

ATTACHMENT J-2

STATEMENT OF WORK

FOR THE

**CHECKOUT, ASSEMBLY AND PAYLOAD PROCESSING SERVICES
(CAPPS)**

CONTRACT OPTIONS

04-24-2002

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.

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.

CLIN #6: Option for Multi-Purpose Logistics Module (MPLM) Packing**Stowage**

The CAPPS contractor has full responsibility to perform this option with no government contribution.

The contractor shall perform stowage packing for each MPLM flight manifested including, but not limited to, provision of foam cushions and integration of stowage items into subassemblies (softpack bags, trays, drawers, etc) per program requirements and drawings provided by the stowage analytical integration contractor.

The contractor shall schedule, organize and conduct bench reviews involving flight crew, their representatives, hardware providers, and others, as agreed-to by the flight crew or their representatives. The bench review shall be completed and issues resolved prior to integration of the subassemblies into Resupply Stowage Racks (RSR), Resupply Stowage Platforms (RSP), or other rack types carriers.

A typical MPLM manifest consists of 9 total RSRs and RSPs. The RSR and RSP cargo complement consists of approximately 20% that are pre-packed at Houston facilities and require limited CAPPS prelaunch support to assist in integrating ship-shorts and subassembly closeouts. The contractor shall perform end-to-end stowage packing for the remaining 80%, including hardware and supplies for logistics, crew support and utilization.

Post-landing, the contractor shall receive all subassemblies removed from the MPLM, perform deintegration, and disposition those items per program requirements.

The contractor shall process trash returned from orbit. Tasks shall include but not be limited to:

- Deintegration of containers from carriers
- Disposition of properly labeled trash containers into the appropriate waste stream.
- Develop and implement contingency procedures to disposition improperly labeled waste/containers
- Develop and implement contingency procedures to clean-up and decontaminate spills and leaks that may occur in assigned processing areas.
- Comply with federal, state, program, and agency environmental regulations

The contractor shall provide all support services required to perform the required functions. These support services shall include but not be limited to provisioning, receiving, storage, and transportation of parts, spares, consumables, and other material and equipment to be stowed in bags and drawers.

The contractor shall provide janitorial services for the operational areas required to perform the required functions.

The contractor shall provide imagery support to the packing and Bench Review activities in accordance with program requirements.

Flight Hardware

The contractor shall operate and maintain the flight hardware listed in Table 1:

Table 1
Packing Flight Hardware

Item	Quantity
Cargo Transfer Bags (CTBs)	1015
Cargo Transfer Bag Trainer Units	20
M1 & M2 Bags	90
Trays - 10" Singles	24
Trays - 10" Doubles	24
Trays - 17" Singles	58
Trays - 17" Doubles	12
Trays - 17" Triples	16
Trays - 30" Singles	23
Trays - 30" Doubles	34
Trays - 30" Triples	16
Trays - 34" Singles	17
Trays - 34" Doubles	16
Trays - 34" Triples	21

Government Furnished Packing Support Equipment

The contractor shall operate, maintain, and sustain the equipment identified in Table 2. The equipment listed in Table 2 will be added to the GFP Appendices.

**Table 2
Packing Support Equipment**

ECN	MFG	ITEM NAME	MODEL #	SN	ACQ DOC	YR MANUF	FSC	BLDG
1508255	INTERMEC CORP	ACCESS POINT	00110A04	74800130	K0997M00083	1997	7025	M7360
1977843	FARO TECHNOLOGIES INC.	AUTOCAD ARM	R13	N/A	K07980144	1998	6675	M7360
1872513	INTERGRAPH CORP	COMPUTER	TDZ325	H245XY	K07980053	1997	7021	M7360
0872545	NETWORK CONNECTION	COMPUTER	386-3000	6W9119250A0418C001	0M030001	1990	7021	M7360
1978105	IBM	COMPUTER, NOTEBOOK	760XL	78-W2195	K07980144	1998	7021	M7360
1872518	INTERGRAPH CORP	MONITOR, 21"	TX-D1F63W	FA7551678	K07980053	1997	7025	M7360
1507882	BRUNSON INSTRUMENT CO	PROBE, BETS	SO8/REV16	S08029700619	K4597M00002	1997	6650	M7360
1507562	PRECISION AUTOMOTION	ROUTER SYSTEM, CONSOLE-VACUUM	PA1000	97002	K0996M00072	1997	3408	M7360
1978432	DOALL CO	SAW, BAND	2013V	500982094	K24980618	1998	3220	M7360
0046139	INTERMEC CORP	SCANNER, BAR-CODE	2020	97112500792	K0997M00083	1997	7025	M7360
0046140	INTERMEC CORP	SCANNER, BAR-CODE	2020	97112500754	K0997M00083	1997	7025	M7360
0657005	JOHN F KENNEDY SPACE CENTER	STAND	79K21274	12626	87N0046	1981	6650	M7360
1507536	NILFISK OF AMERICA INC	VACUUM SYSTEM	GM81	9633-00028545	K6897M00072	1996	7910	M7360
1506976	AMI INSTRUMENTS INC	CPU, PENTIUM	ATLAS120	CDS9636398	K0796M00254	1996	7021	M7360
1028377	HEWLETT-PACKARD CO	PRINTER, COLOR	C1602A	2934A06430	0M030001	1990	7025	M7360
2019003	HEWLETT PACKARD	PRINTER, LASERJET	C2685A	SG9AR130XX	K07000120	2000	7025	M7360
1144688	HEWLETT-PACKARD CO	PRINTER, LASERJET	C2001A	USTC014981	3M69T246	1993	7025	M7360
0046138	INTERMEC CORP	SCANNER, BAR-CODE	2020	97112500784	K0997M00083	1997	7025	M7360
1653887	SYSTRAN CORP	SWITCH, BUS EXCHANGE	NA	148	K07000238	2001	5895	M7360
1377617	MAG INNOVISION INC	MONITOR, COLOR, 15"	DX15FG	MA3344008027	K6995M00336	1995	7025	M7360
1508256	INTERMEC CORP	ACCESS POINT	00110A04	74800107	K0997M00083	1997	7025	M7360
1122819	AMI INSTRUMENTS INC	COMPUTER	20000000I	0892-3696	1M53T054	1992	7021	M7360
1980607	GETAC INC	COMPUTER SYSTEM, DIGITAL	NX5037	7301595	99N0137	1998	7010	M7360
1378289	AMI INSTRUMENTS INC	CPU, PENTIUM	ATLAS120	CDS9632233	K0796M00254	1996	7021	M7360

ECN	MFG	ITEM NAME	MODEL #	SN	ACQ DOC	YR MANUF	FSC	BLDG
1376109	CHESTER HOIST/NORTEK FORMERLY	HOIST, 1-TON	130-1	6489	95N0065	1994	3950	M7360
0690609	DAYTRONIC CORP	INDICATOR	9530A	223	87N0047	1982	6625	M7360
1978593	DELL COMPUTER CORP	MONITOR, 17"	1000HS	8331581	K07980204	1998	7025	M7360
1507609	OHAUS SCALE CORP	SCALE, DIGITAL	B150S	IK02288	K6897M00137	1997	6670	M7360
1507610	OHAUS SCALE CORP	SCALE, DIGITAL	B150S	IK02289	K6897M00137	1997	6670	M7360
1507611	OHAUS SCALE CORP	SCALE, DIGITAL	B150S	IK02273	K6897M00137	1997	6670	M7360
1507612	OHAUS SCALE CORP	SCALE, DIGITAL	B150S	IK02193	K6897M00137	1997	6670	M7360
1507613	OHAUS SCALE CORP	SCALE, DIGITAL	B150S	IK02295	K6897M00137	1997	6670	M7360
1507614	OHAUS SCALE CORP	SCALE, DIGITAL	B150S	IK02290	K6897M00137	1997	6670	M7360
1507615	OHAUS SCALE CORP	SCALE, DIGITAL	B150S	IK02271	K6897M00137	1997	6670	M7360
1507616	OHAUS SCALE CORP	SCALE, DIGITAL	B150S	IK02294	K6897M00137	1997	6670	M7360
1507617	OHAUS SCALE CORP	SCALE, DIGITAL	B150S	IK02296	K6897M00137	1997	6670	M7360
1507618	OHAUS SCALE CORP	SCALE, DIGITAL	B150S	IK02272	K6897M00137	1997	6670	M7360
1507619	OHAUS SCALE CORP	SCALE, DIGITAL	B150S	IK02237	K6897M00137	1997	6670	M7360
1507620	OHAUS SCALE CORP	SCALE, DIGITAL	B150S	IK02236	K6897M00137	1997	6670	M7360
0046137	INTERMEC CORP	SCANNER, BAR- CODE	2020	97112500750	K0997M00083	1997	7025	M7360
1032200	PACKAGING AIDS CORP	SEALER MACHINE, VACUUM BAG	PV-30	S10D002	0M620516	1990	3540	M7360
0658081	JOHN F KENNEDY SPACE CENTER	TABLE, WEIGHT & BALANCE	C70-1382	NONE	87N0047	1982	1850	M7360
1507537	NILFISK OF AMERICA INC	VACUUM SYSTEM	GM81	9633-00028553	K6897M00072	1996	7910	M7360
2025057	REM INC	VERTICAL STORAGE UNIT	SHUTTLE 925X876X4800	94.010195/004	K39940003	1994	7125	M7360
2025058	REM INC	VERTICAL STORAGE UNIT	SHUTTLE 925X876X4800	94.010191/001	K39940003	1994	7125	M7360
2025059	REM INC	VERTICAL STORAGE UNIT	SHUTTLE 925X876X4800	94.010191/003	K39940003	1994	7125	M7360
2025060	REM INC	VERTICAL STORAGE UNIT	SHUTTLE 925X876X4800	94.010191/002	K39940003	1994	7125	M7360
1872602	INTERGRAPH CORP	MONITOR	TX-D2151W	FC5540366	K0795M00340	1995	7025	M7360
0658039	DAYTRONIC CORP	MAINFRAME	9030	223	87N0047	1982	6625	M7360
1377388	DAYTRONIC CORP	PRINTER	6410J	63804224	87N0047	1983	7025	M7360

ECN	MFG	ITEM NAME	MODEL #	SN	ACQ DOC	YR MANUF	FSC	BLDG
1508258	INTERMEC CORP	ACCESS POINT	00110A04	74800159	K0997M00083	1997	7025	M7360
1506987	AMI INSTRUMENTS INC	CPU, PENTIUM	ATLAS120	CDS9636401	K0796M00254	1996	7021	M7360
1978850	HEWLETT PACKARD	PRINTER,LASERJ ET	C4172A	SUSCB014059	K07990061	1999	7025	M7360
1978026	EG&G ASTROPHYSICS RESEARCH	X-RAY MACHINE	SYS107E	57889	K15980131	1998	6635	M7360
1507022	AMI INSTRUMENTS INC	CPU, PENTIUM	ATLAS120	CDS9636400	K0796M00254	1996	7021	M7360
1507482	MAG INNOVISION INC	MONITOR, 17"	DX700T	MH52GC001601	K0797M00019	1996	7025	M7360
1978865	INTERGRAPH CORP	MONITOR, 21"	TX-D2151W	FC5141244	K0795M00174	1995	7025	M7360