



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, ILLINOIS 60604**

**DATE:** See Date of Section Chief Signature Below

**SUBJECT:** CLEAN AIR ACT INSPECTION REPORT  
Reliable Plating Corporation, Chicago, IL

**FROM:** Brittany Cobb, Environmental Engineer  
AECAB (MI/WI)

**THRU:** Sarah Marshall, Section Chief  
AECAB (MI/WI)

**TO:** File

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**BASIC INFORMATION**

**Facility Name:** Reliable Plating Corporation

**Facility Location:** 1538 W Lake St, Chicago, IL 60607

**Date of Inspection:** 9/7/2021

**EPA Inspector(s):**

1. Alexandra (Sasha) Letuchy, Environmental Engineer
2. Brittany Cobb, Environmental Engineer
3. Veronica Fischer, Environmental Engineer

**Other Attendees:**

1. Coulter Greenwell, President

**Contact Email Address:** [coult@reliableplating.com](mailto:coult@reliableplating.com)

**Purpose of Inspection:** To determine Clean Air Act (CAA) Compliance.

**Facility Type:** Electroplating Facility

**Regulations Central to Inspection:** 40 CFR Part 63, Subpart WWWW – National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations; 40 CFR Part 63, Subpart N - National Emission Standards for Chromium

## Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks

**Arrival Time:** 9:00AM CST

**Departure Time:** 11:30AM CST

### **Inspection Type:**

- Unannounced Inspection
- Announced Inspection

### **OPENING CONFERENCE**

- Presented Credentials
- Stated authority and purpose of inspection
- Small Business Resource Information Sheet provided via email.
- Provided CBI warning to facility

The following information was obtained verbally from Coulter Greenwell unless otherwise noted.

**Process Description:** Reliable Plating performs pretreatment, plating, chromating, and passivating.

**Pretreatment:** The first step is pretreatment, where the facility uses an alkaline solution to clean the metal. Then an acid is applied, depending on the metal. The facility uses hexavalent and trivalent chromates in their pretreatment processes.

**Plating:** Plating applies a thin layer of metal through an electrochemical reaction. The customer provides materials that need plating which include aluminum, steel, and brass. The facility performs the following plating in an acid or alkaline solution: black chrome, cadmium, chrome, copper, silver, gold, tin, bright nickel, duplex nickel, microporous nickel, sulfamate nickel, satin nickel and electroless nickel. They perform 1 to 5 layers of plating. 20% of the work performed is chrome plating, which uses hexavalent chromium. Plating occurs in the following tanks, of approximate size (gallons): (1) Cadmium – 1700 × 2, 250, and 290; (2) Chrome – 250 × 7; (3) Nickel – 600 × 12; (4) Copper 300 × 8 and 2,000; (5) Bright Tin – 400; (6) Dull Tin – 400; (7) Acid Copper – 400 and (8) Tin Zinc – 700.

**Chromating:** Chromating is the application of a thin chemical film over metals to provide corrosion resistance and improve the bond of paint coatings. Reliable Plating performs chromating directly on metals or over previously plated metals.

Passivating: Passivating is performed on stainless steel to remove iron and other undesirable materials from the surface, which again leaves a thin film on the surface of the metal to increase corrosion resistance.

The emissions from the chrome and additional tanks are controlled by six wet scrubbers which exhaust on the roof. The water flow rate is not monitored but the scrubbers are continuously monitored for differential pressure. The scrubbers are programmed to self-clean. The facility regularly changes the pads and performs minor additional chemical cleaning of the scrubbers. A wetting agent is also used to control emissions from the nickel and chrome tanks. Surface tension of the nickel and chrome tanks are measured weekly by the lab unless out of specifications, then more often. The nickel tanks are covered at night, the chrome tanks are not.

**Staff Interview:** Reliable Plating has a ROSS Permit. There are 85 employees. Most of the operations are performed on first shift from 6:00 AM to 4:30 PM. There is also a small 2<sup>nd</sup> shift from 4:00 PM to 1:00 AM. Reliable Plating is also RoHS Compliant.

### **TOUR INFORMATION**

**EPA Tour of the Facility:** Yes

#### **Data Collected and Observations:**

EPA inspectors toured the facility with Coulter Greenwell. The inspectors looked at the chrome tanks and their associated scrubbers, and the nickel and cadmium tanks. All of the chrome tanks exhaust to wet scrubbers. The magnehelic gauges for one of the black chrome scrubbers (A-P-6) read 3.8, 0.8, 1.2 and 2.2 inches of water. One of the white chrome tanks (A-P-16) exhausts to a small scrubber and the meter read 0.8 inches of water.

**Photos and/or Videos:** were taken during the inspection.

**Field Measurements:** were not taken during this inspection.

### **RECORDS REVIEW**

1. Lifetime Operating Permit
2. 40 CFR part 63, subpart WWWW MACT Annual Certification/Report
3. 40 CFR part 63, subpart N MACT Ongoing compliance status reports for area sources

### **CLOSING CONFERENCE**

Provided U.S. EPA point of contact to the facility

**Requested documents:**

1. ROSS Permit
2. 2005 Construction Permit
3. 40 CFR part 63, subpart WWWW MACT Annual Certification/Report (40 C.F.R. § 63.11509(c)) for years 2017 – 2020
4. 40 CFR part 63, subpart N MACT Ongoing compliance status reports for area sources (40 C.F.R. § 63. 63.347(h)) for years 2017 – 2020
5. 2019 and 2020 emission calculations
6. 2019, 2020, and 2021 Preventative Maintenance records for wet scrubbers
7. List which tanks are controlled by a wet scrubber
8. 2019, 2020 and 2021 surface tension measurements
9. PH of Cadmium tanks
10. PH of Nickel tanks
11. MSDS and technical information for wetting agents used
12. Purchasing orders of chrome in 2020

**DIGITAL SIGNATURES**

Report Author: Brittany Cobb  
Digitally signed by  
Brittany Cobb  
Date: 2021.10.27  
09:53:53 -05'00'

Brittany Cobb  
Environmental Engineer

Section Chief: SARAH MARSHALL  
Digitally signed by  
SARAH MARSHALL  
Date: 2021.10.27  
10:14:03 -05'00'

Sarah Marshall  
Section Chief

## **APPENDICES AND ATTACHMENTS**

### **1. Digital Image Log**

**Facility Name:** Reliable Plating Corporation  
**Facility Location:** 1538 W Lake St, Chicago, IL 60607  
**Date of Inspection:** September 7, 2021

**APPENDIX A: DIGITAL IMAGE LOG**

<p><b>1. Inspector Name:</b> Veronica Fischer</p>	<p><b>2. Archival Record Location:</b>  <a href="https://usepa.sharepoint.com/:f:/r/sites/R5_Work/r5erc/ecad/AECAB%20Library/Enf_Reliable%20Plating_IL_21/Enf_Reliable%20Plating_IL_21_Inspection?csf=1&amp;web=1&amp;e=szBSqW">https://usepa.sharepoint.com/:f:/r/sites/R5_Work/r5erc/ecad/AECAB%20Library/Enf_Reliable%20Plating_IL_21/Enf_Reliable%20Plating_IL_21_Inspection?csf=1&amp;web=1&amp;e=szBSqW</a></p>
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Image Number	File Name	Date and Time (9/7/2021 CT)	Description of Image
1	IMG_1	11:15 AM	Chrome tanks
2	IMG_2	11:16 AM	Tank interface
3	IMG_3	11:19 AM	Chrome scrubber
4	IMG_4	11:22 AM	Electro nickel tank
5	IMG_5	11:24 AM	Cadmium tank with no scrubber
6	IMG_6	11:25AM	Black chrome tank
7	IMG_7	11:25 AM	Black chrome scrubber
8	IMG_8	11:26 AM	Black chrome scrubber gauges
9	IMG_9	11:27 AM	Black chrome scrubber gauges
10	IMG_10	11:29 AM	Black chrome scrubber gauges
11	IMG_11	11:29 AM	Black chrome Scrubber
12	IMG_12	11:33 AM	Gauges

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13	IMG_13	11:33 AM	Gauges
14	IMG_14	11:33 AM	Wet scrubber
15	IMG_15	11:34 AM	Gauges
16	IMG_16	11:34 AM	Wet scrubber
17	IMG_17	11:35 AM	Plating tank
18	IMG_18	11:35 AM	Gauges