

Task Order Plan (TOP)

Contract Number: NNM05AB50C
TO Title: UPA FCA Support
TO Number: 37-030205 **Revision:** 05

Period of Performance: 10/02/2010 to 09/30/2011

MSFC Initiator: Phyllis Smith

(b)(4)

Emergency: No

Revision 05: The purpose of this revision is to extend this task into Contract Year 6 of the NNM05AB50C ESTS contract. This revision defines and estimates work for the period October 2, 2010 through September 30, 2011. Additionally, the Schedule, Performance Plan and Risk Assessment have been revised to reflect changes in task activities for the new period of performance. The sub-elements have been renamed to conform to the project/program naming convention that has been established for FY11.

Sub-element #	Previous Sub-element #	Sub-element Title	WBS	Status
37-030205-JA	37-030205-02	UPA FCA Sustaining Support	401769.06.03.03.02.07	Added with Rev 01
37-030205-JB	37-030205-01	UPA FCA STaR Support	401769.06.08.02.04.05	Added with Rev 00

Revision 04: The purpose of this Task Order (TO) revision is to reflect changes in scope of work based on the elimination of I-Level (UPA FCA Sustaining Support) task work and increased level of UPA FCA STaR support. Minimal continued effort is expected throughout the contract year for sub-element -02 for other UPA FCA sustaining support. The hourly estimate for sub-element -02 was decreased by 703 hours. The hourly estimate for sub-element -01 was increased by (b)(4) due to an increase in customer requested UPA FCA STaR support.

Revision 03: The purpose of this revision is extend this task into Contract Year 5 of the NNM05AB50C ESTS contract. This revision defines and estimates work for the period October 3, 2009 through October 14, 2010. Additionally, the Schedule, Performance Plan and Risk Assessment have been revised to reflect changes in task activities for the new period of performance. This revision affects the following ISS Projects: Environmental Control Life Support System (ECLSS) (sub-elements 01 and 02).

Revision 02: The purpose of this Task Order (TO) revision, -02, is to increase the hourly estimate for sub-element -01 by (b)(4) and to decrease the hourly estimate for sub-element -02 by (b)(4) due to changes in planned support. ODC estimate of (b)(4) for recruiting and relocation on sub-element -01 was deleted as local candidates were hired.

Revision 01: This revision adds sub-element -02 to this Task Order for sustaining engineering support to the International Space Station (ISS) Environmental Control Life Support Subsystem (ECLSS) Urine

Processing Assembly (UPA) Ground Support Equipment (GSE). Sub-element -01 scope was reduced with labor decreased by (b)(4) and relocation expenses were reduced by (b)(4)

Revision 00: The purpose of this Task Order is to provide support for the Firmware Controller Assembly of the Urine Processor Assembly under the ECLSS STaRS Project as part of Contract Year 4 of the NNM05AB50C ESTS contract. This effort will be managed under Sub-element -01.

1.0 Task Order Description & Objectives

Sub-element -JA UPA FCA Sustaining Support

The objective of this sub-element is to provide support for development, integration, and test of software modifications to the UPA GSE Special Test Equipment (STE) and developmental hardware. This support will include modifying and enhancing existing Special Test Equipment for Firmware Control Assembly Interfaces (STEFI) code as well as the Graphical User Interface (GUI) software. Support will include maintenance and possible changes to STEFI Rack # 1, # 2, # 3 as well as future STEFI racks code and test support to re-verify the system. Also included is support to the acceptance of the software package, software documentation as required by the project, and integrated rack test planning, performance, and reporting, assist with the testing of FCA from board level through (ORU) level. Support will also include I-Level Maintenance to be performed on the FCA and may include participation in the writing of test procedures, developing, bread boarding and testing hardware for on orbit check out of the FCA.

Sub-element -JB UPA FCA STaR Support

The ECLSS STaRS Project is tasked to provide spare On-orbit Replaceable Units (ORUs) for the ECLSS Water Recovery System (WRS) on ISS due to Shuttle Retirement. The Urine Processor Assembly is a major assembly of the WRS. The Firmware Controller Assembly (FCA) is comprised of the Data Module (DM) and Power Module (PM). The purpose of this task is to assist with the testing of FCA from board level through (ORU) level.

2.0 Technical Approach (Including required input, guidelines & assumptions)

The Jacobs ESTS Group will provide support to ES32 to assist the ORU owner in performing tasks such as: printed circuit board (motor controllers, heater driver boards, external current excited sensor boards, internal current excited sensor boards) testing, functional and environmental testing of the sub-assemblies (Data and Power Module), Firmware Controller level testing, EEE parts usage tracking and management, test procedures revisions / updates and other related activities. Testing requirements and activities will be coordinated with various groups (Quality, Environmental test groups) to schedule, test, and close out procedures.

The Jacobs ESTS Group will also provide support to ES32 for the selection of the tester hardware where that hardware would have an impact on the code modification or development process, evaluation of the planned upgrades to the STEFI rack, evaluation of test performance on STEFI Rack # 1 & # 2 to determine if updates are needed, updates to the GUI interface, software (GUI & tester code) development and upgrade, documentation of the changes applied and provide tracking and traceability for those changes, integration of the software into the tester hardware when available, performance of tests for development and acceptance, documentation of the test results in report format, and documentation of the code in program requested documentation.

The Jacobs ESTS Group will perform the work described above using standard office automation software including Microsoft Project, Excel, Word and PowerPoint. The Internet will be used to obtain NASA standards, military standards, and contractor documents as appropriate. Software development will be performed utilizing Labview.

The ESTS Group will support ECLSS STEFI Rack Team meetings, ES32 Team meetings, applicable project reviews, and Technical Interchange Meetings (TIMs) as necessary to fulfill the responsibilities of this sub-element.

3.0 Discussion of Skills Required

Sub-element -JA UPA FCA Sustaining Support

This Task Order sub-element requires junior level engineers with a Bachelor of Science degree in Electrical Engineering with training in control system / analog design and digital design, proficient with the Microsoft Project, Excel, and Word and Labview. Knowledge of the ISS ECLSS UPA STEFI system is a plus.

Sub-element -JB UPA FCA STaR Support

This Task Order sub-element requires junior level engineers with a Bachelor of Science degree in Electrical Engineering with training in control system / analog design and digital design. Experience with printed circuit board testing is desired.

4.0 Special Tools Required

None.

5.0 Participating Subcontractors

None.

6.0 Milestones & Deliverables

Monthly Activity Reports, updates to MSFC monthly review charts, and input to project documentation is expected. Informal weekly status will be provided to the ORU owner. Specific activities will be scheduled to support the ES32 schedule.

Participate as required in the delivery of FCA SN 003, SN 004.

7.0 Special Considerations (Recruiting, Special Equipment / Material, Safety, etc.)

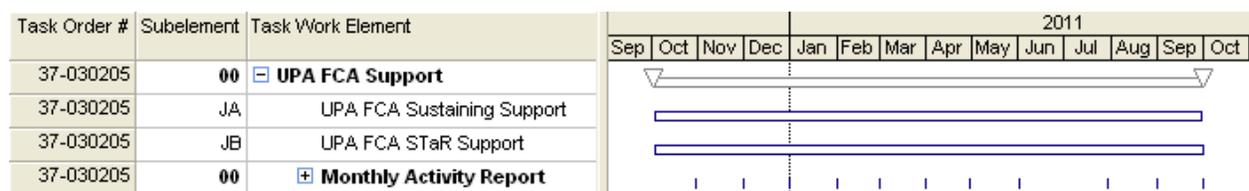
None.

8.0 Work Shelf

The following activities could be accomplished as part of the Task Order performance by personnel that are temporarily available due to program or funding delays on other Tasks. Specific assignments will be coordinated with the Task Initiator to ensure appropriate skills and experience.

TO/Subelement	Description	Due Date	Skill
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9.0 Schedule



ESTS Contract Task Order Request Performance Plan

Task Order Title: [UPA FCA Support](#)

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Category	Weighting Technical %	End of Period Technical Score
Technical Objectives	65%	X 65% = Justification
Assist with the board level, Data Module, Power Module testing, tracking and managing of EEE parts, revising and updating of test procedures and other support activities of UPA hardware for the FCA		
Schedule Objectives (Milestones)	Weighting Schedule % 10% (min 10%)	Schedule Score X 10% = Justification
Provide timely support for various tasks.		
Cost (actual vs. negotiated)	Weighting Cost % 25% (min.25%)	Cost Score X 25% = Justification
	Weighting Total % 100.00%	Total Score

Technical, Schedule, and Cost Grading Scale

Score	Description
9.0-10.0	Exceeded TO Performance Plan objectives resulting in major benefit(s)
8.0-8.9	Exceeded TO Performance Plan objectives resulting in modest benefit(s)
7.0-7.9	Met TO Performance Plan objectives
3.0-6.9	Did not meet all TO Performance Plan objectives resulting in minimal impact or requiring additional agency funds
0.0-2.9	Did not meet TO Performance Plan objectives resulting in substantial impact and/or requiring additional agency funds

ESTS Contract Task Order Request Performance Plan

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Comments:

Risk Assessment

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Task Order Risk Assessment to Cost, Technical, and Schedule

List identified risk associated with Task Order performance as related to task cost, technical, and schedule. Classify the risk(s) according to probability of occurrence and impact as defined below and enter the risk into risk matrix.

Risk	Risk Type	Probability (1-4)	Impact (1-4)	Risk Description
Risk C1	Cost			No cost risk identified.
Risk C2	Cost			
Risk T1	Technical			No technical risk identified.
Risk T2	Technical			
Risk S1	Schedule			No schedule risk identified.
Risk S2	Schedule			

*Note: See page 2 for risk mitigation plan for those risks which are Primary Risk Drivers.

