

Task Order Plan (TOP)

Contract Number: NNM05AB50C

TO Title: *Inspection and Repair of ISS PMM emblems for STS133/ULF5*

TO Number: 37-010307 **Revision:** 01

Period of Performance: 10/02/2010 to 11/30/2010

MSFC Initiator: Wendy Hulgan

(b)(4)

Emergency: YES

Revision 01: 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 November 30, 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 Science program(s) or Project(s): International Space Station (ISS) Permanent Multipurpose Module (PMM).

Revision -00: This Task Order (TO) is new work to be performed in CY5 of the NNM05AB50C ESTS contract. This revision defines and estimates work for the period September 22, 2011 through October 1, 2010. The cost estimate for this task is approximately (b)(4) and subcontractor invoicing will be billed in Contract Year 6 (CY6). The remainder of this estimate will be placed on a CY6 TO revision due to subcontractor invoicing. (b)(4) hours of ESTS management hours are estimated on this TO Revision -00 with an additional (b)(4) hours expected to be estimated for ESTS management along with the subcontractor costs on the TO Revision -01 for CY6. This revision affects the following Science program(s) or Project(s): International Space Station (ISS) Permanent Multipurpose Module (PMM).

| Sub-element | Sub-element Title | WBS | Status |
|--------------|-----------------------|--------------------|--------------------|
| 37-010307-JA | Inspection and Repair | 401769.06.02.02.01 | Added with Rev -00 |

1.0 Task Order Description & Objectives

This Task Order provides for the emergency repair of the ISS PMM emblems for the STS133/ULF5 mission.

Sub-element -JA

This sub-element provides support to the ISS PMM to be launched on the upcoming Shuttle mission STS133/ULF5. There is one (1) NASA and two (2) ASI emblems which are planned to be installed that were originally manufactured by (b)(4) for the ISS Nodes project. These emblems have been delivered to NASA for installation on the PMM. However, during storage and handling the emblems experienced damage/degradation (reference KSC PR 013864) which must be inspected and repaired before they can be approved for installation. It has been noted by ASI and NASA personnel that all three of the logos has some flaking of the Z93 coating in the white background area. Based on the review of the photos from the damaged emblems; the team believes that the damage happened during

to the handling of the emblems during the attempts to remove the backing protecting the 966 adhesive or during storage of the emblems. In order for the emblems to be installed on the ISS PMM the sub-contractor is requested to perform the following activities:

- 1) Conduct a detailed inspection of the three (3) Emblems will be performed
 - a. Identify the extent of the visible damage
 - b. Inspect and remove the backing of the emblem (paper covering the 966 adhesive).
 - c. Conduct a paint adhesion test. This test will be performed over the entire emblem surface and will remove any loose coating from the emblem.

Based on the results of the inspection and test (supported by NASA M&P personnel) a recommendation on the reparability of the emblems will be made to NASA and NASA will provide direction to proceed with part 2) for repairs to the emblems.

- 2) If the emblems are to be repaired:
 - a. All loose coating will be removed from the emblems
 - b. If required, a new layer of 966 adhesive will be applied. The additional layer of 966 will not impact the installation of the emblems.
 - c. A new coating will be added to the damaged areas. The new coating will not overlap the existing coating. This coating is water-based and the watermarks will not be visible.

Following the required cure time, the emblems shall be tested again to confirm that there are not any loose particles.

The estimate for completion of this effort is 7 days.

Emblems will go through final inspection. If the emblems pass the final inspection and will be installed on the PMM by the personnel doing the repairs.

Identification of emblems to be inspected and repaired:

- 1320ND221 - NASA Logo Small (for Cupola side of PMM element)
- 1320ND225 - ASI Logo Small (for Cupola side of PMM element)
- 1310ND903 - ASI Logo Large (for Backside of PMM element)

Identification of GFE to be provided

- 966 3M adhesive
- one bottle of high purity N2 for all the work
- Laboratory space at KSC SSPF

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

The Jacobs ESTS Group will perform the work described above utilizing competent technical support from experienced subcontractors with good working knowledge of the inspection and repair processes required.

3.0 Discussion of Skills Required

This Task Order requires technicians supporting this task to be at (b)(4) and knowledge of the ISS PMM as well as inspection processes and repair processes using 93 coatings as well as use of 966 adhesive.

4.0 Special Tools Required

None.

5.0 Participating Subcontractors

(b)(4)

6.0 Milestones & Deliverables

Monthly Activity Reports, updates to MSFC Space Systems Department Systems Engineering & Integration Branch monthly review charts, and project documentation as determined by project or MSFC Space Systems Department Systems Engineering & Integration Branch.

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/Sub-element | Description | Due Date | Skill |
|----------------|-------------|----------|-------|
|----------------|-------------|----------|-------|

9.0 Schedule

| Task Order # | Subelement | Task Work Element | Sep | Oct | Nov | Dec |
|--------------|------------|---|-----|-----|-----|-----|
| 37-010307 | 00 | <input type="checkbox"/> Inspection and Repair of ISS PMM emblems for STS133/ULF5 | | | | |
| 37-010307 | JA | Inspection and Repair | | | | |
| 37-010307 | 00 | <input type="checkbox"/> Monthly Activity Report | | | | |

ESTS Contract Task Order Request Performance Plan

Task Order Title: [Inspection and Repair of ISS PMM emblems for STS133/ULF5](#)

Task Order Number: [37-010307](#) Revision: 01

| Category | Weighting Technical % | End of Period Technical Score |
|--|--|---|
| Technical Objectives | 65% | X <u>65%</u> = <u>0.00</u> Justification |
| -Identify extent of damage to three ISS PMM emblems. -Inspect and remove the backing of the emblem (paper covering the 966 adhesive). - Conduct paint adhesion test. - If repair of three emblems is recommended and required; repair, re-inspect, and install emblems. | | |
| Schedule Objectives (Milestones) | Weighting Schedule % <u>10%</u> (min 10%) | Schedule Score X <u>10%</u> = <u>0.00</u> Justification |
| Activities must be complete no later than October 1, 2010. | | |
| Cost (actual vs. negotiated) | Weighting Cost% <u>25%</u> (min.25%) | Cost Score X <u>25%</u> = <u>0.00</u> Justification |
| | | |
| | Weighting Total % <u>100.00%</u> | Total Score <u>0.00</u> |

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: [Inspection and Repair of ISS PMM emblems for STS133/ULF5](#)

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Comments:

Risk Assessment

Contract Number: NNM05AB50C

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TO Number: 37-010306 **Revision:** 01

Period of Performance: 10/02/2010 to 11/30/2010

MSFC Initiator: Wendy Hulgan

(b)(4)

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.



