

Task Order Plan (TOP)

Contract Number: NNM05AB50C
TO Title: Mechanical Components Test Facility (MCTF) Support
TO Number: 37-060103 **Revision:** 04

Period of Performance: 10/02/2010 to 12/31/2010

MSFC Initiator: Linda Jeter

(b)(4)

Emergency: No

Revision -04

Due to a change in scope, in that no further support is requested on subelement –JA as the second ECLSS leak testing line is closing, this revision closes the Task Order effective December 31, 2010. The labor estimate on subelement –JA was reduced by (b)(4) with a total reduction in cost of (b)(4). The Schedule has been revised reflecting the closure of this task order. All task order objectives have been met during this period of performance.

Revision -03

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.

This revision affects the programs listed in the table below:

Subelement	Previous Subelement	WBS	Program
JA	01	401769.06.08.02.04.05	ISS

The -01 subelement has been redesignated to conform to the project/program numbering convention that has been established for FY11.

Subelement –CA was administratively closed on July 3, 2010.

Revision -02

The purpose of this revision is to 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 APO element, Upper Stage (subelement -CA) ARES I Common Bulkhead (CB) Structural Development Activities. This revision also affects the following Science program (subelement -01), Environmental Control and Life Support System (ECLSS) Orbital Replacement Unit (ORU) Activities. The active subelements are now:

Sub-element Mapping and WBS funding:

Subelement	WBS
37-060103-01	401769.06.08.02.04.05
37-060103-CA	136905.08.05.12.03.08

Revision -01

The purpose of this revision is to update the cost estimate to include a hiring bonus in lieu of relocation expenses. ODC has been altered to reflect a hiring bonus of (b)(4). Travel and/or material estimates were not altered. The Schedule, Performance Plan and Risk Assessment have not been revised since there are no expected changes in task activities for this period of performance. The active subelements are now:

Sub-element Mapping and WBS funding:

Subelement	WBS
37-060103-01	401769.06.08.02.04.05
37-060103-CA	136905.08.05.12.03.08

Revision -00

This Task Order (TO) establishes support for leak, proof, and pressure testing at the MCTF for the Engineering Directorate. The TO consists of subelements associated with the following specific projects and programs in the Space Systems Department:

- Subelement 01: Environmental Control and Life Support System (ECLSS) Orbital Replacement Unit (ORU) Activities
- Subelement CA: ARES I Common Bulkhead (CB) Structural Development Activities

Sub-element Mapping and WBS funding:

Subelement	WBS
37-060103-01	401769.06.08.02.04.05
37-060103-CA	136905.08.05.12.03.08

1.0 Task Order Description & Objectives

The objective of this TO is to provide engineering support for leak, proof, and pressure testing in support of qualification, acceptance, and development testing of flight payloads, experiments, and components for ECLSS ORU. Support includes testing of articles; expert authority and technical adviser relative to test engineering encompassing pressure, leaks and seal disciplines; creating, writing and implementing test procedures; vacuum and pressure leak and proof testing; mechanical fabrication; mechanical assembly; tubing fabrication; flare and compression fittings; computer operations and data acquisition systems; participation in MCTF reviews and meetings; and other engineering functions as needed to accomplish the successful testing and operation of the MCTF.

Subelement –01, ECLSS ORU Leak Test Activities (Re-designated –JA by Rev. 03)

Subelement –CA, Ares I Common Bulkhead Structural Development Activities (Administratively closed on July 3, 2010)

Subelement –JA, ECLSS ORU Leak Test Activities

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

Engineering support for the MCTF will be provided and tracked as defined in the following subelement:

Subelement -JA: Test engineering support for the ECLSS ORU effort includes but is not limited to: support of customer pre-test, test and post-test activities; procedure writing; test documentation; participation in ECLSS ORU reviews and meetings; operation of Ground Support Equipment (GSE); testing of the Recycle Filter Tank Assembly (RFTA), Pressure Control and Pump Assembly (PCPA), Fluids Control and Pump Assembly (FCPA), Separator Plumbing Assembly (SPA), Distillation Assembly (DA), and the Wastewater Storage Tank Assembly (WSTA). Required inputs for this subelement include system and test requirement information as well as timely delivery of test and support hardware.

3.0 Discussion of Skills Required

This task requires a senior level engineer with a BS degree in Mechanical Engineering and experience in vacuum and pressure testing. Also, a familiarity with the operation of helium mass spectrometers and how to perform numerous proof and leak tests with test articles under cryogenic cooling is desirable.

4.0 Special Tools Required

None.

5.0 Participating Subcontractors

None.

6.0 Milestones & Deliverables

Subelement -JA: Deliverables in support of ECLSS ORU testing to include test of hardware, test plans, test procedures, test reports, inputs to the MAR, and trip reports.

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

Task Order	s/e	Task Work Element	2011				
			Sep	Oct	Nov	Dec	Jan
37-060103	00	Mechanical Components Test Facility (MCTF) Support	▼				
37-060103	JA	Environmental Control and Life Support System (ECLSS) Orbital Replacement Unit (ORU) Activities					
37-060103	00	Monthly Activity Report					

ESTS Contract Task Order Request Performance Plan

Task Order Title: [Mechanical Components Test Facility \(MCTF\) Support](#)

Task Order Number: [37-060103](#) Revision: 04

Category	Weighting Technical %	End of Period Technical Score
Technical Objectives	65%	X 65% = Justification
Recycle Filter Tank Assembly (RFTA) Pressure Control and Pump Assembly (PCPA) Fluids Control and Pump Assembly (FCPA) Separator Plumbing Assembly (SPA) Distillation Assembly (DA) Wastewater Storage Tank Assembly (WSTA)		
Schedule Objectives (Milestones)	Weighting Schedule % 10% (min 10%)	Schedule Score X 10% = Justification
Milestones as determined by the Projects shall be accomplished		
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

Task Order Number: [Mechanical Components Test Facility \(MCTF\) Support](#)

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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 risks have been identified for this Task Order.
Risk C2	Cost			
Risk T1	Technical			No technical risks have been identified for this Task Order.
Risk T2	Technical			
Risk S1	Schedule			No schedule risks have been identified for this Task Order.
Risk S2	Schedule			

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



