



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

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Pratt & Whitney AutoAir, Inc., Holt, Michigan

FROM: Valeria Apolinario, Environmental Engineer
AECAB (MN/OH)

THRU: Brian Dickens, Section Supervisor
AECAB (MN/OH)

TO: File

BASIC INFORMATION

Facility Name: Pratt & Whitney AutoAir, Inc.

Facility Location: 1781 Holloway Drive, Holt, Michigan

Date of Inspection: April 25, 2023

EPA Inspector(s):

1. Valeria Apolinario, Environmental Engineer
2. Natalie Schulz, Environmental Engineer

Other Attendees:

1. Christina Robedeau, EHS Manager
2. Trent Urban, Site General Manager
3. Leland Wiegman, Engineering Manager
4. Gene Stage, Business Unit Leader
5. Michele Strickland, EHS Staff Consultant
6. Tom Simon, Facilities & Maintenance Manager

Contact Email Address: christina.robedeau@prattwhitney.com

Purpose of Inspection: to determine compliance with the facility's Permit-To-Install (PTI) and the National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Source (NESHAP Subpart 6H)

Facility Type: Aircraft Parts and Equipment Assembly

Regulations Central to Inspection: The facility's PTI states the following summarized requirements:

Emissions from each coating area are to be controlled by fabric filters. The facility is required to utilize Method 24 to determine the VOC content, water content, and density of each coating applied at EU-EROSIANCOAT unless having prior approval from the Michigan Air Quality Director (AQD) District Supervisor to utilize manufacturer's formulation data.

The facility also operates several media blasting emission units to remove excess adhesive; a fabric filter system is to be used to control for particulate emissions.

The facility is to operate its erosion coating line known as EU-EROSIANCOAT in accordance with a malfunction abatement plan (MAP). Emissions from EU-EROSIANCOAT are to be controlled with a regenerative thermal oxidizer (RTO). The RTO is to be maintained at a minimum temperature of 1500 °F and operate at a minimum 98% VOC destruction efficiency. EU-EROSIANCOAT is to also be operated within a permanent total enclosure (PTE). The facility is required to maintain a minimum facial velocity of 200 ft/min between the PTE and the adjacent areas on a continuous basis.

NESHAP Subpart 6H requirements include that all spray-applied coatings containing the applicable HAP (chromium (VI) for this inspection) are to be applied with high volume low pressure (HVLP) spray guns or equivalent technology and that all painters are to be certified that they have completed training in the proper spray application of surface coatings.

Arrival Time: 9:40 AM

Departure Time: 11:40 AM

Inspection Type:

- ☒ Unannounced Inspection
- ☐ Announced Inspection

OPENING CONFERENCE

- ☒ Presented Credentials
- ☒ Stated authority and purpose of inspection
- ☒ Provided Small Business Resource Information Sheet
- ☐ Small Business Resource Information Sheet not provided.
- ☒ Provided CBI warning to facility

The following information was obtained verbally from Pratt & Whitney staff unless otherwise noted.

Process Description:

Pratt and Whitney AutoAir process a variety of fan blades to be used in aircrafts. The fan blades are composed of an aluminum body, titanium sheath, and foam interior. All materials are sourced from the Lansing facility. This facility focuses on the cleaning, coating, and bonding of these materials to assemble the fan blade.

The process begins with phosphoric acid anodizing to clean and treat the metal parts. The parts are then sent to be primed. The priming area is enclosed, and each coating booth is also inside its own enclosure. The first primer coat is sprayed onto the metal and sent through a curing oven at a temperature of 250 °F. A second coating, containing chromium (VI), is then applied, and sent through a curing oven at a temperature of 150 °F. There are fabric filters within the coating booths. After priming, the materials are sent to a bonding room where the aluminum blade, titanium sheath, and foam interior are bonded together. The adhesives are cured in a vacuum sealed bag and sent through a curing oven.

Excess adhesive and bonding material are removed through media blasting. Internally vented dust collectors are used in this process. Media blasting is also used to remove defective paints.

The product then goes through a variety of other bonding and coating processes including EU-EROSIANCOAT, where a chromium (VI) primer and black erosion coat is applied and cured. Emissions from this process are routed to an RTO. After coating, a teflon spray is applied to the root of the blade; the blade is then sent through an oven. Both the spray booth and the oven exhaust to the atmosphere. A silicon seal is then added. The blade cures in a designated room for eight hours after application. After all bonding and coating processes are completed, the blades are inspected and marked.

Staff Interview:

- The facility operates 5 days/week, 24 hours per day and has 316 employees on site. There is another facility in Lansing, MI. There are approximately 643 employees in total with the Lansing site.
- Fabric filters at the prime booths have weekly maintenance and are replaced every Monday.
- The facility requested Michigan AQD to use manufacturer's formulation data rather than Method 24 to determine coating contents.
- The facility monitors facial velocity and conducts testing yearly at the EU-EROSIONCOAT PTE.
- The last RTO performance test was conducted in December 2022 and demonstrated a destruction efficiency greater than 98%.
- The facility utilizes HVLP spray guns in its coating processes.
- Painter training and certification is conducted through an online service.
- Waste paint is sent off site for disposal. The facility does not recover any of the waste paint.

TOUR INFORMATION

EPA Tour of the Facility: Yes

Data Collected and Observations:

EPA began its tour at the phosphoric acid anodizing tanks and visited the main emission units throughout the process. EPA observed the fabric filters at each coating booth and the internal dust collectors at media blast. EPA visited EU-EROSIANCOAT and observed that at the time of the inspection, the RTO was operating at a temperature of 1544 °F. At the PTE, EPA observed openings at the entrance and exit of the PTE that remained open during the spraying process. EPA noted that there was a VOC smell outside of the booths.

Photos and/or Videos: were not taken during the inspection.

CLOSING CONFERENCE

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

Requested documents:

- The MAP for EU-ErosionCoat
- Facial velocity introduced into the erosion coat system between the PTE and the adjacent area from the past six months.
- Description of how it was determined there were no Natural Draft Openings within the PTE.
- RTO Temperature data from the past six months
- Approval letter from EGLE authorizing the use of manufacturer's information vs. Method 24 to determine coating contents.
- The initial notification for NESHAP Subpart 6H
- SDS sheet for the coating utilized at EU-ErosionCoat and for the coating containing hexchrome
- Concentration of phosphoric acid utilized in anodizing process

DIGITAL SIGNATURES

Report Author: **VALERIA APOLINARIO**  Digitally signed by VALERIA APOLINARIO
Date: 2023.06.22 16:46:53 -05'00'

Section Supervisor: **Brian Dickens**  Digitally signed by Brian Dickens
Date: 2023.06.23 11:39:09 -05'00'