

# **TECHNICAL REQUIREMENTS**

Current as of July 13, 2023

## **CLIN 001 – Provide MXG Paint Booth**

Background: The 177<sup>th</sup> Sheet Metal shop currently has a paint booth that is no longer operational and unable to be repaired in accordance with (IAW) paragraph 5.3 in Technical Order (TO) 1-1-8 (12 Aug 2016); *Spray painting shall be conducted in a properly ventilated spray area such as in a spray booth which confines and exhausts vapors, mists and overspray.* The 177FW Bio-Environmental office performed an evaluation of the current paint booth and deemed it unsatisfactory IAW AFI 91-203, AF Consolidated Occupational safety Instruction and ACGIH Industrial Ventilation manual; Figure VS-75- 05.

1. The paint booth is the primary engineering control for controlling Chromium (VI) exposure.
  - 1.1. It is critical that the paint booth operates at or above the baseline flow rate of 75 fpm (+/- 10%)
  - 1.2. The required flow rate ensures workers are not exposed above the OSHA permissible exposure limit of 0.005 mg/m<sup>3</sup>
  - 1.3. Must meet 100% ventilation compliance IAW OSHA Regulation Standard 29 CFR 1910.94(c)(5)(i) and New Jersey State EPA laws.
  - 1.4. Shall meet National Fire Protection Code (NFPA) 33 Standards
2. The approximate dimensions of the requested paint booth are:
  - 2.1. Internal Working Area: 15' wide x 11' high x 27' long
  - 2.2. Exterior (approx.): 16.5' wide x 15' High x 31.5' long
    - 2.2.1. Door Clear Space: 12' wide x 11' high
    - 2.2.2. Personnel Door: 3' wide x 7' high
    - 2.2.3. NOTE: Paint booth shall fit inside Room 119 and allow ample workspace and legal egress space around the exterior.
3. Paint booth required features:
  - 3.1. Semi-downdraft model
  - 3.2. Three-stage filtration system
  - 3.3. Energy-saving economy mode
  - 3.4. Environmental Performance Parameters
    - 3.4.1. Inside paint booth during painting Air Temp of 70 F (Min) & 80F (Max)
    - 3.4.2. Inside paint booth Air Cure Temp of 140F (Min) & 150F (Max) (heating transition time values in accordance with industry standards for high-performance painting systems)
    - 3.4.3. Inside paint booth relative Humidity of 50% (Max), No Addition of Humidity Needed.
  - 3.5. (12) min. T8 LED light fixtures inside of booth to provide appropriate workspace illuminations
  - 3.6. Paint booth shall have integral heating and curing system.
    - 3.6.1. GUL2000, BT1200 or Space Saver heat system or Approved Equal
  - 3.7. Single-skin construction, G90 Galvanized Steel, 18-gauge minimum thickness
  - 3.8. Controls
    - 3.8.1. UL 508A listed, programmable logic controller (PLC)-based control panel used to operate booth exhaust, safety interlocks and lights in pressurized booths
    - 3.8.2. 5.5" minimum touchscreen control panel HMI
    - 3.8.3. Auto Balance Pressure Control System (or equivalent)
    - 3.8.4. High performance and Economy Mode Control via Spray Gun Flow Switch
    - 3.8.5. Manometer Filter Monitoring (in accordance with Industry standards for high performance paint booths)

4. Assembly & Installation
  - 4.1. The vendor shall completely assemble the paint booth under CLIN 0001
  - 4.2. Assembly of the Paint Booth shall provide for a complete and useable system.
  - 4.3. The vendor shall provide for all supervision; material; labor; equipment; tools; travel... to fully assemble the paint booth.
  - 4.4. The vendor shall be responsible for disposing of & removing from the Government facility all packaging and crating material.
  - 4.5. Installation & connection to the facility infrastructure are covered under CLIN 0002
5. Start-Up and Acceptance Testing
  - 5.1. Start-up, test, balance, and adjust the Paint Booth systems for optimal operations with respect to airflow, temperature, humidity, pressure balance, and filter monitoring equipment as described in this SOW. Document and provide the final configurations, settings, set points for safety devices, cure cycles...
  - 5.2. Acceptance Testing: Vendor to demonstrate acceptance testing to meet the below specifications after installation of equipment:
    - 5.2.1. Inside paint booth during painting Air Temp of 70 F (Min) & 80F (Max)
    - 5.2.2. Inside paint booth Cure Temp of 140F (Min) & 150F (Max), provide proof / demonstrate that heating occurs in time as advertised in the official proposal.
    - 5.2.3. Inside paint booth Relative Humidity of 50% Max, No Addition of Humidity needed.
    - 5.2.4. Identify and provide proof / report of all airflow requirements in all areas of the paint booth as stated above (100 FPM) & 80/20 recirculation of air.
    - 5.2.5. Provide proof / report of PPE / breathing apparatus meets or exceeds all NIOSH standards.
    - 5.2.6. Provide written certification stating the paint booth meets or exceeds the specifications in this statement of work.
    - 5.2.7. Provide calibrated equipment to perform the acceptance testing.
6. Training
  - 6.1. Vendor shall provide one (1) day of on-site Operations and Maintenance training for three (3) personnel) within three (3) days after acceptance of equipment.
7. Shipping
  - 7.1. FOB Destination to 08234
    - 7.1.1. 177FW MXG, 400 Langley Rd. Egg Harbor Township, NJ
    - 7.1.2. NOTE: No Monday or Week-end deliveries
8. Utilities/ Power available in facility:
  - 8.1. Electrical : 3 phase 480Volt, 40 Amps
    - 8.1.1. Note: All devices (Light, Outlets and Switches) shall be explosion proof IAW the National Electric Code (NEC)
  - 8.2. Fire Suppression: Dedicated 4" Sprinkler Main
  - 8.3. Make-Up / Exhaust Air: 34" dedicated exhaust, through the roof, and dedicated 34" "make up air" duct
  - 8.4. Compressed Air: ¾" compressed air connection & ¾" breathing air connection in the paint room about 20' from the proposed booth location.
  - 8.5. Gas: there is a dedicated 1 ¼" Gas service to the booth for a heater.