GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Richard E. Dunn, Director

Air Protection Branch
4244 International Parkway
Suite 120
Atlanta, Georgia 30354
404-363-7000

NARRATIVE

TO: Jeng-Hon Su

FROM: Susan Jenkins SJ

DATE: October 03, 2022

Facility Name:	**Chromalloy Georgia**
AIRS No.:	285-00060
Location:	LaGrange, GA (Troup County)
Application #:	696705
Date of Application:	September 16, 2022

Background Information

Chromalloy Georgia (hereinafter the "facility") is an existing turbine engine repair facility that specializes in aerospace coatings located at 1664 Lukken Industrial Drive West in LaGrange (Troup County). The facility is currently permitted as follows:

Permit No.	Date of Issuance	Purpose
3724-285-0060-S-02-0	2/8/2010	Operation of a jet engine parts repair facility; Replacement of scrubber SC2 to control emissions from A-12 Coating Ovens OV1-OV6; and C/O of braze strip unit (GT311-4).
3724-285-0060-S-02-1	7/15/2010	Replacement of Conversion Room Spray Booths SB3/SB4 with new spray booth SB3; and C/O of new dry scrubber SC4 to control emissions from new booth SB3. Incorporating applicable requirements of 40 CFR 63 Subpart HHHHHH and Subpart WWWWWW into the permit.
3724-285-0060-S-02-2	6/8/2011	C/O of A-12 Coating Oven OV7. Replacement scrubber SC2
3724-285-0060-S-02-3	9/9/2013	Replacement of A-12 Coating Ovens OV3 and OV6.
3724-285-0060-S-02-4	5/25/2016	Replacement of A-12 Coating Ovens OV2 and OV8.
NPR	2/18/2020	Replacement of A-12 Coating Ovens OV1, OV4, and OV5.

Purpose of Application

The facility is requesting the following as part of this SIP Permit Application:

- Authorization to construct and operate an additional A-12 Coating Oven (OV10) to be located in the A-12 Cementation & Packing Process. The proposed oven will be equipped with a 1.5 MMBtu/hr natural gas fired burner, and the proposed oven will exhaust through existing scrubber SC2.

- Revise the frequency of control device monitoring parameter recordings from once per shift to once per operating day.

- Remove monitoring of scrubbant pH for scrubber SC4 since this control device is a dry scrubber.

- Remove all references to baghouses and cartridge filters because the facility has dismantled these control devices and applicable emissions units.

- Increase the facility-wide VOC emissions limit from 25 tons to 100 tons during any consecutive twelve-month period.

- A new consolidated air permit because they have more than one permit amendment and it is hard for them to keep track of their existing air regulatory requirements.

Updated Equipment List

The Division toured the facility on September 22, 2022. The equipment list is updated based on what was learned during the plant tour.

Emission Units		Associated Control Devices	
Source Code	**Description**	**Source Code**	**Description**
LA1	Laboratory Vent Hood	N/A	Uncontrolled
Conversion Room			
OV9	Curing Oven	N/A	Uncontrolled
OV14	Curing Oven	N/A	Uncontrolled
OV52	Burnout Oven	N/A	Uncontrolled
SB2	Spray Booth	N/A	Waterfall Closed Loop
SB3	Conversion (Coating) Booth	SC4	Scrubber
Plating Preparation			
SS1	Potassium Permanganate Process Tank	SC1	Scrubber
SS1-RT	Potassium Permanganate Rinse Tank	SC1	Scrubber

Emission Units			Associated Control Devices
Source Code	**Description**	**Source Code**	**Description**
SS2	HCl Process Tank	SC1	Scrubber
SS2-RT	HCl Inhibited Rinse Tank	SC1	Scrubber
SS3	Sodium Hydroxide Process Tank	N/A	Uncontrolled
SS3-RT	Hot Water Rinse	N/A	Uncontrolled
SS4	Alodine 1200 Process Tank	N/A	Uncontrolled
ART	Alodine Rinse Tank	N/A	Uncontrolled
GB1	Grit Blasting Operation	N/A	Cannister Filter Exhausting to Indoor Air
GB2	Grit Blasting Operation	N/A	Cannister Filter Exhausting to Indoor Air
GB3	Grit Blasting Operation	N/A	Cannister Filter Exhausting to Indoor Air
Plating Room			
E2	Hot Water Rinse	SC1	Scrubber
CS1	Coating Strip	SC1	Scrubber
EH1	Electroless Nickel Plating	N/A	Uncontrolled
EH2	Electroless Nickel Plating	N/A	Uncontrolled
EH3	Electroless Nickel Plating	N/A	Uncontrolled
N8-1HRT	NR8-1 Hot Water Rinse	N/A	Uncontrolled
N8-1	Nickel Electroplating	N/A	Uncontrolled
N8	Nickel Plating	SC1	Scrubber
EN5-1HRT	EN5-1 Rinse Water	N/A	Uncontrolled
EN5-1	Nickel Strike Electroplating	SC1	Scrubber
EN3-1RT	N3-1 Rinse Water	N/A	Uncontrolled
EN3-1	HCl	SC1	Scrubber
N3-1RT	N3-1 Rinse Water	N/A	Uncontrolled
N3-1	Alkali Clean	SC1	Scrubber
N3	Alkali Clean	SC1	Scrubber
EN3RT	N3 Rinse Water	N/A	Uncontrolled

Emission Units			Associated Control Devices
Source Code	**Description**	**Source Code**	**Description**
EN5	Nickel Strike Electroplating	SC1	Scrubber
EN5RT	EN5 Rinse Water	N/A	Uncontrolled
N8HRT	N8 Rinse Water	N/A	Uncontrolled
N8RT	N8 Hot Water Rinse Tank	N/A	Uncontrolled
EN5-1	Nickel Strike Electroplating	SC1	Scrubber
E3	Electroless Nickel Plating	SC1	Scrubber
E4	Electroless Nickel Plating	SC1	Scrubber
E3/E4 RT	E3 & E4 Rinse Tank	N/A	Uncontrolled
DW1	Dewax	N/A	Uncontrolled
A3	Chemical Clean	SC1	Scrubber
AQ1	Chemical Clean	SC1	Scrubber
AQ2	Water Rinse	SC1	Scrubber
AQ3	Hot Water Rinse	SC1	Scrubber
Small Engine Repair Room #1			
GB4	Grit Blasting Operation	N/A	Cannister Filter Exhausting to Indoor Air
SB1	Anti-gallant Spray Booth	N/A	Filters
Stripping Room			
CS1	Coating Strip	SC1	Scrubber
CS2	Rinse Water	SC1	Scrubber
CS6	Hot Water Rinse	SC1	Scrubber
CS6-RT	Rinse Water	SC1	Scrubber
CS6 RT2	Rinse Water	SC1	Scrubber
C1	Coating Strip	SC3	Scrubber
C3	Coating Strip	SC3	Scrubber
SD4	Rinse Tank	SC3	Scrubber
C6	Coating Strip	SC3	Scrubber
SD5	Rinse Tank	SC3	Scrubber
C8	Coating Strip	SC3	Scrubber

Emission Units			Associated Control Devices
Source Code	**Description**	**Source Code**	**Description**
SD6	Rinse Tank	SC3	Scrubber
SD7	Rinse Tank	SC3	Scrubber
MS-1	Braze Strip	SC3	Scrubber
MS-1 RT	Rinse Water	SC3	Scrubber
MS-3	Braze Strip	SC3	Scrubber
S3	Nickel Strip	SC3	Scrubber
In-Between Room			
OV11	AB1250 Burnout Oven	N/A	Uncontrolled
Abrasive Blasting & Cleaning			
GB5	Grit Blasting Machine	N/A	Cannister Filter Exhausting to Indoor Air
GB6	Grit Blasting Machine	N/A	Cannister Filter Exhausting to Indoor Air
GB7	Grit Blasting Machine	N/A	Cannister Filter Exhausting to Indoor Air
GB8	Grit Blasting Machine	N/A	Cannister Filter Exhausting to Indoor Air
GB9	Grit Blasting Machine	N/A	Cannister Filter Exhausting to Indoor Air
GB10	Grit Blasting Machine	N/A	Cannister Filter Exhausting to Indoor Air
Post Coat & Clean Room			
D1	Chemical Clean	N/A	Uncontrolled
D2	Chemical Clean	N/A	Uncontrolled
D3	Chemical Clean	N/A	Uncontrolled
D4	Rinse Water	N/A	Uncontrolled
D5	Rinse Water	N/A	Uncontrolled
D6	Chemical Clean	N/A	Uncontrolled
OV80	Post Coat Oven	N/A	Uncontrolled
A-12 Prep Room (Machining Room)			
GB11	Shot Peening Machine	N/A	Cannister Filter Exhausting to Indoor Air
GB12	Shot Peening Machine	N/A	Cannister Filter Exhausting to Indoor Air

Emission Units			Associated Control Devices
Source Code	**Description**	**Source Code**	**Description**
GB13	Shot Peening Machine	N/A	Cannister Filter Exhausting to Indoor Air
OV13	Burnout Oven	N/A	Uncontrolled
A-12 Cementation & Pack Room			
AP1	Blending & Packing	N/A	Exhausts to Indoor Air
OV1	Coating Oven	SC2	Scrubber
OV2	Coating Oven	SC2	Scrubber
OV3	Coating Oven	SC2	Scrubber
OV4	Coating Oven	SC2	Scrubber
OV7	Coating Oven	SC2	Scrubber
OV8	Coating Oven	SC2	Scrubber
OV10*	Coating Oven	SC2	Scrubber
Fluorescent Penetration Room			
FP1	Spray Booth	N/A	Uncontrolled
OV12	Oven	N/A	Uncontrolled

*proposed within current application

Note: Plasma Strips SB01 and SB8 have been removed from the facility.
Note: Plasma Spray Booth (SB5) and associated baghouse BH1 have been removed from the facility.

Process Description

Turbine engine parts are received from customers by the shipping and receiving department. After being received, parts are inspected to determine if repairs can be made. Once inspection is completed and parts are deemed repairable, they are advanced to the appropriate process. Turbine engine parts that were previously coated are routed to the strip line to remove the existing coating prior to application of the new coating. Parts that were not previously coated are routed directly through the coating process.

- Strip Line- This process is used to remove existing coatings from parts prior to performing repairs or applying new coating. Different chemical stripping solutions are used depending on the type of coating being removed from the parts. After sitting in the required stripping solution parts then go through a rinse made up of heated and non-heated rinse water tanks.

- Plating Line- Some parts are chemically coated and are processed through the plating line. Before being processed through the chemical coating line, parts go through a cleaning process. Cleaning is accomplished by using a combination of grit blasting and chemical cleaning. Parts are submerged in a chemical cleaning solution and then thoroughly rinsed using both heated and non-heated rinsing water tanks.

- A-12 Cementation & Packing Operation- Parts are packed in an aluminum powder mixture, sealed, and then placed in a coating oven. Once the powder mixture reaches a specific temperature the

powder mixture goes through a chemical reaction that results in the deposition of a thin aluminum coating on the parts exterior.

- Spray Coating- Parts designated to receive surface coatings are sent to one of 2 spray coating booths to receive spray coating. Coated parts are then placed into curing ovens.

Emissions Summary

The potential VOC emissions will increase from 25 tons to less than 100 tons during any consecutive twelve-months per facility request. Potential emissions of NOx, CO, PM, and SO_2 from the proposed oven were computed using a 1.5 MMBtu/hr maximum heat input of natural gas and AP-42 emission factors.

Emission Changes Due to the Proposed Modification
(in tons per year)

Pollutant	Potential Emissions
$PM/PM_{10}/PM_{2.5}$	0.05
NOx	0.64
SO_2	0.0
CO	0.54
VOC	0.0
Max. Individual HAP	0.0
Total HAP	0.0
Total GHG (if applicable)	--

Regulatory Applicability

Georgia Rule 391-3-1-.02(2)(b) – "Visible Emissions": The state rule applies to the proposed coating oven as well as all existing sources at the plant.

Georgia Rule 391-3-1-.02(2)(e) – "Particulate Emissions from Manufacturing Processes": This state rule applies to the proposed coating oven as well as all existing sources at the facility.

Georgia Rule 391-3-1-.02(2)(g) – "Sulfur Dioxide": This state rule applies to the proposed coating oven as well as all existing fuel-burning sources at the facility.

Georgia Rule 391-3-1-.02(2)(kkk) – "VOC Emissions from Aerospace Manufacturing and Rework Facilities": This state rule applies to operations associated with the manufacturing or rework (including maintenance and repair) of aerospace vehicle and components. The facility operates under a facility-wide VOC emissions limit of 25 tons per year to avoid being subject to this state rule. **Avoidance** of Georgia Rule 391-3-1-.02(2)(kkk) for Troup County is based on a facility-wide VOC emissions limit of 100 tons of VOC emissions per consecutive twelve-month period. The facility requests revision of this **avoidance** limit from 25 tons to 100 tons during any consecutive twelve-months.

Avoidance of 40 CFR 70: Existing Condition 2.3 limits facility-wide VOC emissions to less than 25 tons during any consecutive twelve-month period for purposes of **avoidance** of 40 CFR 70. The Title V major source threshold for VOC emissions in Troup County is 100 tons per year, and the facility requests revision of this **avoidance** limit from 25 tons to 100 tons during any consecutive twelve-months.

40 CFR 63 Subpart GG – "National Emission Standards for Aerospace Manufacturing and Rework Facilities": This rule applies to operations associated with the manufacturing or rework (including maintenance and repair) of aerospace vehicle and components. The facility operates under individual/total HAP emissions limits of 10/25 tons per year for **avoidance** of this NESHAP.

40 CFR 63 Subpart HHHHHH – "National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources": This NESHAP applies to *spray application of coatings* containing compounds of chromium, lead, manganese, nickel, or cadmium, collectively referred to as the *target HAP* to any part of product made of metal or plastic, or combinations or metal and plastic that are not *motor vehicles or mobile equipment*, per 40 CFR 63.11169(c). Proposed curing oven OV10 cures powder coatings on affected parts (*miscellaneous parts and/or products*) and is therefore **not subject** to this Area Source Standard.

This Area Source Standard applies to booths SB2 and SB3 and ovens OV9, OV14, and OV52. Booth SB1 is permitted to apply a lead-based coating and is therefore subject to this Area Source Standard. The stripping operation does not use methylene chloride and is therefore not subject to this Area Source Standard.

The applicable requirements are specified in existing conditions 2.8, 2.9, 4.3, 4.4, 4.5, 4.6, 4.7, 7.8, 7.9, and 7.10 remain unchanged. The one-time requirements of existing condition 7.7 has been satisfied and will not be carried over to the new consolidated air permit.

40 CFR 63 Subpart WWWWWW – "National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations": This facility's plating operations meet the definition of a *plating and polishing facility* per 40 CFR 63.11511. The facility remains subject to this Area Source Standard. **The proposed project is not subject to this Area Source Standard.**

The applicable requirements are specified in existing conditions 2.10, 2.11, 4.8, 4.9, 4.11, 4.12, 7.12, and 7.13 remain unchanged. The facility is not permitted to operate cyanide plating and therefore existing condition 4.10 is not carried over to the new air permit. The one-time requirements of existing condition 7.11 has been satisfied and will not be carried over to the new air permit.

Georgia Air Toxics Guideline-HCl Emissions Limits: Controlled HCl emissions were calculated as 1.2 lb/hr and 0.5 lb/hr from scrubbers SC1 and SC2, respectively. These numerical values were proposed by the applicant in 1990 and serve to provide a reasonable assurance of compliance with the Georgia Air Toxics Guideline.

Permit No. 3724-285-0060-S-01-0 (5/29/2003) revised the HCl emissions to the following: (1) 0.8 lb/hr from scrubber SC1; (2) 0.5 lb/hr from scrubber SC2; and (3) 0.4 lb/hr from scrubber SC3. The existing HCl emissions limits maintain the potential to emit from these scrubbers at 1.7 lb/hr (on a combined basis). Proposed oven OV10 will exhaust to the outdoor atmosphere through scrubber SC2. No change in the allowable HCl emissions limit from this scrubber is proposed based on the proposed project.

Testing Requirements

The allowable HCl emission rate from scrubber with ID No. SC2 is 0.5 lb/hr. The estimated potential HCl emissions from the scrubber (ID No. SC2) which controls all Retort Ovens in the A-12 Process is 0.02 lb/hr. The estimated potential HCl emissions is approximately 4% of the allowable and the estimate is conservative based on process chemistry. With this in mind, no testing requirement is added to provide a reasonable assurance of compliance with the allowable HCl emission rate for scrubber SC2.

Monitoring Requirements

The existing permit requires the recording (but not installation/operation of monitoring devices) of scrubbant flow rate (SC1, SC2, and SC3), scrubbant pH (SC1, SC2, SC3, and SC4), and pressure drop (SC1, SC2, SC3, and SC4). The installation/operation of said monitoring devices is now required to provide a reasonable assurance of compliance with the Georgia Air Toxics Guideline HCl emissions limits.

The new air permit is corrected to remove monitoring of scrubbant pH for scrubber SC4 since this control device is a dry scrubber.

The frequency of recording monitoring parameters is revised from once per operating shift to once per operating day per the facility request.

Permit Conditions

New Condition No.	Existing Condition No.	Changed?	Description
1.1-1.5	1.1-1.5	No	General Requirements
2.1	2.1	Modified	Legal citation added.
2.2	2.2	Modified	Legal citation added.
2.3	2.3	Modified	Legal citation added. Revised facility-wide VOC emissions limit from 25 tpy to 100 tpy.
2.4	2.4	Modified	Legal citation added. Existing Georgia Rule (b) requirement applies to the proposed source.
2.5	2.5	Modified	Legal citation added. Existing Georgia Rule (e) requirement applies to the proposed source.
2.6	2.8	No	40 CFR 63 Subpart HHHHHH requirements per 40 CFR 63.11170 and 40 CFR 63.11174(a). These requirements do not apply to the proposed oven.
2.7	2.9	No	40 CFR 63 Subpart HHHHHH requirements per 40 CFR 63.11169(c). These requirements do not apply to the proposed oven.
2.8	2.10	No	40 CFR 63 Subpart WWWWWW requirements per 40 CFR 63.11504 and 40 CFR 63.11510. These requirements do not apply to the proposed oven.
2.9	2.11	No	40 CFR 63 Subpart WWWWWW requirements per 40 CFR 63.11511. These requirements do not apply to the proposed oven.
3.1	3.1	No	Mitigation of fugitive emissions.
4.1	4.1	No	Perform routine inspection/maintenance on all air pollution control equipment.

New Condition No.	Existing Condition No.	Changed?	Description
N/A	4.2	Deleted	Operation controlled by baghouse BH1 no longer exists at the facility. Baghouse BH1 no longer exists at the facility.
4.2 4.3 4.4 4.5 4.6	4.3 4.4 4.5 4.6 4.7	No	Specifies the requirements of 40 CFR 63 Subpart HHHHHH. These requirements do not apply to the proposed oven.
4.7 4.8 4.9 4.10	4.8 4.9 4.11 4.12	No	Specifies the requirements of 40 CFR 63 Subpart WWWWWW. These requirements do not apply to the proposed oven.
N/A	4.10	Deleted	Facility is **not permitted** to conduct cyanide electroplating per 40 CFR 63 Subpart WWWWWW. This existing requirement is not carried over.
N/A N/A	5.1 5.2	Deleted Deleted	Operation controlled by baghouse BH1 no longer exists at the facility. Baghouse BH1 no longer exists at the facility.
5.2	5.3 5.4	Modified	Establishes requirement to install/operate monitoring devices on each scrubber for purposes of providing a reasonable assurance of compliance with New Condition 2.1. Requirement to monitor the scrubbant pH of SC4 is removed since this control device is a dry scrubber. Frequency of recording is revised.
6.1	6.1	No	Performance Testing-General
7.1	N/A	New	Submit written notification of startup of the proposed oven to the Division within 15 days after such date.
7.2 7.3 7.4	7.1 7.2 7.3	No	Recordkeeping requirements to verify compliance with New Condition 2.2.
7.5 7.6 7.7	7.4 7.5 7.6	No	Recordkeeping requirements to verify compliance with New Condition 2.3.
N/A	7.7	Deleted	Submission of Notification of Compliance Status on or before March 11, 2011, for purposes of 40 CFR 63 Subpart HHHHHH has been satisfied.
7.8	7.8	No	Reporting requirements associated with 40 CFR 63 Subpart HHHHHH. These requirements do not apply to the proposed oven.
7.9 7.10	7.9 7.10	No	Recordkeeping requirements associated with 40 CFR 63 Subpart HHHHHH. These requirements do not apply to the proposed oven.
N/A	7.11	Deleted	Submission of Notification of Compliance Status on or before July 1, 2010, for purposes of 40 CFR 63 Subpart WWWWWW has been satisfied.

New Condition No.	Existing Condition No.	Changed?	Description
7.11	7.12	No	Reporting requirements associated with 40 CFR 63 Subpart WWWWWW. These requirements do not apply to the proposed oven.
7.12	7.13	No	Recordkeeping requirements associated with 40 CFR 63 Subpart WWWWWW. These requirements do not apply to the proposed oven.
7.13	N/A	New	Recordkeeping requirements associated with 40 CFR 63 Subpart WWWWWW (40 CFR 63.11509(e). These requirements do not apply to the proposed oven.
8.1 8.2	8.1 8.2	No	Special Conditions
8.3	8.3	Modified	Revoking all existing air permits issued to this facility.

Toxic Impact Assessment

There will be no increase in potential TAP emissions based on the proposed project. Therefore, no toxic impact assessment is necessary.

Summary & Recommendations

Chromalloy Georgia operates as a synthetic minor source in LaGrange, GA for emissions of HAPs and VOC. The facility requests authorization to construct and operate a new A-12 oven (given ID No. OV10) and other permit revisions. The facility has updated the permitted equipment list as specified in this permit narrative. A public advisory was issued on September 28 and expires on October 28, 2022. There are no new state rules/federal regulations that applies to the proposed oven. I recommend issuance of Permit No. 3724-285-0060-S-03-0 for authorization to construct and operate proposed oven OV10 along with the other permit revisions.