



REGION 3

PHILADELPHIA, PA 19103

Report Title: Clean Air Act Inspection of Hillock Anodizing
Inspection Date(s): 12/11/2024
Regulatory Program(s): SIP, MACT

Company Name: Hillock Anodizing
Facility Name: Hillock Anodizing
Facility Location: 5101 Comly Street
Philadelphia, PA 19135
Latitude: 40.014534 **Longitude:** -75.056562
County/Parish: Philadelphia

AFS/ICIS-Air Number: PAPAM0004210104179
Permit Number: OP20-000019
NAICS Code: 332813 **SIC:** 3471
DSB ID #: ECAD-5690

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I. Introduction

The United States Environmental Protection Agency (EPA) conducted a Clean Air Act (CAA) inspection at Hillock Anodizing (Hillock or Facility) to verify compliance with applicable State and Federal regulations. The City of Philadelphia's Air Management Services (AMS) was notified of the inspection on November 25, 2024, via email. On December 9, 2024, EPA notified the Facility of the planned inspection via phone and email. EPA emailed a list of records for review to John Hillock, prior to the inspection (see Attachment 1). These records are listed in the Records Review section of the report.

The inspection included an evaluation of the Facility's processes and its compliance with the CAA. All information included in this report is the result of statements by the Facility representatives, materials shown to the inspectors by the Facility representatives, and/or documents provided by the Facility representatives to the inspectors at the time of, or subsequent to, the inspection. In addition, information gathered prior to the inspection from a review of EPA and State records may be included in Section A. Summary of the Facility.

A. Summary of the Facility

The Facility is located at 5101 Comly St, Philadelphia, PA 19135. Hillock provides metal finishing services to a variety of industries, including Aerospace, Medical, Military, and Industry. Types of services provided range from sulfuric acid anodizing, electroless nickel, passivation, chromate conversion, etc. Hillock has achieved accreditation from the National Aerospace and Defense Contractors Accreditation (NADCAP). The company website is hillockanodizing.com and they operate under SIC code 3471: Plating and Polishing and NAICS code 32813: Electroplating, Plating, Polishing, Anodizing, and Coloring.

The Facility received a natural minor operating permit (OP20-000019) from AMS issued on November 6, 2020.

Hillock is classified as minor for source for all criteria pollutants and hazardous air pollutants (HAP). The Facility is subject to, or potentially subject to the following federal regulations:

- 40 C.F.R. Part 63, Subpart JJJJJ: National Emissions Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boiler Area Sources (MACT 6J)
- 40 C.F.R. Part 63, Subpart WWWW: National Emissions Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations (MACT 6W)

B. Inspection Opening Conference

At 9:00AM on December 11, 2024, EPA inspectors arrived at the Facility for a CAA Inspection and conducted a brief opening conference. Hillock was represented by John Hillock, President and Philip Samulewicz of AAQS consultants. Jack Hillock, Vice President and Peter Totaro, General Manager

joined the opening conference while it was in progress. Also, Kasra Miquol of AMS was present¹. EPA inspectors, Bruce Augustine and Alex Everhart, presented their credentials and explained the purpose of the visit was to conduct a CAA inspection to determine compliance with their permit and any applicable regulations. Additionally, EPA informed the facility representatives of their right to claim any confidential business information (CBI). At that time, John Hillock did not claim any photos or documentation as CBI.

II. Site Activity/Process Description

Hillock Anodizing is a privately owned company that began operation in 1969 at a rented space in Philadelphia. The Facility moved to its current location in November 1985 and operates in a 12,800 ft² building that it owns. Hillock currently has approximately 35-40 fulltime employees.

Hillock operates 24 hours per day, 7 days per week with production taking place Monday-Friday and maintenance taking place on Saturday. Hillock is a job shop that works based solely on customer orders. Hillock does not produce or manufacture any unique products and does not maintain an inventory. Hillock also does not produce any molds and only provides services on products sent to them by customers. John Hillock stated that the medical industry is their largest customer while they also provide services for the aerospace industry and have contracts with the military.

John Hillock stated that the Facility formerly conducted chrome anodizing but ceased in August 2022. The Facility performed chrome anodizing in Tank 07A, which is 550 gallons was performed using hexavalent chromium. Hillock stopped performing this process due to both business and environmental factors. Tank 07A is still located at the Facility but is empty.

Hillock still performs anodizing; however, it is conducted using sulfuric acid. Hillock refers to this as Type 2 process. The Facility also performs hardcoat sulfuric acid anodizing referred to as Type 3 process. Both Type 2 and Type 3 anodizing are performed using a current applied to the sulfuric acid bath but offer different densities and hardness to the product. Mr. Hillock stated that Type 2 typically has a thickness of 0.002-0.008in while Type 3 is 0.001-.0.002in. Furthermore, 80-85% of Hillock's business is Type 2 or Type 3 anodizing. All anodizing is performed on material that is an aluminum substrate. Both the type 2 and Type anodizing process have three process tanks of various sizes. Each tank has its own rectifier to provide electric current during the process. Mr. Hillock indicated that five (5) of the rectifiers are rated at 1000amps while the final rectifier is rated at 1500amps.

Hillock also offers conversion coatings to its customers. This process involves dipping the material in a non-electric bath and provides corrosion resistance to customers in the aerospace and defense industry. Hillock conducts passivation which is performed on stainless steel substrate. It uses a nitric acid or sodium dichromate bath to remove free iron from the substrate. Hillock has also began using citric acid in a single bath as an alternative to nitric acid. Electroless nickel is an immersion process

¹ Full List of Attendees is Included in the Sign-In Sheet (attachment 2)

where aluminum substrate is dipped in a nickel bath. Hillock has two tanks for the electroless nickel process.

Both aluminum and stainless steel products go through a pretreatment cleaning process to remove impurities and grease that may be present on the material when it arrives at the Facility. This involves immersing the products in cleaning baths followed by a rinse tank prior to being processed.

EPA noted to Hillock that the list of tanks provided in response to the record request² doesn't match the tank identifications in the current permit. Hillock noted that the tank may change operation but is not necessarily a new tank. In fact, Hillock stated that all tanks at the Facility are more than 15 years old with the exception of Tank 42 used in the Type 3 process which was replaced in 2014. Other tanks at the facility may have been replaced in kind but new tanks haven't been added. Hillock is due to submit a new permit renewal application in March 2025 and will add a source ID to the tank designations to ensure they are accurate. Mr. Hillock also stated that since they offer more than 24 different colors, the content of the tanks can change but black is the most popular color.

Mr. Hillock stated that the Type 2 and Type 3 processes contain the following steps:

1. Cleaning stage to remove oil, dirt, etc.;
2. Rinse Tank;
3. De-oxidizer stage (not all products);
4. Rinse Tank;
5. Caustic etch using sodium hydroxide;
6. Rinse Tank;
7. De-oxidizer/De-smut to remove additional impurities;
8. Rinse Tank;
9. Type 2 or Type 3 anodizing process;
10. Rinse Tank;
11. Dye bath if needed depending on the product;
12. Some material is sent to a seal tank using magnesium acetate (most Type 2 is sealed).

The tanks used in the Type 2 and Type 3 processes vent through hoods at the lip of tank and then to stacks in the roof to the atmosphere. There are no controls used in the anodizing process at either tank itself (wetting agent or fume suppressant) or in the stack (packed bed scrubber, mesh pad system, etc.).

Hillock utilizes two oil fired boilers to provide heat for the process tanks. Each boiler is rated at less than 2.0MMBtu/hr. Boiler 1 was installed in 2005 while Boiler 2 was installed in 2018. Both boilers operate year round and are used to heat process tanks. The boilers are subject to MACT6J and the

² See Attachment 1

requirement to conduct a tune-up once every five years. Hillock indicated that the boilers will be converted to dual fuel (oil and natural gas) when Philadelphia Gas Works (PGW) completes the installation of the natural gas line from the street.

The opening conference concluded at 10:14AM.

III. Observations

EPA inspectors were led on a walkthrough of the Facility immediately following the opening conference by John Hillock of Hillock Anodizing and Kasra Miquol of AMS was also present for the walkthrough. EPA inspectors noted photos would be taken during the Facility walkthrough (Attachment 3).

The walkthrough began in the raw material receiving area where parts waiting to be processed were observed in boxes and on shelving. The EPA inspection team observed two HDPE storage tanks that are used to store hazardous waste prior to shipping offsite. Mr. Hillock stated that the Facility is a large quantity generator and waste is pumped from the process area into the tanks then shipped offsite via truck for disposal. Adjacent to the tanks, EPA observed multiple drums containing raw materials for process tanks waste drums. Hillock also ships some hazardous waste offsite in drums and totes.

The two oil fired boilers were observed by the EPA inspection team. Both boilers are Well McClain boilers and were operating during the inspection, however, a nameplate was not observed on either boiler. The heat rating on the burners was observed to be the same as listed in the permit. Both boilers operate without any emission controls and vent through the roof. EPA reviewed opacity logs from 2023-2024 for both boilers in a manual log sheet that was located next to the boilers.

The EPA inspection team proceeded to the process area and observed multiple rows of tanks for the various processes conducted onsite. The tanks varied in size from less than 50 gallons to greater than 500 gallons. The Type 2 process tanks operate between 65-72°F and the three tanks in this process where sulfuric acid anodizing takes place are Tanks 5, 6, and 7. Each of these tanks is 550 gallons. The rectifier for Tank 7 is not operational so that tank is currently out of service. Tanks 5, 6, and 7 vent through hoods to a common stack and to the atmosphere through the roof. The sulfuric acid used in these tanks is 15-20% by volume.

The EPA inspection team observed Tank 7a (550 gallons) which was used for the chrome anodizing process. EPA observed the tank was empty at the time of the inspection and the fume hood was dismantled. Hillock indicated that this tank may occasionally be used for research and development but hasn't been used regularly since 2022. EPA observed multiple rinse and wash tanks while several process tanks were covered. Each of the tanks was labeled with a tank number and process material.

The EPA inspection team walked each row of process tanks and observed multiple tanks in operation while most of the tanks were in idle mode or did not have parts in them. Hillock has approximately 89 process tanks listed in their current permit while 45 of those tanks are listed as rinse tanks or dye

(color) tanks. EPA also observed the three tanks used in the Type 3 anodizing process (Tanks 42, 43, 43A). These tanks vary in size from 360 gallons to 950 gallons. Mr. Hillock stated that the hardcoat anodizing that takes place in these tanks is conducted at 28-32°F. Because of the low temperature, these tanks are not equipped with covers.

The EPA inspection team observed each of the six rectifiers associated with the anodizing tanks. The rectifier for Tank 42 was 1500amp, Tank 43A was 1000amp, Rectifier for Tank 5 was 1000amp, Rectifier for Tank 6 was 1000amp, and the rectifier for Tank 7 was disconnected and out of service.

The walkthrough concluded at 11:25AM.

IV. Records Review

The records review commenced immediately after the plant walkthrough at 11:30AM. EPA inspectors reviewed documents requested in the December 9, 2024, email to John Hillock (see Attachment 1). Records were provided prior to the inspection via EPA's file sharing site goanywhere.com by Jack Hillock. Below are the records requested and what was provided:

1. For each combustion source at the facility (other than space heaters), provide the following information:
 - a. Make and model;
 - b. Date of construction and date of installation;
 - c. Rating (MMBtu/hr, HP, kW/hr, etc.);
 - d. Fuel(s) combusted (#2 oil, natural gas, etc.);
 - e. Any emission controls employed to limit the emissions of any pollutant to the atmosphere.

Hillock provided a pdf with information for the two oil fired process boilers including the make/model, rating, year of construction, fuel combusted, and indication that there are no emission controls.

2. Provide a list of each tank at the facility. This should include:
 - a. The Tank ID;
 - b. Tank capacity (gallons);
 - c. Date of construction;
 - d. Process chemicals or materials in each tank.

Hillock provided a pdf with a tank inventory table that included the tank number, concentration, capacity, and other pertinent information. Hillock did not provide the date of construction for each tank. They indicated that almost all of the tanks were constructed prior to 2010 but would provide a list of tanks installed within the last 15 years. EPA also provided examples where the tank ID on the tank inventory provided did not match the tank ID in the permit. Hillock indicated that a source ID may be added to the permit for clarification.

3. Provide receipts of fuel deliveries from January 2022 through November 2024.

Hillock provided a pdf with a list of total fuel consumed for the years 2022-2024. Hillock also provided a list of the amount of fuel delivered for each day from 1/1/2022 through 11/2024. Hillock agreed to provide a monthly total for fuel usage. Hillock also stated that they do not track the fuel combusted in each individual boiler but can track total fuel combusted in each boiler. The fuel totals provided include the fuel delivered for boilers and the space heaters used for comfort heat.

4. Provide fuel usage (gal or MMscf) monthly for each combustion unit or process from January 2022 through November 2024.

Hillock provided the same fuel totals as provided in response to Request No. 3. Hillock indicated that they are not tracking individual fuel use for each boiler monthly but would begin tracking that as soon as possible.

5. Provide records of tune-ups conducted on each boiler since January 2019.

Hillock provided a pdf of annual boiler tune-ups from 2019 through 2024. They indicated that they conduct annual combustion analysis on each boiler and were unsure if this met the requirements for the five year tune-up required un MACT 6J. Hillock agreed to provide specific copies of the five year tune-ups for MACT 6J.

6. Provide copies of any reports submitted to either EPA or AMS for 40 C.F.R. Part 63 Subparts JJJJJ or WWWWWW from January 2022 through November 2024.

Hillock provided a copy of a 2022 response to AMS' inquiry and compliance investigation. Hillock does not submit any other annual reports to AMS or EPA other than annual certification reports required by their permit.

7. Provide calculations of actual emissions for NO_x, SO₂, VOC, and hazardous air pollutants for each emission unit at the facility for calendar years 2022, 2023, and 2024. In addition, provide the supporting calculations for each pollutant and the emission factors used to calculate emissions.

Hillock indicated in its response that it does not calculate emissions for the chrome anodizing tank because it is out of service and they are not required to calculate emissions for the Group 3 tanks in the permit. They also did not provide a response to the request for criteria pollutant calculations.

8. Provide a copy of the Operation & Maintenance Plan required by 40 C.F.R. § 63.3429(f)(3) and Section D.2(b)(4) of the permit.

Since the chrome anodizing process tank (Tank 7A) is no longer in service, they do not have a copy of the O&M Plan. No response was provided.

9. Provide records of chromic acid tank surface monitoring from January 2023 through November 2024.

Because Hillock no longer conducts chrome anodizing, no records of surface monitoring were provided.

10. Provide records of maintenance and startups/shutdowns for the tanks in Group 2 and Group 3 of the applicable permit.

Hillock provided a pdf with the parameters monitored for the process tanks per the NADCAP standards. The response includes an example tank solution control log where Hillock

operators monitor and track volume and concentrations of material added to each tank. Hillock also provided an example daily pH and DI water monitoring log for the tanks.

11. Provide a copy of the annual compliance report required by Section D.5(e)(vi)(B) for calendar years 2021-2023.

Hillock provided a pdf of the annual certifications for calendar years 2021-2023.

V. Closing Conference

After the records review, EPA inspectors, John Hillock, Jack Hillock, Peter Totaro, Philip Samulewicz had a brief closing conference to ask additional questions and discuss observations. The EPA inspectors noted that the investigation is on-going, and any areas of concern identified in the final report do not necessarily reflect a violation or deviation, rather, they are areas that will require further investigation. EPA also noted that they would issue an inspection report within 60 days, with a copy to the AMS. Simultaneously, EPA will perform a detailed review of records and may have additional questions. The inspection concluded at 12:45PM.

The following have been identified as potential issues during the inspection. They are issues that require either further investigation by EPA or additional information or explanation by Hillock Anodizing.

- Several of the process tanks at the Facility have different identification numbers in the Hillock tank inventory when compared to the existing permit. This has the potential to make it difficult for EPA or AMS to determine which tanks have which chemicals and are potentially subject to MACT 6W. Hillock agreed that they would re-evaluate the tank identification system and potentially add a source ID when they submit a permit renewal application in 2025.
- Permit condition D.5(a)(2) requires Hillock to maintain records of the amount of fuel burned in each boiler on a monthly basis. Hillock is not currently maintaining monthly fuel use records per boiler but is maintaining records of total fuel combusted in all combustion units. Hillock stated that they have a combined fuel tank and do not have individual fuel meters on each boiler. Hillock indicated that they would begin maintaining records as required in D.5(a)(2) using heat input of the boilers and total fuel combusted.
- Condition D.2(a)(4) of the current minor permit and §63.11223 of MACT 6J require tune-ups be conducted on the two process boilers once every five years as preventative maintenance. During the inspection, Hillock provided copies of annual boiler combustion analysis but it was not clear if tune-ups meeting the conditions of the permit and MACT 6J are being completed. Hillock agreed to provide EPA with copies of the five year tune-up reports if available.

VI. List of Attachments

- Attachment 1: Email correspondence to John Hillock of records requested to review during inspection
- Attachment 2: Inspection Sign-In Sheet
- Attachment 3: Photograph Log