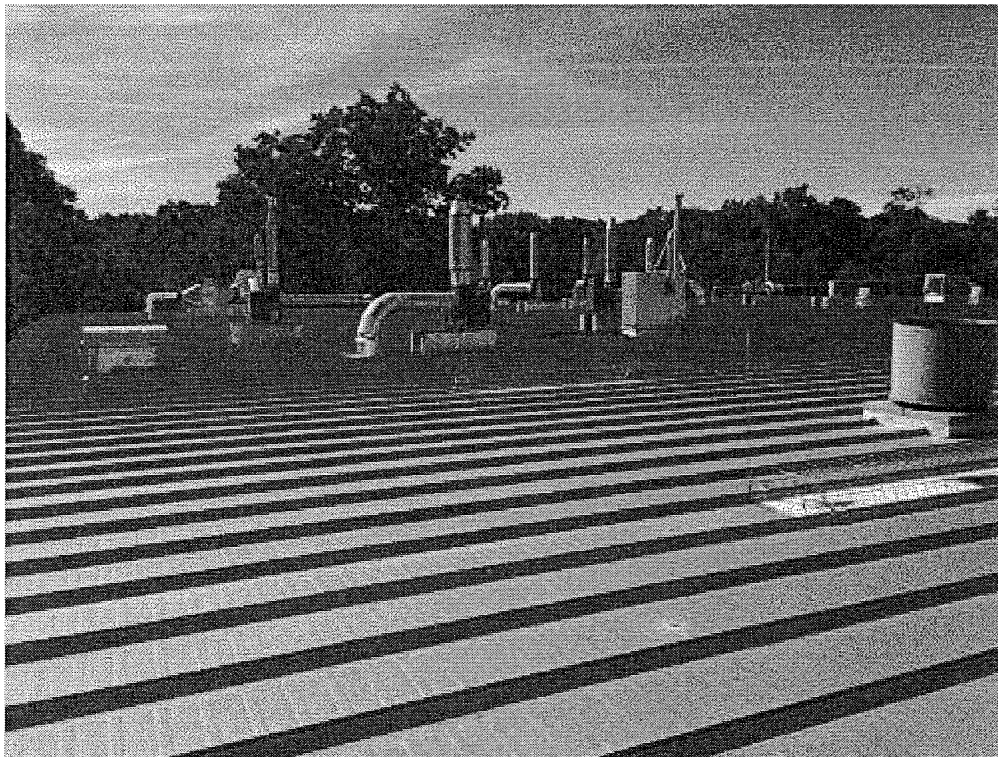


Image 1(Building roof) : building roof with multiple stacks

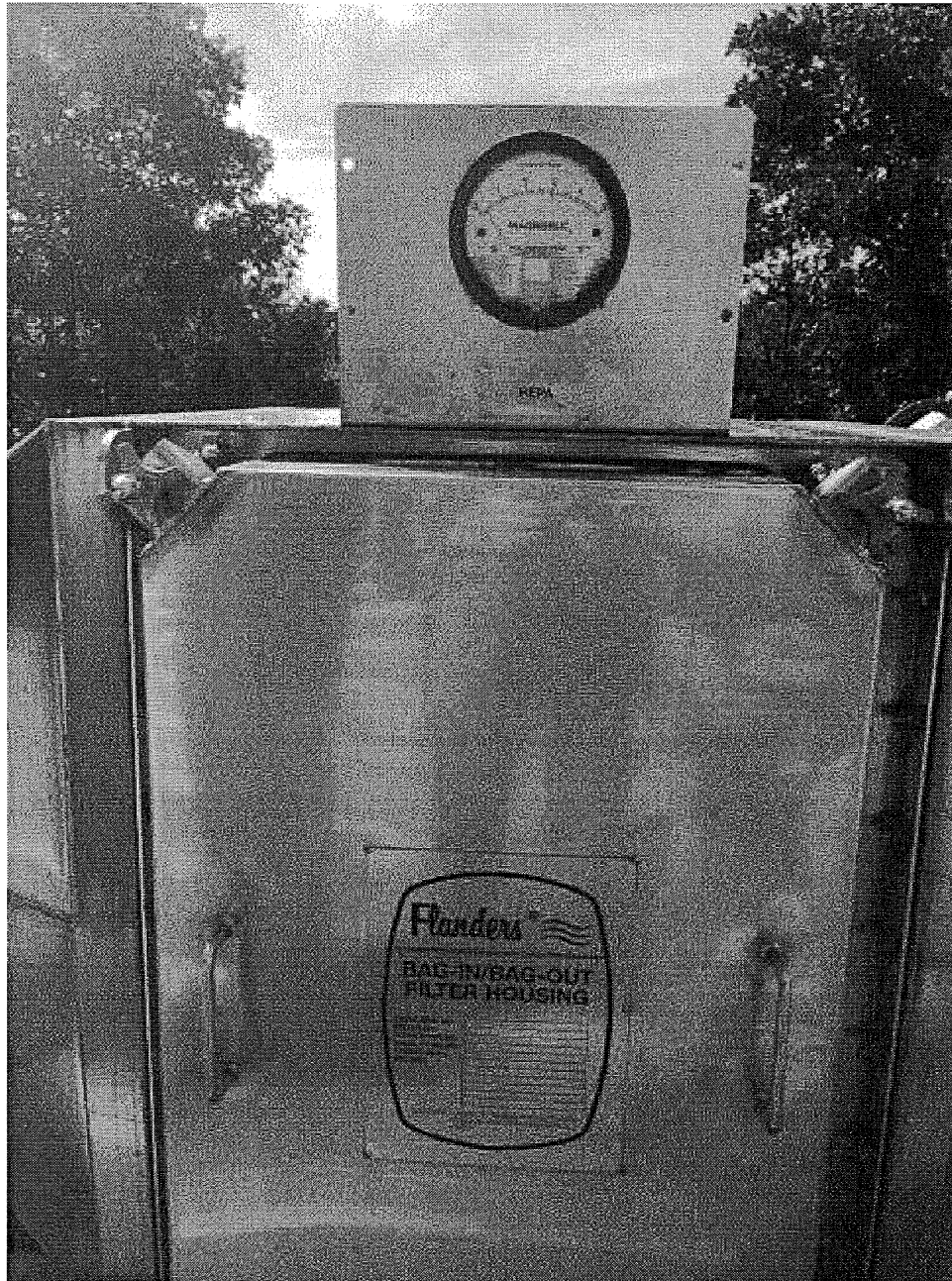


Image 2(HEPA Manometer) : EULASERCUT manometer reading from BeO HEPA filter. <0.5 in. H₂O



Image 3(HEPA Manometer 2) : EUSNAP manometer reading from BeO HEPA filter. ~1 in. H2O

NAME *Ezek Durham*

DATE 9/30/16

SUPERVISOR *[Signature]*