PAYLOAD TECHNICAL SUPPORT FOR
ULTRA HIGH FREQUENCY FOLLOW-ON
SATELLITE PROGRAM

STATEMENT OF WORK
01 December 2010

1.0 INTRODUCTION

The Program Executive Office (PEO) Space Systems (PEO SS) in conjunction with the Navy Communications Satellite Program Office (PMW 146) is acquiring technical operational support services for the Ultra High Frequency (UHF) Follow-on (UFO) Satellite Program.

1.1 BACKGROUND

PEO SS serves as the DoN space program executive officer as called for in the National Security Space Acquisition Policy (NSSAP 03-01). PEO SS is also responsible for influencing the design, acquisition, and operation of national security space programs in order to provide a full spectrum of on-orbit capabilities in support of open-ocean, littoral, and joint land operations. PMW 146's mission is to develop, acquire, integrate, produce, launch, test and provide operational support for fielded narrowband satellite communication systems supporting Department of Defense (DoD) and the U.S. agencies to enable joint, coalition, combined, and naval operations. PMW 146 manages the acquisition and support of narrowband satellite communication systems for the Department of the Navy.

UFO is a constellation of eight geo-synchronous communications satellites providing tactical narrowband UHF SATCOM to all of DoD and other government agencies that achieved Initial Operational Capability in 1993 and Full Operational Capability (FOC) in 2000.

2.0 SCOPE

The contractor shall provide technical operational support services for UFO satellite systems, subsystems, and payloads to extend the life span of the Ultra High Frequency (UHF) Follow-On (UFO) Military Satellite Communications (MILSATCOM) constellation to meet operational requirements and will provide technical feedback and analysis concerning best practices for maintaining the health of the aging UFO constellation. Specific knowledge and experience includes:

Communications Payload Subelement

- UHF Subsystem
- SHF Subsystem
- EHF Subsystem
- SGLS Subsystem

- GBS Subsystem

Spacecraft Subelement

- Structural Subsystem
- Telemetry and Command Subsystem
- Propulsion Subsystem
- Attitude Control Subsystem
- Power Subsystem
- Thermal Control Subsystem

3.0 APPLICABLE DIRECTIVES/DOCUMENTS

The Contractor shall adhere to the following documents:

Document Type	Nr/Version	Title	Date
DoD Directive	NSSAP 03-01	National Security Space Acquisition Policy	27 Dec 04
DoD Instruction	8510.01	DIACAP	28 Nov 07
Regulation	JTR	DoD Civilian Personnel Travel	01 Jan 09
DoD Manual	5000.4-M-1	DoD Contractor Cost Data Reporting manual	16 Apr 1999
SPAWAR Instruction	5721.1	Electronic and Information Technology (EIT) Section 508 Accessibility Standards	18 Jan 02
SPAWAR	Guide	SPAWAR Systems Engineering Guide	October 2004

4.0 DESCRIPTION

The contractor shall provide personnel, material and administrative resources to accomplish the technical tasks or studies assigned in support of the UFO Satellite Program.

4.1 ONGOING TECHNICAL ANALYSIS TASKS (CLIN 0001)

The contractor shall provide analysis on issues relating to satellite systems, subsystems and payloads; and provide oral and written technical feedback concerning best practices for maintaining the health of the satellite. The formal feedback shall be written and contain comments concerning issues that potentially undermine the health and welfare of the satellite, subsystems and/or payloads and recommended mitigation actions.

The following steps are to be taken to perform these tasks:

1. The contractor shall monitor task progress and manage labor assignments to

insure that the tasks are completed in a timely manner. Deliverable: CDRL A001

2. The contractor shall monitor battery temperatures and pressures during eclipse seasons and recommend changes to battery pressure biases, recharge method, etc. (8 spacecraft x 10 eclipses per eclipse season). Deliverable: CDRL A002.
3. The contractor shall monitor maneuvers on power-challenged spacecraft, and recommend changes in operating procedures, i.e., leave payload units powered on or turn off units during maneuver (8 spacecraft x 8 maneuvers per year). Deliverable: CDRL A003.
4. The contractor shall prepare and recommend a plan to prepare batteries for the eclipse season. Review battery pressures and temperatures one month prior to start of eclipses, and recommend actions by NAVSOC; e.g., perform top-off charging starting two weeks before the first eclipse, split charging, reduce loads during eclipse, etc. (8 spacecraft x 2 eclipse seasons). Deliverable: CDRL A004.
5. The contractor shall review thermal performance of the spacecraft monthly, to observe and analyze any thermal trends or changes (8 spacecraft x 12 times per year). Deliverable: CDRL A003.
6. The contractor shall review solar tacking, pointing, and power performance of spacecraft monthly, to observe and analyze any trends or changes in order to optimize solar array performance (8 spacecraft x 12 times per year). Deliverable: CDRL A003.

4.2 SPECIAL STUDIES (CLIN 0002)

When tasked, the contractor shall conduct special studies concerning satellite health improvement and/or life extension. For each special study requested by PMW 146, the contractor shall submit within 10 business days a brief description and Firm Fixed Price estimate for approval by PMW 146 prior to execution of the study. Potential studies may be recommended by the contractor and shall contain a brief description and ROM estimate for PMW 146 consideration. If approved, PMW 146 will request a Firm Fixed Price estimate from the contractor. Task Orders will be issued for each special study that PMW 146 approves. Deliverable dates and format will be specifically addressed in each task order.

5.0 DELIVERABLES/SCHEDULE

1. The contractor shall support activities authorized under this technical directive according to the following schedule:

CDRL Data Item No.	Deliverables by task:	Date
A001	1) Contractor's progress status and management report	Monthly, first 10 business days

A002	2) Recommended battery operations (biases, recharge method, etc.)	Once per eclipse season, 10 business days after last eclipse
A003	3) Updated spacecraft operational recommendations 5) Review of thermal performance 6) Review of solar tracking performance and recommended operations	Monthly, first 10 business days
A004	4) Battery preparation plan	21 calendar days before start of eclipse season

2. Deliverables for Special Studies (CLIN 0002) will be specifically addressed in each Task Order.

6.0 GOVERNMENT FURNISHED INFORMATION / GOVERNMENT FURNISHED EQUIPMENT

1. The following GFI will be provided to the contractor directly from Naval Satellite Operations Center (NAVSOC), the telemetry data required and dates are described below as they relate to each of the Ongoing Technical Analysis Tasks:

Task 2: F2 through F11 battery calibration data and longest eclipse power data from autumnal equinox, and vernal equinox, (10 days after longest eclipse)
Task 3: F2 through F11 power data after maneuver (including solar panel pointing angles) (10 days after maneuver)
Task 4: F2 through F11 power and battery data, (weekly starting 45 days before eclipse)
Task 5: F2 through F11 thermal data, monthly reports (10 business days after end of month)
Task 6: F2 through F11 solar tacking angles and power data (monthly, 10 business days after end of month)

2. GFI for Special Studies (CLIN 0002) will be specifically addressed in each Task Order

7.0 TRAVEL REQUIREMENTS

The Contractor may be required to perform travel in support of this contract. The Contractor shall obtain approval in writing for all travel prior to start of travel from the Contracting Officer's Representative (COR).