REGION 1
BOSTON, MA 02109

Clean Air Act Inspection Report

Report Date: February 28, 2025

I. Background

Inspection Date: January 30, 2025

Inspection Type: Partial Compliance Evaluation

EPA Inspector: Davianna Vasconcelos, Enforcement and Compliance Assurance Division, Air Compliance Section

DAVIANNA VASCONCELOS
Digitally signed by DAVIANNA VASCONCELOS
Date: 2025.02.28 10:32:24 -05'00'

EPA Reviewer: John Melcher, Senior Enforcement Coordinator, Air Compliance Section

JOHN MELCHER
Digitally signed by JOHN MELCHER
Date: 2025.02.28 12:38:49 -05'00'

Facility Name: AOTCO Metal Finishing Co., LLC

ICIS Air ID#: MA0000002512100151

Facility Location: 11 Suburban Park Drive; Billerica, MA 01821

Mailing Address: Same as above

Disclaimer:

Unless otherwise noted, this report describes conditions at the facility/property as observed by EPA inspector(s), and/or through records provided to and/or information reported to EPA inspector(s) by facility representatives and as understood by the inspector(s). This report may not capture all operations or activities ongoing at the time of the inspection. This report does not make final determinations on potential areas of concern. Nothing in this report affects EPA's authorities under federal statutes and regulations to pursue further investigation or action.

Small Business Resources Information Sheet:

Without making a determination that your business or organization is a small business, EPA is providing you with this Small Business Resource Information Sheet regarding information that may assist small businesses in identifying and complying with environmental requirements. A physical copy of this information sheet was given during the inspection.

https://www.epa.gov/sites/default/files/2017-06/documents/smallbusinessinfo.pdf

Inspection Attendees:

Name	Title	Organization
Davianna Vasconcelos	Environmental Engineer	EPA R1
Grace Perry	Environmental Engineer	EPA R1
Flavia Jacobs	Environmental Analyst III	MassDEP
John Cote	Production Manager	AOTCO
Matt Smith	President	AOTCO
Christine Silverman	Directing Consultant	All4
Matthew Montuori	Consultant (Former Employee of AOTCO)	

Facility/Process Description:

AOTCO Metal Finishing Co. LLC ("AOTCO") conducts electroplating and anodizing on components for manufacturers from industries such as aerospace, medical, and clean energy. After the components are plated, AOTCO returns them back to the manufacturer.

AOTCO conducts various types of plating: Type I Chromic Acid Anodizing (thin layer) Type 2 and Type 3 Anodizing (non-chromic, thick layer).

AOTCO typically operates from 6:00 a.m. to 10:00 p.m. Monday through Friday. AOTCO does not conduct facility-wide annual shutdowns.

AOTCO has approximately 85 employees.

AOTCO uses the North American Industry Classification System (NAICS) code 332813 described as Electroplating, Plating, Polishing, Anodizing, and Coloring.

Link to the ECHO Detailed Facility Report

Potentially Applicable Federal Air Regulations:

The following federal air regulations may be applicable to the Facility:

- 40 CFR Part 63, Subpart N – National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks
- 40 CFR Part 63, Subpart WWWWWW – National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations

State Air Permit:

Massachusetts Department of Environmental Protection Air Quality Plan (SM-50) Plan Approval, NE-23-017 (ePLACE Authorization No.: AQ01P-0000181)

State Air Regulations:

Best Available Control Technology (BACT) – as described in the permit

Previous Enforcement Actions:

A "Detailed Facility Report" from EPA's Enforcement and Compliance History Online database indicates that there have been no informal or formal Clean Air Act enforcement actions taken by EPA against AOTCO Metal Finishing Co., LLC with respect to this facility in the past five years. MassDEP issued AOTCO Metal Finishing Co., LLC a Notice of Violation in January 2024 for missing records and missed monitoring requirements pertaining to the scrubbers as per the state permit.

II. Inspection

A. Opening Conference:

The inspection was coordinated with Jon Wilcox, Environmental Compliance Manager for AOTCO.

EPA personnel arrived at the facility at approximately 9:40 a.m. EPA personnel presented their credentials at approximately 9:45 a.m.

Ms. Vasconcelos explained the purpose of the inspection was to complete a partial compliance evaluation in regard to the Clean Air Act. Ms. Vasconcelos explained that AOTCO has the right to claim sensitive information as Confidential Business Information (CBI).

AOTCO personnel provided the information described in the Facility/Process Description, above.

AOTCO personnel said that none of the following processes are conducted on-site: hard chromium plating, decorative chromium plating, dry mechanical polishing, or electroforming.

AOTCO personnel said that the following processes are conducted on-site:

- Chromium anodizing
- Electroplating with cadmium, gold, silver, rhodium, nickel, copper, tin, and/or tin lead
- Electrolysis plating with nickel and copper
- Electropolishing
- Non-electrolytic metal coating using palladium

Ms. Vasconcelos requested to review the safety data sheets for the following:

- Chromium
- Cadmium
- Nickel
- Lead

AOTCO personnel said the chromium anodizing process occurs in one open-surface tank. AOTCO personnel said the tank uses an Ultra-MACT mist eliminator fume hood, identified in state permit as EU-6. AOTCO personnel said performance testing was conducted on the mist eliminator in August 2023 and resulted in a pass. AOTCO personnel said an Initial Notification and Notification of Performance Testing was sent to EPA Region 1 in August 2023. AOTCO personnel said results of the performance test were sent to EPA Region 1 in late 2023.

AOTCO personnel said a second building, located at 900 Middlesex Turnpike, Billerica, MA 01821, was under construction and permitted for two scrubbers. AOTCO personnel said there is no plan for chromium plating at the location.

AOTCO personnel said air pollution control equipment for non-chromium processes consist of three scrubbers and two mist eliminators. AOTCO personnel said testing was conducted on two of the three scrubbers and the two mist eliminators in June 2023. AOTCO personnel said the purpose of the testing was to determine emission limits for MassDEP permit.

AOTCO personnel said the third scrubber not tested as it was not in operation at the time. AOTCO personnel said the third scrubber is rarely in operation during the year and approximated its use to approximately two to six times a year. AOTCO personnel said the control system is called “System 11.”

AOTCO personnel said all systems were operational during inspection with the exception of “System 11,” typical of normal operation.

AOTCO personnel said their chromium anodizing operation and maintenance plan includes malfunction logs, daily checklists, quarterly inspection lists. AOTCO personnel were unsure as to if the chromium anodizing operation and maintenance plan was submitted to EPA Region 1.

AOTCO personnel said an operation and maintenance plan for non-chromium processes includes record keeping, daily and weekly checks, and maintenance schedules. AOTCO personnel said the operation and maintenance plan for non-chromium processes was submitted to MassDEP as part of permit approval process.

B. Records Review

Safety Data Sheets for the following (chemicals) – physical copies given:

- Nickel sulfamate – CAS number 13770-89-3; Ms. Vasconcelos noted a concentration of “>= 60 - < 80%”
- Lead II methane sulfonate solution – CAS number 1750-76-2; Ms. Vasconcelos noted a concentration of “>= 50 - < 70%”
- Cadmium oxide – CAS number 1306-19-0; Ms. Vasconcelos noted concentration of “> 95%”
- IRIDITE 14-2 chromium VI trioxide – CAS number 1333-82-0; Ms. Vasconcelos noted a percentage of “50 - 60%”
- IRIDITE 8P chromium VI trioxide – CAS number 1333-82-0; Ms. Vasconcelos noted a percentage of “80 - 100%”

B. Records Review (cont.)

Calculation of Acid Bath Emissions from Evaporation – spreadsheet via email

AOTCO personnel explained this spreadsheet is used to calculate evaporation from tanks not vented to air pollution control units

C. Facility Tour

AOTCO personnel led EPA and MassDEP personnel through the facility at approximately 11:00 a.m.

1. Main Plating Room

AOTCO personnel explained the main plating room is vented to two wet scrubbers referred to as "System 1" and "System 5." AOTCO personnel said the pH and flow through the scrubbers are monitored automatically and recorded daily. AOTCO personnel said differential pressure across the filters is recorded manually. AOTCO personnel said the scrubber data system can store up to four months of data and AOTCO downloads the data monthly.

Ms. Vasconcelos observed the following parameters for "System 1": pH 7.81 and flow 160 gallons per minute.

2. Chrome Room

AOTCO personnel explained that the Chrome Room has two air pollution control systems referred to as "System 2" and "System 6." AOTCO personnel said AOTCO conducts quarterly inspections, daily flow checks, and manually checks the differential pressure across the filters on the mist eliminator for the chromium anodizing, identified as "System 6."

3. Anodizing Room

AOTCO personnel explained that the anodizing room is vented to one mist eliminator referred to as "System 3."

AOTCO personnel explained that tanks that do not have specific vents to air pollution controls are designated as "System 7" but are found throughout the facility including in the Main Plating Room and the Anodizing Room. AOTCO personnel explained that evaporation from these tanks is accounted for.

4. Precious Metals Room

AOTCO personnel explained that the Precious Metals Room is used for gold and silver plating.

5. Magnesium Line - Room Adjacent to Precious Metals Room

AOTCO personnel explained that the magnesium line is referred to as "System 1".

6. Room Adjacent to Precious Metals Rooms

AOTCO personnel explained that "System 5" automatically controls the pH with diluted caustic and the caustic rate is monitored. AOTCO personnel said pH is kept above 7. AOTCO personnel explained that pH and flow through the scrubbers are monitored automatically and recorded daily. AOTCO personnel said the scrubber data system can store up to four months of data and AOTCO personnel said AOTCO downloads the data monthly.

Ms. Vasconcelos observed the following parameters for "System 5": pH 7.42 and flow 125 gallons per minute.

D. Closing Conference

Ms. Vasconcelos initiated the closing conference at approximately 11:27 a.m.

Ms. Vasconcelos reviewed the information discussed during the opening conference and the facility walkthrough.

Ms. Vasconcelos provided general compliance assistance by recommending AOTCO review the following:

- 40 CFR Part 63, Subpart N – National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks
- 40 CFR Part 63, Subpart WWWWWW – National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations
- 40 CFR Part 63, Subpart HHHHHH – National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources
- 40 CFR Part 63, Subpart XXXXXX – National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories

Ms. Vasconcelos requested the following records be shared electronically following the conclusion of the inspection:

- State Permit
- Initial Notification, Notification of Performance Test, and Results of performance test pertaining to chromium anodizing processes and associated air pollution control equipment
- Initial Notification, Notification of Compliance, and Results for performance testing pertaining to non-chromium processes and associated air pollution control equipment
- Operation and maintenance plans for chromium processes and non-chromium processes

Ms. Vasconcelos explained that if a record could not be found, EPA asks that AOTCO submits in writing that it cannot be found. AOTCO personnel asked what to do if AOTCO was not required to submit a record that was requested. Ms. Vasconcelos explained that EPA asks that AOTCO submits in writing the reasoning for why a record would not need to be submitted.

AOTCO personnel did not claim CBI on any of the information discussed during the inspection.

The closing conference concluded at approximately 11:56 a.m.

E. Second Location

At approximately 12:05 p.m., EPA personnel drove to the second location 900 Middlesex Turnpike, Billerica, MA 01821, and met AOTCO and MassDEP personnel.

AOTCO personnel explained that the facility is under construction and is permitted for two wet-packed scrubbers. AOTCO personnel explained the plan for a staggered operation, meaning one scrubber will come online before the other. AOTCO plans to monitor flow and pH through the scrubbers and caustic will be used in the system to control pH.

AOTCO said there was one boiler on-site, but it was nonoperational during construction, at time of inspection.

EPA personnel departed the facility at approximately 12:15 p.m.