

ATTACHMENT J-2

STATEMENT OF WORK

FOR THE

CHECKOUT, ASSEMBLY AND PAYLOAD PROCESSING SERVICES
(CAPPS)

CONTRACT OPTIONS

04-20-2004

CLIN #2: Option for CAPPS-led Integrated Systems Test (IST)

IST is an integrated test of a single ISS element's functionality and capabilities. The test demonstrates that element functionally interfaces with other ISS elements in a simulated on-orbit configuration. For purposes of the IST, functionality and capabilities of the other elements are simulated with emulators and other GSE.

The following major systems are commonly tested in an IST: Command and Data Handling (C&DH), Electrical Power System (EPS), Communications and Tracking (C&T), Guidance Navigation and Control (GN&C), Flight Software (FSW), Environmental Control and Life Support System (ECLSS), and Thermal Control System (TCS).

The ISS Program has approved a government-led IST for the Node 2 element; the CAPPS support to that activity is described in the SOW, Section 4.4. Additional ISS elements may receive similar testing, including COF, Node 3 and the Habitation Module.

This priced option describes additional contractor requirements and responsibilities inherent to leading and implementing a test of similar duration and complexity of a Node 2 IST.

In addition to those support roles and responsibilities described in SOW J-1 Section 4.0, the contractor shall:

- Develop and update an IST implementation plan for government approval
- Develop, update and perform the IST integrated WADs to satisfy approved requirements
- Coordinate engineering and operations
- Conduct the IST
- Document, disposition, resolve and close all IST anomalies

CLIN #3: Option for CAPPS-led Multi-Element Integrated Test (MEIT)

MEIT is an integrated test of multiple ISS element functionality and capabilities distributed to other elements. The functionality and capabilities of the other ISS elements are simulated with emulators and other GSE.

The following major systems are commonly tested in an MEIT: Command and Data Handling (C&DH), Electrical Power System (EPS), Commanding and Telemetry (C&T), Flight Software (FSW) and Thermal Control System (TCS).

The government is currently developing requirements for MEIT 3. Future MEITs may be identified.

The SOW describes basic contractor support responsibilities for ISS MEIT 3, which is lead by the government. This priced option describes additional contractor responsibilities inherent to leading the test and implementing MEIT 3.

In addition to those support roles and responsibilities described in SOW J-1 Section 4.0, the contractor shall:

- Update the MEIT 3 Implementation Plan for government approval
- Develop, update and perform the MEIT 3 integrated WADs to satisfy approved requirements
- Coordinate engineering and operations
- Conduct the MEIT 3
- Document, disposition, resolve and close all MEIT 3 anomalies

CLIN #4: Option for CAPPS- led Element Leak Test

The contractor shall re-activate the O&C west altitude chamber from the standby mode and perform a demonstration/validation of the altitude chamber at least 30 days prior to the scheduled use date.

The contractor shall perform element-level leak test in the O&C west altitude chamber per approved requirements. The contractor shall provide and operate test support equipment including, but not limited to:

- Altitude chamber
- Handling device
- Support equipment

The contractor shall support round-the-clock testing during chamber operations.

The contractor shall perform a risk mitigation gross leak test prior to the element leak test.

The contractor shall perform leak detection, perform isolation techniques to resolve anomalies with flight hardware and GSE and determine the element leakage rate. The contractor shall prepare and submit an element leak test report within 30 days of test completion.

The government will provide the necessary element interfacing adapters, calibration GSE, element leakage rate measuring GSE, temperature measuring GSE, and data recording system.

For the Columbus Module Element Leak Test, the contractor shall provide the following additional support:

- Test Planning (support requirements development, loads analysis and drawing development)
- Canister operations to support movement of the Columbus element between the SSPF and the Operations and Checkout (O&C) facility and return
- Columbus Weight and CG determination
- Test Performance
- Provide Huntsville Leak Test Engineering Support

CLIN #5: Option for Additional Ground Support Equipment Sustaining Engineering

The contractor shall perform additional sustaining engineering functions for the support equipment, software, and firmware identified in Attachment J-1 Appendix 5A. SOW Section 5.5.1 defines the baseline responsibilities for this equipment. The proposed pricing for the option includes those efforts above the baseline requirements in SOW Section 5.5.1.