

Procurement of an External Structural Corrosion Inspection of the NASA Langley Research Center's UC-12B Aircraft

Statement of Work

December 1, 2008

Specification

Scope

NASA N528NA, a Hawker Beechcraft UC-12B aircraft (BJ003) (serial number (S/N) 00161187), is a NASA Langley Research Center (LaRC) public-use aircraft, which is utilized for research missions. The UC-12B aircraft (a military version of a Hawker Beechcraft King Air) was acquired through the General Services Administration (GSA) in 2007. The aircraft has undergone several phase inspections and modifications since that date. LaRC continues its assessment of the condition of the aircraft and performs repairs/upgrades as required to maintain the aircraft in an airworthy condition. As part of this process, the Research Systems Integration Branch of the Research Services Directorate has identified a requirement to perform an aircraft external structural corrosion inspection on the fuselage, wings, and empennage sections of the aircraft. To facilitate this inspection, the following tasks must be accomplished: removal of the existing paint; performance of a close visual inspection; accomplishment of any necessary repairs; and, reapplication of a protective coating. The current paint scheme shall be replaced with a paint scheme specified by LaRC.

Government furnished equipment

1. LaRC shall deliver (fly) the aircraft, model UC-12B, serial number 161187, registration number N528NA, from NASA LaRC, Hampton, VA 23681, to the vendor's certified repair/paint facility for completion of the above referenced tasks. Please see the detailed Statement of Work (SOW) for specifics.
2. LaRC shall provide the vendor with a decal kit as required by the aircraft manufacturer, NASA insignias, as detailed by the LaRC-provided drawings.
3. LaRC shall provide the vendor with a specific paint scheme with details sufficient for the vendor to accomplish this SOW.
4. LaRC shall provide an on-site representative during the process of paint removal, inspection, treatment, painting, and reinstallation of all removed components.
5. LaRC shall provide the vendor with the Flight Readiness Review (FRR) requirements upon delivery of the aircraft to the vendor's location.

Vendor furnished equipment

1. The vendor shall provide all materials required for the removal of the existing paint to include, but not limited to, stripper, sandpaper, washing agent, and solvents.
2. The vendor shall provide all materials necessary for application of protective coatings to include, but not limited to, chemical conversion agent, epoxy primer, urethane topcoat (Crown Metro, Alumigrip, Sherwin Williams Jetglow, or equivalent), catalyst, sealants, and solvents.
3. The vendor shall provide all personal protective equipment required by the vendor's employees and local procedures.

Assumptions:

- Period of Performance: A six-week period during January 15, 2009 – February 28, 2009
- NASA LaRC representative has authority to conduct pre-award site visit at vendor's facility to ensure compliance with industry standards.
- NASA LaRC conducts a FRR using NASA LaRC procedures, upon completion and documentation of all modification activity and prior to release for flight.
- NASA LaRC performs a Functional Check Flight (FCF) at the vendor's location upon the completion of vendor's activities.

Vendor accomplished Activities

1. The vendor shall accomplish the following detailed activities:
 - a. Receive the aircraft and perform a pre-induction audit to determine the existing condition of the aircraft in preparation for the structural corrosion inspection activities.
 - b. Prepare the aircraft for paint removal I/A/W the vendor's established procedures.
 - c. Remove the ailerons, rudder, elevators, and flaps. Protect the control-rod end bearings, cables, and bell cranks from contamination by aircraft paint stripper and overspray.
 - d. Protect the cabin windows, cockpit windows, and seal doors with protective masking to prevent contamination or damage from aircraft paint stripper and overspray.
 - e. Protect the wing and horizontal-surface de-ice boots with protective masking to prevent damage by aircraft paint stripper and overspray.
 - f. Protect the composite fairings, panels, radome, antennas, inlet ducts, and other non-metallic surfaces with protective masking to prevent damage by aircraft paint stripper.
 - g. Remove the landing gear doors and aircraft wing panels. Protect the interior of the wing access-panel areas.

- h. Protect the aircraft landing gear, wheels, tires, and brakes from damage by aircraft paint stripper and overspray.
 - i. Remove the existing decals, lettering, urethane enamel topcoat and epoxy primer from the metal fuselage, wings, empennage, vertical and horizontal tail sections, and nacelles by chemical or alternately approved method.
 - j. Remove the existing decals, lettering, urethane enamel topcoat and epoxy primer from the composite surfaces by an approved non-chemical method.
 - k. Remove the existing decals, lettering, urethane topcoat and epoxy primer from the ailerons, rudder, flaps, and elevators by an approved chemical method.
 - l. Thoroughly wash and rinse all affected areas of the aircraft and components.
 - m. Perform an external corrosion inspection with assistance from the LaRC representative.
 - n. Provide the LaRC representative with a list of discrepancies discovered while accomplishing the external inspection.
 - o. Pro Seal lap joints, antennae bases, windows, and other open joints with exterior approved sealants.
 - p. Pre-treat all metallic surfaces with a chemical conversion coating or an acid etching agent prior to applying epoxy primer per the manufacturer's specifications.
 - q. Apply epoxy primer to all metallic surfaces per the paint manufacturer's instructions.
 - r. Apply two to three coats of a urethane topcoat per LaRC specifics to all metallic surfaces per the paint manufacturer's instructions.
 - s. Prepare all non-metallic surfaces for application of a urethane topcoat.
 - t. Apply two to three coats of a urethane topcoat to all non-metallic surfaces per the paint manufacturer's instructions.
 - u. Accomplish the detailed paint application per the LaRC paint scheme to include stripes, lettering, and numbers. (See detailed paint scheme provided by LaRC)
 - v. Apply the LaRC-provided decals, emblems, and warning placards.
 - w. Balance the ailerons, rudder, and elevator per the manufacturer's procedures contained in the aircraft maintenance manual.
 - x. Reinstall the ailerons, rudder, and elevator per the manufacturer's procedures contained in the aircraft maintenance manual.
 - y. Reinstall the landing gear doors, and aircraft wing access panels. Ensure all visible hardware is painted to match the surrounding areas.
 - z. Paint the fuel caps red and dress the de-ice boots.
 - aa. Accomplish the aircraft weight and balance procedure per the aircraft manufacturer's maintenance manual.
 - bb. Provide the Federal Aviation Administration (FAA) documentation for the maintenance actions accomplished.
2. The vendor shall yield all final quality assurance approval authority for all inspected work to NASA quality assurance personnel.

Note: NASA's quality assurance authority is limited to normal quality control issues and does not allow NASA to change FAA-approved design data and/or installation drawings or procedures.

3. The vendor shall participate in a NASA FRR via teleconference.
4. The vendor shall assist the LaRC representative in his/her preparations for a FCF to be performed by LaRC personnel.
5. The vendor shall assist in the dispatch of the aircraft after the completion of a successful FCF.
6. The vendor shall secure written approval from the NASA Contracting Officer prior to commencing any work activities beyond the scope of this SOW.

Note: All work performed by the Contractor without prior written approval from the NASA Contracting Officer is at the sole risk of the Contractor.

Deliverables

1. The NASA UC-12B aircraft in airworthy condition returned to the as-delivered condition with the exception of the modifications performed per this SOW.
2. A detailed report of the external corrosion inspection.
3. FAA documentation for all repairs accomplished.