AN/TRC-XXX
Troposcatter Transmission (TROPO) System
Performance Work Statement (PWS)

30 November 2017

Prepared by:

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1. General

1.1. Scope

This Performance Work Statement (PWS) specifies the tasks and work requirements for the acquisition of all production equipment, engineering services, integration, testing, logistics, training, maintenance, configuration management, hardware & software sustainment, and support services required to support the Troposcatter Transmission system (TROPO). This requirement also includes the identification of spares, repairs, logistics documentation and technical refreshment proposals.

1.2. Background

The PM Tactical Network communications network provides the Army Warfighter with voice, data and full motion video imagery to enable decisive action in the tactical environment and into the Sustaining Base, utilizing primarily Commercial Off-the-Shelf (COTS) equipment. The PM Tactical Network TROPO is part of the modernization efforts needed for the Army's Beyond Line of Sight (BLOS) expeditionary network communications. The modernization of the Army networks includes increasing network capacity, improving system interoperability and adding flexibility to the network for the tactical formation. PM Tactical Network has a need to procure the next generation of TROPO system by way of hardware, spares, logistics, engineering support and other services. The TROPO system is a compact, portable and rapidly deployable tactical solution that supports tactical military missions by providing a critical communications solution. The system shall be easy to install and operate, and work in networked environments.

1.3. Order Type

The effort shall be proposed on Firm Fixed Price (FFP) basis for hardware using range quantities. Systems engineering, field support, training, and sustainment services will be purchased on a Cost Plus Fixed Fee (CPFF) basis.

1.4. Period of Performance / Place of Performance

The period of performance of this contract shall not exceed ten (10) years from date of award, against which delivery orders or task orders can be written. All equipment/material procurements, deliveries, installation, testing, training and final system acceptance shall be accomplished within the contract period of performance. It is anticipated that performance will take place at various Continental United States (CONUS) or Outside Continental United States (OCONUS) Contractor and Government sites.

1.5. Inspection and Acceptance

1.5.1. Inspection and Acceptance shall be at Origin by a delegated US Government Representative from each service for all equipment and materials procured in CONUS and delivered under this contract.

1.5.2. Origin is defined as the Contractor's facilities in CONUS.

1.5.3. Final Inspection and Acceptance at Origin will be IAW the Government approved Acceptance Test Plan.

1.5.4. USMC Unique Requirements:

1.5.4.1 The Contractor shall forward copies of signed DD250s (all Key Supporting Documentation KSDs) to Program Office.

1.5.4.2 Defense Contract Management Agency (DCMA) representative shall inspect for compliance with USMC "Gold Standard" marking requirement per Naval message DTG:201546Z Dec 16.

1.6. Government Contracting Officer Representative

The Government Contracting Officer Representative (COR) for this effort:

Name: Michael Wang

Organization: PM TACTICAL NETWORK

Address: 6010 Frankford Street

Aberdeen Proving Ground, MD 21005

Email: michael.wang3.civ@mail.mil

Phone: (443) 395-6593

1.7. GOVERNMENT FURNISHED EQUIPMENT (GFE), MATERIAL (GFM), INFORMATION (GFI), SOFTWARE (GFS)

1.7.1. The Government may furnish certain items of hardware and software for the performance of this contract. The Contractor shall provide the following report: Status of Government Furnished Equipment (GFE), GFE Inventory List, in accordance with (IAW) Contract Data Requirements List (CDRL) A001 and DI-MGMT-80269 as required. Submission of this report shall begin one month after receipt of GFE.

1.7.2. Access to TACTICAL NETWORK Test Bed/Lab assets located at Aberdeen Proving Grounds (APG) and other facilities shall be available if requested and coordinated with the COR to support efforts included in this delivery order. In addition, GFE, GFM and GFI may be provided to support future efforts.

1.7.3. The Contractor shall be accountable for all GFE IAW Federal Acquisition Regulation (FAR) Subpart 45.5 and FAR Clause 52.245-1. Additions, deletions, or substitutions may be initiated at the direction of the Contracting Officer. These changes shall be subject to equitable adjustment under the terms of FAR Clause 52.245-1.

1.7.4. Upon discovery of defective/broken/unsatisfactory GFE equipment, notification shall be submitted to government COR within 5 business days. Return/repair/replace procedures shall be provided to the contractor once the government is notified of the issue. In some cases, authorization may be given to the contractor for limited repairs on site.

1.8. General Security

The Contractor shall be required to have a SECRET facility clearance with appropriate SECRET safeguarding capability. The Contractor will not require access to Communications Security (COMSEC) information, Sensitive Compartmented Information (SCI) and Non-SCI, North Atlantic Treaty Organization (NATO), Foreign Government Information, and For Official Use Only (FOUO) information. Access to PM Tactical Network Security Classification Guide

(SCG) dated 15 Feb 2012 is required. The Government will sponsor the Contractor with access to the Secret Internet Protocol Router Network (SIPRNET) at Government's facility. In performing this contract, the Contractor shall receive, process and store classified material up to the SECRET level. There will not be a Telecommunications Electronics Material Protected from Emanating Spurious Transmissions (TEMPEST) requirement at the Contractor's facility. Additional Operations Security (OPSEC) requirements will be provided by the Government IAW AR 530-1, OPSEC. Use of the Defense Courier Service is authorized. OCONUS performance of this contract will be defined by the Contracting Officer's Representative (COR). Administrative duties will not require a clearance and shall require investigation for IT duties.

Foreign sub-Contractor participation will be handled IAW AR 380-10 (Technology, Transfer, Disclosure of Information & Contacts with Foreign Representatives), CECOM Regulation 380-16 (Industrial Security), National Disclosure Policy, and affiliated regulations and/or supplements (DTM) 09-019, "Policy Guidance for Foreign Ownership, Control, or Influence (FOCI)," 2 September 2009.

1.9. PUBLIC RELEASE

1.9.1. The Contractor is reminded that information identified as "UNCLASSIFIED" is not equivalent to "Approved for Public Release". Information covered by this contract is subject to arms control and export restrictions that may limit distribution. The Contractor must verify that proposed public releases do not contain information subject to control under the International Traffic in Arms Regulations (ITAR), the Militarily Critical Technologies List (MCTL), the Department of Commerce Controlled Commerce List (CCL), or other technology transfer statutes and regulations. The Contractor is reminded that DoD Regulation and US Statute impose severe criminal penalties for unauthorized transfer of controlled unclassified information (CUI). The Contractor must obtain approval for all public releases of information covered by this contract through the Government Contracting Activity (GCA) prior to disclosure.

1.9.2. The term "information" applies to, but is not limited to, articles, speeches, photographs, brochures, advertisements, displays, and presentations on any phase of this contract.

1.9.3. It is the responsibility of the Contractors to screen all information submitted by them or to them for determination of public release to ensure that it is both unclassified and technically accurate. Letters of transmittal must contain certification to this effect. Copies of material may not be released outside official channels until the review process is complete and approval has been granted. If information is found during the review process that is suspected of being classified, notification should be given to the holders of the document as to the degree of protection required. When doubt exists concerning the classified status of a proposed release pertinent to this contract, the Component Office of Primary Responsibility (OPR) for the Security Classification Guide(s) associated with this contract (see DD 254) will render the final decision. The material submitted for review must include a valid suspense date, if applicable.

1.9.4. Only information that has been reviewed and approved for public release by the GCA may be released. Information for public release that is revised or developed after initial approval must be resubmitted for review and further processing as outlined above.

1.9.5. Material requiring an export license shall not be entered into Security/Policy Review channels for public release approval in order to circumvent the licensing requirements of the Departments of State and Commerce. Participants shall comply with export laws and regulations relating to the exporting of items/information under this contract.

1.9.6. Contemplated visits of public media representatives shall receive prior coordination and approval from the GCA.

2. APPLICABLE DOCUMENTS

The following documents specified form a part of this contract to the extent specified herein. The most recent revision of the referenced document at the time of contract shall be used unless otherwise specified. The documents below, as may be updated, amended, or replaced from time to time, are some of the documents that shall apply to this order. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.1. Specifications, Standards, Handbooks (MIL)

2.1.1. MIL-PRF-29612B Training Data Products, dated 31 Aug 2001

2.1.2. MIL-PRF-63002L Requirements for Preparation of Modification Work Orders, 29 Apr 2013

2.1.3. MIL-STD-129R Military Marking for Shipment and Storage, 18 Feb 2014

2.1.4. MIL-STD-130N w/chg 1 Identification Marking of U.S. Military Property, dated 16 Nov 2012

2.1.5. MIL-STD-196F Joint Electronics Designation System, dated 11 Sep 2013

2.1.6. MIL-STD-882E Department of Defense Standard Practice for System Safety, dated 11 May 2012

2.1.7. MIL-STD-1472G Human Engineering, dated 11 Jan 2012

2.1.8. MIL-STD-1629A Procedures for Performing a Failure Mode Effects and Criticality Analysis, 24 Nov 1980

2.1.9. MIL-STD-3100A Technical Data Packages, 26 Feb 2013

2.1.10. MIL-STD-40051-2C Preparation of Digital Technical Information for Page-Based Technical Manuals (TMs), dated 15 Dec 2015

2.1.11. MIL-HDBK-61A Configuration Management Guidance, 7 Feb 01

2.1.12. MIL-HDBK-454B General Guidelines for Electronic Equipment, dated 15 Apr 2007

2.1.13. MIL-HDBK-502A Product Support Analysis, 8 Mar 2013

2.1.14. MIL-HDBK-1222F Guide to the General Style and Format of U.S. Army Work Package TMs, dated 15 Dec 2015

2.1.15. MIL-HDBK-2155 Failure Reporting, Analysis and Corrective Action System, dated 11 Dec 1995

2.1.16. MIL-STD-188-164B Interoperability of SHF Satellite Communication Terminals, dated 23 March 2012.

2.1.17. Department of Defense Joint Software Systems Safety Engineering Handbook, dated 27 August 2010.

Above referenced documents available at http://quicksearch.dla.mil/

2.2. Other Government Documents

2.2.1. Department of Defense (DoD) Regulations

DFARS 252.211-7003 Item Identification and Valuation, Jun 05, available at http://www.acq.osd.mil/dpap/dars/dfars/index.htm

2.2.2. Department of Defense Directives (DODD)

DoDD 5220.22-M National Industrial Security Program Operating Manual, dated 28 Feb 06, available at http://www.dtic.mil/whs/directives/

2.2.3. RISK MANAGEMENT FRAMEWORK

https://rmf.org/index.php/rmf-in-the-department-of-defense-dod

2.3. DoD Manuals, Documents and Memos

2.3.1. DoD 4100.39-M Federal Logistics Information System (FLIS) Procedures Manual, dated Oct 2010, available at http://www.dtic.mil/whs/directives/corres/html/410039m.html

2.3.2. DoDI 5200.39 Critical Program Information (CPI) Protection within the DoD, dated 28 May 2015

2.3.3. DoDI 8500.01 Cybersecurity, dated 14 Mar 2014

2.3.4. DoDI 8510.01 Risk Management Framework for DoD Information Technology (IT), dated 12 Mar 2014

2.3.5. DoDD 5200.01 DoD Information Security Program, dated 21 Apr 2016

2.3.6. DoDD 5220.22 National Industrial Security Program (NISP), dated 18 Mar 2011

2.3.7. DoDD 8570.01 Information Assurance Workforce Improvement Program, dated 10 Nov 2015

2.3.8. DA PAM 25-33 User's Guide for Army Publications and Forms, dated 15 Sep 1996

2.3.9. DA PAM 700-56 Logistics Supportability Planning and Procedures in Army Acquisition, 21 Apr 06, available at http://www.army.mil/usapa/epubs/

2.3.10. DA PAM 700-142 Instructions for Type Classification Materiel Release, Fielding and Transfer, 1 JUL 2014

2.3.11. DA PAM 738-751 Functional User's Manual for the Army Maintenance Management System – Aviation, dated 28 Feb 2014

2.3.12. IUID Guide IUID: Department of Defense Guide to Item Unique Identification (IUID) Assuring Valuation, Accountability and Control of Government Property, Version 1.6, 1 Jun 06, available at http://www.acq.osd.mil/dpap/pdi/uid/index.html

2.3.13. USMC Unique Documents:

2.3.13.1 DTG 201546Z Dec 16 Interim Guidance for Reporting and Correcting Identification Plate Discrepancies for Accountable Property (can be provided upon request)

2.4. PEO C3T – Performance Specifications

2.4.1. Refer to Appendix A Performance Specification for the Troposcatter Transmission system when required by the Government.

2.5. Army Regulations / Marine Corps

2.5.1. AR 25-2 Information Assurance, Rapid Action Revision (RAR) dated 23 Mar 2009

2.5.2. AR 73-1 Test and Evaluation Policy, dated 1 Aug 2006

2.5.3. AR 380-40 Policy for Safeguarding and Controlling COMSEC Material, RAR dated 24 Apr 2013

2.5.4. AR 385-16 System Safety Engineering Management, dated 13 Aug 2013

2.5.5. AR 700-127 Integrated Product Support, 7 Oct 2014

2.5.6. AR 700-142 Type Classification, Materiel Release, Fielding and Transfer, 2 JUN 2015

2.5.7. AR 725-50 Requisitioning, Receipt, and Issue System, 15 Nov 1995

2.5.8. AR 750-1 Army Materiel Maintenance Policy, 12 Sep 2013

2.5.9. Above referenced documents available at http://www.army.mil/usapa/epubs/

2.5.10. USMC Unique Documents:

2.5.10.1 MCO 5215.17D Marine Corps Technical Publications Management

2.5.10.2 MCO 4790.25 Ground Equipment Maintenance Program

2.5.10.3 MCO 1553.1B The Marine Corps Training and Education System

2.5.10.4 MCO 4400.150 Consumer-Level Supply Policy.

2.5.10.5 TECHNICAL MANUAL: CARGO HANDLING MANUAL V-22 TILTROTOR Publication A1-V22AB-CLG-000, 1 August 2015

2.5.10.6 NAVMC 1553.1A Marine Corps Instructional Systems Design/Systems Approach To Training And Education Handbook

2.5.10.7 Above referenced documents available at: http://www.marines.mil/News/Publications/ELECTRONIC-LIBRARY/

2.6. TRADOC Regulations

2.6.1. TRADOC Regulation 350-70 Army Learning Policy and Systems, dated 6 Dec 2011, available at http://www-tradoc.army.mil/tpubs/index.htm

2.7. Non-Government Documents

2.7.1. UL 60950-1 Safety of Information Technology Equipment, Second Edition, dated 27 Mar 2007, available at http://www.ul.com/

2.7.2. UL 969 Standard for Marking and Labeling Systems, Fourth Edition, dated 19 Sep 2014, available at http://www.ul.com/

2.7.3. ANSI/ISO 8632.1-4:1999 Computer Graphics Metafile for the Storage and Transfer of Picture Description Information Parts 1-4, available at http://www.itl.nist.gov/fipspubs/

2.7.4. ANSI/HFES 200 Human Factors Engineering (HFE) of Software User Interfaces, 2008

2.7.5. NAS411, NAS411-1 Hazardous Materials Management Program, dated 30 Sep 2013, available at http://quicksearch.dla.mil/

2.7.6. SEI CMMI 1.3 Carnegie Mellon Software Engineering Institute, Capability Maturity Model Integration (CMMI), Version 1.3, dated Nov 2010, available at http://www.sei.cmu.edu/reports/10tr033.pdf

2.7.7. SAE-GEIA-HB-0007-B Logistics Product Data Handbook, dated 01 Feb 2014

2.7.8. SAE-GEIA-STD-0007-B Logistics Product Data, dated 01 May 2013

2.7.9. SAE-GEIA-STD-0009 Reliability Program Standard for Systems Design, Development and Manufacturing, dated 01 Aug 2008

2.7.10. SAE TA-HB-0007-1 Logistics Product Data Reports Handbook, dated 01 May 2013

2.7.11. SAE J1739 Potential Failure Modes and Effects Analysis, 01 Jan 2009

2.7.12. ASTM D3951-15, Standard Practice for Commercial Packaging, dated 2015

3. REQUIREMENTS

This contract is to procure both hardware and services. The Contractor shall perform all tasks required and delineated in this PWS to manufacture, integrate, test, certify, document, deliver and support the systems. The Contractor shall design, produce, assemble, integrate, configure, test, certify, document, sustain and deliver Tactical Network TROPO systems per this PWS and Performance Specification (PSPEC) as detailed in Appendix A.

3.1. Equipment

The Contractor shall produce, assemble, integrate, configure, test, and deliver all TROPO equipment per the PSPEC detailed in Appendix A and best commercial practices. The Contractor shall ensure that the TROPO equipment, when assembled per the agreed upon architecture, meets the requirements of Specifications detailed in Appendix A and is of a design which has successfully passed Government test requirements outlined in this PWS and the PSPEC detailed in Appendix A.

The Contractor shall provide hardware, software, initial spare parts, ancillary items (cabling, connectors), deliverable data, and applicable licenses associated with each of the TROPO equipment as described in the PSPEC detailed in Appendix A and this PWS as ordered by the Government. All services required to provide for delivery of these systems and equipment shall be included in the firm fixed prices for these items.

The Contractor shall provide the TROPO equipment when purchased either individually or as part of a system. All TROPO deliveries shall include all hardware (including cables), software, spares, ancillary items, device configurations, operation and maintenance manuals, and applicable licenses as defined in Section B of this acquisition.

3.2. PROGRAM MANAGEMENT AND SYSTEM ENGINEERING

The Contractor shall provide for coordination and control of the overall tasks and efforts to ensure that appropriate contract requirements are met, resources are safeguarded, laws and regulations are followed, and reliable data are obtained, maintained, and fairly disclosed through applicable contract data requirements.

3.2.1. Program Management

3.2.1.1 Program Manager

The Contractor shall establish a single management focal point, the Program Manager, to accomplish the administrative, managerial and financial aspects of this contract. The Contractor shall establish and maintain program management practices throughout the period of performance. Program management practices shall provide visibility into the Contractors' organization and techniques used in managing the program, specifically subContractor and data management. Documentation identified in this PWS shall be readily available to Government representative(s) during planned visits.

3.2.1.2 SubContractor Management

The Contractor is responsible for performance of requirements delineated in this PWS and shall institute appropriate management actions relative to subContractor performance. Requirements that are contractually specified shall apply to subContractor performance; however, the Contractor shall be accountable for compliance from its subContractors and is responsible for ensuring all deliverable products comply with the contract requirements. Contractor will ensure subContractors meet all FAR requirements that are applicable.

3.2.1.3 Data Management

The Contractor shall utilize a single, centralized system for management of all data required under this contract. Specific data management functions shall include schedule for deliverables, maintenance of deliverables, and distribution and delivery of data products. The Contractor shall gain access to the Government designated site and use it to upload all deliverables as specified. Government use of any data management system shall not require installation of client software on Government computer systems. The Contractor shall ensure all data is centrally available for Government review.

3.2.1.4 Risk Management

The Contractor's shall develop a Risk Management Plan. The Contractor shall ensure risk management is an integral part of the systems engineering process and the overall program management effort. Risks shall be presented to the Government Program Office.

3.2.1.5 Integrated Master Schedule (IMS)

The Contractor shall develop an IMS, which shall include scheduling details for material delivery, integration, testing and logistics support IAW CDRL A002, Integrated Master Schedule (DI-MGMT-81861A). The IMS shall be used by the Government and Contractor to verify attainability of contract objectives, to evaluate progress toward meeting program objectives, and to integrate the program schedule activities with all related components. Any other schedules that may be generated during the contract shall not conflict with the IMS. The IMS shall integrate all significant events, deliverables and deliveries required. All events shall be expressed as 'not later than' calendar dates. The Prime Contractor's and SubContractors' schedules shall be fully integrated in the IMS.

The Prime Contractor is required to include significant external interfaces and critical items from suppliers, teammates, or other detailed schedules that depict significant and/or critical elements and Government furnished equipment or information dependencies for the entire contractual effort in a single integrated network. The determination of significant and critical shall be agreed to by the Government. When subContractor schedule data reflects a different status date than the prime Contractor's schedule status date, these status dates shall be described in the analysis section of the IMS.

The IMS shall contain a monthly analysis that includes but is not limited to the changes to the schedule assumptions, schedule progress to-date, variances to the baseline schedule, causes for the variances, potential impacts and recommended corrective actions to minimize schedule delays. The analysis shall also identify potential problems and an assessment of the critical path

and near-critical paths. The Contractor shall provide an explanation for any deviation that affects the critical path, as well as a description of the corrective action to be taken. Thresholds for reporting other significant variances to the baseline schedule and near-critical paths shall be specified in the CDRL. These thresholds will be mutually agreed upon by the Government and Contractor. The IMS shall be analyzed and submitted with the monthly analysis. The Contractor shall perform a schedule risk assessment at major events. The assessment shall be included in the monthly analysis.

At the time of RFP submission, the Contractor shall propose the structure of the IMS, significant external interfaces, frequency of Schedule Risk Assessment (SRA), thresholds for reporting significant variances, and other details deemed necessary after contract award. The Contractor may choose the delivery format, however Microsoft Project is preferred.

3.2.1.6 Contract Work Breakdown Structure

The Contractor shall provide for a Level 3 Contract Work Breakdown Structure (CWBS) and dictionary. The Contractor shall use the CWBS as the framework for planning, budgeting, and reporting program status, cost, and schedule to the Government. SubContractor data shall be incorporated into the Contractor's CWBS.

3.2.1.7 Contract Performance Report

3.2.1.7.1 The Contractor shall continuously monitor the technical performance of this contract, and all subcontracts, and deliver to the Government a quarterly assessment report IAW Data Item A003, Contract Performance Report (DI-MGMT-81861A). This report shall convey the status of Contractor activity during the previous month as well as cumulative contract performance. Technical reviews shall address all areas concerning technical status/progress, testing/plan/procedures, architecture, HFE, training, technical documentation, reliability and all else relating to technical performance. The performance report as a minimum shall discuss:

a) Significant accomplishments and issues that arose during the reporting period
b) Projected activities for the following and subsequent periods
c) SubContractor performance when applicable
d) Program risks and mitigation efforts (technical, supply chain, cost & schedule)
e) Status of performance payments, as applicable
f) Dates and quantities of any material deliveries
g) Any general meetings that occurred with the Government or End User representatives during the reporting period

3.2.1.8 Program Meetings

The Contractor shall participate in quarterly program reviews which can be held either in the Contractor's facility or at APG, MD. In addition, the Contractor shall participate in a weekly teleconferences to review program status with the program office.

3.2.1.9 Contractor Manpower Reporting

The Contractor shall comply with the following Manpower Reporting requirements:

The Office of the Assistant Secretary of the Army (Manpower & Reserve Affairs) operates and maintains a secure Army data collection site where the Contractor will report ALL Contractor manpower (including subContractor manpower) required for performance of this contract. The Contractor is required to completely fill in all the information in the format using the following web address: https://cmra.army.mil.

The required information for the Manpower Reporting includes:

a) Contracting Office, Contracting Officer, Contracting Officer's Technical Representative;
b) Contract number, including task and delivery order number;
c) Beginning and ending dates covered by reporting period;
d) Contractor name, address, phone number, e-mail address, identity of Contractor employee entering data;
e) Estimated direct labor hours (including subContractors);
f) Estimated direct labor dollars paid this reporting period (including subContractors);
g) Total payments (including subContractors);
h) Predominant Federal Service Code (FSC) reflecting services provided by Contractor (and separate predominant FSC for each subContractor if different);
i) Estimated data collection costs;
j) Organizational title associated with the Unit Identification Code (UIC) for the Army Requiring Activity (the Army Requiring Activity is responsible for providing the Contractor with its UIC for the purposes of reporting this information);
k) Locations where Contractor and subContractors perform the work (specified by zip code in the United States and nearest city, country, when in an overseas location, using standardized nomenclature provided on website);
l) Presence of deployment or contingency contract language; and
m) Number of Contractor and subContractor employees deployed in theater this reporting period (by country).

As part of its submission, the Contractor will also provide the estimated total cost (if any) incurred to comply with this reporting requirement. Reporting period will be the period of performance not to exceed 12 months ending 30 September of each Government fiscal year and must be reported by 31 October of each calendar year. Contractors filing their Contractor Manpower Reports will receive immediate e-mail confirmation that their reports have been received in the system. This should facilitate final payment to Contractors and expedite contract closeout. Administrative contracting staff should accept this confirmation as proof of completion of this contract deliverable. The Contractor Manpower Reporting Application (CMRA) web site maintains a "Frequently Asked Questions and Answers" https://cmra.army.mil/ that is updated periodically. Any technical or implementation questions not addressed on this site can be

discussed and coordinated through the CMRA Help Desk at 703-377-6199, or https://cmra.army.mil.

3.2.1.10 Contractor Monthly Cost Reporting

The Contractor shall submit Monthly Cost Reports IAW the requirements outlined in CDRL A004 Monthly Cost Reporting (DI-MGMT-81466A).

The monthly cost report shall have the following breakout of cost incurred to date:

a) Labor by Functional Area (Contractor will be required to provide Functional Area Definitions)
b) Material (Hardware)
c) Travel
d) ODC

The contractor may report by Contractor Work Breakdown Structure (CWBS) or CLIN; however the Government reserves the right to reject any format provided. Monthly Cost Reports shall be submitted and exchanged electronically, in Microsoft ® Office 2000 (or later) product suite.

3.2.1.11 Post Award Conference

The Government intends to convene a post award conference no later than 30 days after contract award. The Contracting Officer shall notify the Contractor of the specific date, the CONUS location in the vicinity of Aberdeen Proving Ground, MD, and the agenda of the post award within 10 days of contract award.

3.2.2. System Engineering

3.2.2.1 Engineering Support

3.2.2.1.1 Systems Engineering

The Contractor shall provide Systems Engineering support for all activities performed under this PWS. The Contractor shall designate a Systems Engineer who shall possess sufficient knowledge and authority to manage, direct, execute and control all engineering elements of the contract.

3.2.2.1.2 Cyber Security

The Contractor shall provide Cyber Security support for all Contractor activities performed under this PWS. The Contractor shall designate a Cyber Security Lead to manage and execute the Cyber Security related tasks in this PWS.

3.2.2.1.3 Test and Evaluation

The Contractor shall provide Test and Evaluation support for all activities performed under this PWS. The Contractor shall support technology insertion testing relative to emerging Current/Future Force Networks requirements/capabilities and system upgrades.

3.2.2.2 Systems Engineering Management Plan (SEMP)

The Contractor shall plan and apply a systems engineering approach that optimizes total system performance and minimizes total ownership costs. The systems engineering effort shall address systems engineering activities in the Systems Engineering Management Plan, which describes

the program's overall technical approach, including systems engineering processes, resources, and key technical tasks activities and events along with their Technical Performance Metrics. These shall be integrated with the program management control efforts, including the IMP, IMS, technical performance measures, and the cost/schedule reporting system. The Contractor shall provide a System Engineering Management Plan that describes the Contractor's overall technical approach, including processes, resources, and metrics for achieving the work described in this SOW. The SEMP shall be submitted in accordance with CDRL A005 SEMP.

3.2.2.3 Technical Reviews

3.2.2.3.1 Critical Design Review (CDR) / Non-Developmental Item Integration Review (NIR)

The Contractor shall conduct, host, and support the CDR and/or NIR for the Troposcatter systems in accordance with the program schedule (insert reference for program schedule). The CDR is a multi-disciplined technical review establishing the initial product baseline to ensure the system under review has a reasonable expectation of satisfying the requirements within the currently allocated budget and schedule. The CDR assesses the initial product baseline (item detail specifications, material specification, process specification, and engineering drawings) to determine if the system design is satisfactory to start initial manufacturing.

The Contractor shall deliver an 80% complete or greater indentured Bill of Materials representing the system's initial Product Baseline in accordance with CDRL A006 iBOM for the CDR and/or NIR.

The Contractor shall deliver an 80% complete or greater initial Technical Data Package representing the system's initial Product Baseline in accordance with CDRL A007 Product Drawings/Models and Associated Lists for the CDR and/or NIR.

The Contractor shall deliver an 80% complete or greater initial Interface Control Documents s to support evaluation of the system's initial Product Baseline in accordance with CDRL A011 ICDs for the CDR and/or NIR.

The Contractor shall prepare an agenda for the CDR and/or NIR. The Contractor shall prepare minutes for the CDR and/or NIR. The Contractor shall prepare presentation materials as required for the CDR and/or NIR.

3.2.2.3.2 Other Technical Reviews

The Contractor shall support Test Readiness Reviews and System Verification Reviews by providing system subject matter expertise and respond to Requests for Information requiring technical information and analyses.

The Contractor shall prepare an agenda for each technical review.

The Contractor shall prepare minutes for each technical review.

The Contractor shall prepare presentation materials as required for each technical review.

3.2.2.4 Functional Configuration Audit (FCA)

The FCA shall be performed to verify the antenna system replacement and its Configuration Items (CIs) are accurate, complete, and compatible, and the CI has achieved the performance and functional characteristics delineated in the PSPEC detailed in Appendix A.

The Government and the Contractor shall conduct the FCA jointly, at a time and place mutually agreed to, with the Government chairing the audit. As part of the CM plan/process, the Contractor shall provide an approach and proposed schedule for conducting the FCA and identification of the Configuration Items/Computer Software Configuration Item (CIs/CSCIs) to be audited and specific units to be audited. The Contractor shall participate and assist the Government in the development of the FCA. MIL-HDBK-61A, section 8 contains guidelines that may be used to develop the FCA. The Contractor shall be responsible for providing the system to be audited, facilities, personnel, documentation (including drawings), and other support as may be required. The Contractor shall develop a configuration audit summary report after each audit. The Contractor shall correct all audit discrepancies as documented in the configuration audit summary reports. The functional baseline will be validated upon completion of the FCA and resolution of audit discrepancies.

The Contractor shall prepare an FCA Summary Report at the culmination of the FCA in accordance with CDRL A008 FCA Report for each audit.

The Contractor shall prepare an agenda for each audit.

The Contractor shall prepare minutes for each audit.

3.2.2.5 Physical Configuration Audit (PCA)

The developer shall facilitate Physical Configuration Audits conducted by the Government in accordance with the program schedule at a date mutually agreed upon by the Government and the Contractor. The Contractor shall provide support for the PCA in the form of facilities, tools, and technical personnel as requested by the Government audit chair, the production representative system that has successfully passed production acceptance, and at least one complete draft copy of the final drawing package, with all corrections from the In-Process Technical Drawing Review incorporated. The Contractor shall ensure the reassembly and testing of all audited systems in compliance with performance and production requirements. The Contractor shall provide corrective actions for all discrepancies, for Government approval. Upon approval of the discrepancies the Contractor shall correct all of the discrepancies in accordance with the Government approved corrective action.

The Contractor shall prepare a PCA Summary Report at the culmination of the PCA in accordance with CDRL A009 (DI-SESS-81022D) PCA Report for each audit.

The Contractor shall prepare an agenda for each audit.

The Contractor shall prepare minutes for each audit.

3.2.2.6 Technical Analyses

The Contractor shall conduct the following Systems Engineering Studies and Analysis if requested by the Government:

- Evaluation of new technologies and perform systems engineering work to determine integration effort, viability, performance and capability gain
- Trades Studies
- Evaluation of software and hardware versions and updates in terms of capability and network impact
- Evaluation of obsolescence issues and mitigations (Number of Occurrences based on Obsolescence and DMSMS Management Plan)
- Identify/evaluate any design changes and transition of equipment that may be required as a result of changes to system configuration requirements
- Conduct performance and feasibility analysis of a specific concept or technique to include the modeling of concepts and techniques with comparison to current design and performance characteristics
- Assist in developing solutions to systems engineering challenges based on technology insertion and new product integration.

Each Systems Engineering Study or Analysis shall contain, at a minimum, the background of the issue being evaluated, the technical approach to the study, any initial hypothesis or theories, the technical details of the study, including any modeling, simulation, testing, test result data, quantitative and qualitative measures and data, detailed analysis performed, decision factors, decision weighting, system dependencies, cost and schedule impacts, and the final recommendation of the study based on the analytical results. The Contractor shall prepare Systems Engineering Studies and Analysis in accordance with (DI-MISC-80508B) Technical Report Trade Studies / Services.

3.2.2.7 System Evaluations and Lessons Learned Analyses

Conduct system evaluations and lessons learned analyses of TROPO solution end items/systems. Anomalies identified as a result of an evaluation/analysis will be contained in a Detailed Technical Publication (DTP) that addresses the anomaly/issue and ways to overcome or mitigate the deleterious effects of the known problem.

3.2.2.8 Requirements Verification

The Contractor shall develop, deliver, and update a Requirements Compliance Matrix (RCM) for all requirements identified in the PSPEC detailed in Appendix A.

The RCM shall include each specification identified by index number, corresponding verification method using a Verification Cross Reference Matrix, the status of the requirement (MET, NOT MET, MET WITH EXCEPTION, or NOT YET EVALUATED), and the objective evidence supporting the verification determination. The RCM shall be submitted by the Contractor in accordance with CDRL A010 (DI-MISC-81283) RCM.

3.2.2.9 Interface Control Documentation

The Contractor shall develop, deliver, and update Interface Control Documents (ICD) that identify the interface requirements between: Hardware Configuration Items (HWCI) and hardware devices (HWCI to HWCI); Computer Software Configuration Items (CSCI) and

hardware devices (CSCI to HWCI); and HWCI and CSCI to systems external to TROPO system. The ICDs shall be submitted by the Contractor in accordance with CDRL A011 (DI-SESS-81248B) ICD.

3.2.2.10 Provide support related to reliability, maintainability, operational availability and HFE.

3.2.3. Frequency and Spectrum

3.2.3.1 The Contractor shall perform a study of frequencies at the location specified by the Government in order to identify available TROPO operating frequencies and bandwidths respective levels to fulfill the capacity requested for each of the links.

3.2.3.2 The Contractor shall obtain Special Temporary Authority (STA) from the Federal Communications Commission (FCC) for the dates and durations identified by the Government.

3.2.3.3 The Contractor shall negotiate spectrum usage terms with the license holder(s) of the requested frequency bands.

3.2.3.4 The Contractor shall obtain spectrum usage through subcontracts, as required.

3.2.3.5 The Contractor shall submit completed DD1494 forms (Application for Equipment Frequency Allocation) required by the Government according to CDRL A012 (DI-MISC-80711A) Scientific and Technical Reports.

3.2.4. Field Testing Support

3.2.4.1 As required, the Contractor shall provide technical and engineering support to the Government for testing efforts as set forth below.

3.2.4.2 Validation Testing Support

The Contractor shall provide technical support for Government Validation Exercise (Valex) Testing of fielded equipment. The efforts required for Valex support include the following.

3.2.4.3 Field Engineering Support

Validators shall arrive on site under the direction of PM Tactical Network Field Engineering and Test Lead to ensure all equipment is properly staged in preparation for configuration. All testing shall be IAW PM approved test plans and procedures. Validators to support field testing efforts as required at both CONUS and OCONUS locations. Additionally they shall support and attend weekly mission planning teleconferences in preparation of this support. The number of personnel needed and disciplines will be determined by the PM Tactical Network Field Engineering Manager prior to mission execution.

3.2.4.4 Configuration Updates

Field engineers shall perform Internet Protocol (IP) loading, update baselines, install software updates, and perform new hardware integration and other efforts to ensure Full Mission Capability.

3.2.4.5 Other Testing Support

The Contractor shall plan and participate in testing and events involving PM Tactical Network as directed by the COR. Such activities may include:

a) Support events at various Government facilities. Events may include testing, training, logistics demonstration or other related activities.
b) Plan and develop test plans and procedures, conduct tests associated with new requirements and equipment modifications and upgrades.
c) Plan to support Engineering Tests, Unit Validation Exercises and Unit Field Exercises to include Combat Training Center (CTC) rotations. The types and numbers of engineering personnel required for these events shall be coordinated in advance with the COR.
d) New equipment/systems/software that may be developed during the term of this acquisition may in the future require Valex support.
e) Develop system check-out procedures to determine if end-items and/or component parts held by PM Tactical Network in storage are Fully Mission Capable (FMC).
f) Conduct technical inspections of TROPO end items or component parts as directed.

3.3. Integrated Logistics Support (ILS)

3.3.1. The Contractor shall develop an integrated product support strategy for the TROPO system with the following elements, using AR 700-127 as a guide.

3.3.2. Miscellaneous (no deliverables)

3.3.2.1 Maintenance and Supply Support Concepts

Using AR-750-1 as a guide, the Contractor shall develop a maintenance and supply concept for the TROPO equipment. The Contractor shall define all Line Replaceable Units (LRUs) and make a repair versus discard decision for each identified LRU. An LRU is defined as all of the Field Replaceable Components that are required to be replaced in order to bring an inoperable TROPO Solution to a FMC status. LRUs include items such as control modules, power supplies, radios and cables. The Contractor shall utilize the two-level maintenance concept which consists of Field-level and Sustainment-level maintenance. The Contractor shall ensure that all maintenance actions required to bring an inoperable TROPO system to a FMC condition are accomplished at the Field level of maintenance by the crew or maintenance personnel organic to military units assigned support responsibilities (Organizational and Direct Support).

3.3.2.2 Field level maintenance is characterized as on-system maintenance and shall consist of replacing LRUs. LRUs will either be returned to the Sustainment level of maintenance for repair or will be discarded. The Contractor shall support the Government's re-supply of failed LRUs through the standard Army supply system.

3.3.2.3 Interim Contractor Support (ICS)

The Government may order ICS to allow sufficient time for the Government to determine and implement the Product Support Strategy.

3.3.2.3.1 Supply Support Services

During ICS, the Contractor shall provide supply support services as ordered by the Government. These services can be ordered for Continental United States (CONUS) and Outside Continental United States (OCONUS) locations, for forward deployed locations world-wide, and into areas of conflict.

3.3.2.3.2 Repair and Return

Unserviceable equipment shall be shipped to the Contractor for Contractor Logistics Support (CLS) repair and return. The Contractor shall establish a depot support process, on a repair and return basis, for equipment the Government does not have support capability. The Contractor shall be responsible for assessing the condition of incoming equipment and for establishing control procedures for all equipment to be repaired by the Contractor or by the Original Equipment Manufacturer (OEM).

Upon completion of the repair actions, the repaired item shall be inspected by the Defense Contract Management Agency (DCMA) representative to ensure proper functionality. If a test or inspection failure occurs, the contractor shall immediately investigate the cause of failure and implement the corrective action necessary to restore the failed unit to a serviceable condition. The LRU/SRU shall then be retested. The Contractor shall provide notification of the inspection results to the PCO and return the item to the Government. The items shall be packaged and shipped per instructions as directed by the Government. The Contractor shall be responsible for providing a serviceable replacement part to requesting activity within 30-45 days of initial receipt of unserviceable part.

3.3.2.3.3 Repair Requirements

Under this acquisition, the Contractor shall serve as the prime Contractor and shall produce or repair all of the items as ordered by the Government IAW documents listed above and this PWS.

3.3.2.3.4 Repair vs. Evaluation

Upon receipt of an item for repair, the Contractor shall first conduct an evaluation to determine if the item is either No Evidence of Failure (NEOF) or Beyond Economic Repair (BER). IAW sections 3.3.2.3.9 and 3.3.2.3.10 the Contractor shall notify the Government of those items that are determined to be NEOF or BER, and shall follow the additional instructions set forth in those sections. No repair of any NEOF or BER item will be completed and the schedule will be adjusted by the Government to reflect “Evaluation” only, as set forth in 3.3.2.3.5

3.3.2.3.5 Price Adjustments

There are two Cost Plus Fixed Fee (CPFF) Contract Line Item Numbers (CLINs) for each repairable item, the Evaluation Price CLIN and the Repair Price CLIN. All items sent to the Contractor for repair will be forward funded at the corresponding Evaluation Price and Repair Price CLINs. If a given item is found to be repairable and the Contractor performs that repair, the Contractor shall bill both the Evaluation and Repair CLINs for that item. Upon NEOF or BER determination and notification to the Contracting Officer, the Contractor shall not be eligible to bill for that item’s Repair CLIN, and the schedule will be adjusted to delete the item’s forward-funded Repair Price CLIN.

3.3.2.3.6 Repair Baseline

The Contractor shall repair each component so that the performance meets all of the form, fit and function requirements, interface requirements, and drawing requirements. All items shall be repaired to supply condition code "A" (Ready For Issue). Supply Condition Codes are identified in AR 725-50.

3.3.2.3.7 Start-Up

The Contractor shall furnish all facilities, parts, materials, data, personnel, equipment and any other effort, needed to fully provide the repair services required by this PWS within 45 days after Government notification. The Contractor shall provide the shipping address of this facility to the Government Procurement Contracting Officer (PCO), in writing, within 10 days after issuance of repair task/delivery order.

3.3.2.3.8 Use of Tobyhanna Army Depot (TYAD)

The Contractor shall acknowledge that TYAD is not a source of supply for this contract. The Contractor shall leverage TYAD as a source for screening of returned assets to determine applicability of warranty coverage through the use of a Public Private Partnership (PPP).

Additionally, the contractor shall pursue the opportunity to leverage TYAD as a source for Out of Warranty (OOW) or Other Than Fair Wear and Tear (OTFWT) repair through the use of a Public Private Partnership (PPP) with the understanding that TYAD does not currently have repair capability for the TROPO systems. It is expected that, through this partnership, TYAD would be used to accomplish a level of repairs that would incrementally increase their sustainment capabilities in support of TROPO. This PPP effort shall involve such activities as, but not limited to, training, documentation on repair and test procedures, test equipment and associated source code, supply support, along with any special requirements.

The intent of including TYAD in sustainment activities under this contract is to both familiarize the organic depot with the TROPO system in preparation for future assumption of sustainment activities as well as to provide soldiers in the field with a centralized organic source of supply support. PM Tactical Network seeks to limit the need for soldiers to pursue sustainment support outside of Army channels.

The contractor shall prepare and submit a Hardware Sustainment Transition Plan per CDRL A063 (DI-MISC-80508B) outlining how Depot-level sustainment tasks (e.g. repair, reset, overhaul) will be transitioned to TYAD or any other organic facility. The plan shall include but may not be limited to:

a. Test Procedures
b. Test Equipment
c. Special tooling

d. Special facilities
e. Training requirements
f. Skill sets
g. DMWR information
h. Schedule to complete full transition

The contractor shall ensure all tooling and equipment specified in this plan shall adhere to all government certification requirements.

3.3.2.3.9 No Evidence of Failure (NEOF)

Upon receipt of an item to be repaired, the Contractor (or partner) shall evaluate the returned item to determine if it is NEOF. If the item is found to be operational, and NEOF is confirmed by the Defense Contract Management Agency (DCMA) representative, the Contractor shall provide notification of this determination to the PCO and return the item to the Government. All return transportation costs shall be borne by the Contractor as part of the Evaluation CLIN price.

3.3.2.3.10 Beyond Economical Repair (BER)

Upon receipt of an item to be repaired, the Contractor (or partner) shall evaluate the item to determine if it is BER. A component shall be considered BER when the total repair cost exceeds 65% of the contract acquisition cost for that item. The BER determination shall be confirmed by the onsite DCMA representative. Upon DCMA confirmation, the Contractor shall notify the PCO of the item's BER determination and request disposal instructions which will be carried out by the Contractor. All transportation costs shall be borne by the Contractor.

3.3.2.3.11 Confirmation of NEOF or BER by DCMA Representative

As part of DCMA confirmation of an item's NEOF or BER determination, the DCMA representative shall verify the following:

a) Property identity
b) Damaged or mishandled items
c) Actual item failures
d) Determine completeness of the items

3.3.2.3.12 Repair Turn Around Time (RTAT)

The work required varies based upon the complexity of the repair and the Contractor shall provide estimated repair times in their proposal for each item being repaired. Contractor (or partner) shall inspect/evaluate each item as a goal within 5 business days of receipt, provision of funding and authorization to proceed with the repair and provide the status to the COR. Acceptance for repairs shall be rendered upon execution of the DD Form 250 or DD Form 1149.

The Government will assess the Contractor's RTAT performance based on the estimated repair times listed in the Request for Proposal (RFP). RTAT will be reviewed quarterly as part of the Quality Assurance Surveillance Plan (QASP).

3.3.2.3.13 The Contractor (or partner) shall repair returned assets and ship-back to government CONUS locations within 30 days. Items shipping to OCONUS locations shall be returned within 45 days. This time will be measured from the date the equipment is received at the Contractor's facility to the date the item arrives at Government location.

3.3.2.4 Field Support Services

3.3.2.4.1 It is intended that the TROPO program will ultimately transition to an organic sustainment strategy. Due to the time and effort required to ensure all technical documentation, parts availability, training, manpower, and facilities are in place, the Army/Marine Corps may require the Contractor to provide field-level Interim Contractor support (ICS) for the TROPO system. .

3.3.2.4.1.1 This option shall consist of OEM Contractor Field Service Representatives (CFSRs) who are considered system experts to facilitate over-the-shoulder training, product support, and field level repairs.

3.3.2.4.1.1.1 CFSR's may be required to travel to either CONUS or (OCONUS) sites in support of TROPO systems

3.3.2.4.1.1.2 This service shall also include help desk support as required to facilitate remote troubleshooting, repair, and other related sustainment needs to the warfighter.

3.3.2.5 Spares Procurement

The Contractor shall provide to the Government, TROPO repair components that ensure the system level Operational Availability (Ao) is maintained in the field. These spare materials shall be provided as part of different spares kits that are delivered to the Government to support requirements at different echelons. Additionally, provisions shall exist for the government to procure non-kitted spare parts as needed in an effort to supplement supply support needs prior to full integration of requirements into the Standard Army Supply System.

3.3.2.5.1 The Contractor shall develop an initial spare materials breakdown for the system configurations based on the system design, the Government's proposed spares distribution concept, fielding concept, basis of issue plan, Contractor-determined Mean-Time-Between-Failure (MTBF), component reliability, and level of repair analysis. The initial spares kits delivered shall support 24 months of anticipated maintenance actions and shall ensure the TROPO system meets an Ao of at least 95%.

3.3.2.5.2 The Contractor's Initial Spares kits shall include both repairable and consumable spares and identify required spares quantities by unit/echelon types. The analysis that occurs after award and is delivered to the Government will identify the specific spares items and quantities of each required to make up each of the different kit types. The Government will identify CLINs on the contract to facilitate ordering for each of the kit types as well as individual spare parts. All spares material requirements shall be identified as options that can be exercised by the Government throughout the contract. Specific kit quantities and their delivery schedule will be finalized when material option CLINs are exercised. The initial spares shall be delivered as directed by the Government.

3.3.2.5.3 The contractor shall prepare a Proposed Spare Parts List (PSPL) (also known as a "Recommended Buy List" for Marine Corps) that will support Army/USMC anticipated maintenance actions for a minimum of 24 months. The PSPL shall include both repairable and consumable spares and identify required spares quantities to ensure the system meets an Ao threshold of at least 95 percent. The PSPL shall be based on the system design, spares distribution concept, fielding concept, Contractor-determined Mean-Time-Between-Failure (MTBF), component reliability, and level of repair analysis. The analysis that occurs after award and is delivered to the Government will identify the specific spares items and quantities of each required. The PSPL shall include the identification of all Manufacturers' Part Numbers, National Stock Number (NSN) if applicable, Description/Name of Part, the Manufacturer's CAGE Code, OEM warranties and associated costs. It shall be prepared and submitted IAW CDRL A013 (DI-SESS-81619) Subsequent submissions shall be required as applicable based on Government approved configuration changes that are made to the system or kits that impact spares requirements.

3.3.2.5.4 Army Spares Marking Requirement:

All spare part packaging shall be labeled in accordance with MIL STD-129 to ensure acceptance of individual spare parts into the Standard Army Retail Supply System (SARSS). Failure to properly mark equipment will render it unable to be accepted.

3.3.2.5.5 USMC Spares Marking Requirement:

The Spare Parts shall be labeled in accordance with DTG 201546Z Dec 16 "Gold Standard" product labeling naval message.

3.3.2.6 Value Engineering

This paragraph establishes the minimum requirements and general provisions for the applicable level of effort via the VE clause, FAR 52.248-1. This is commonly called the Value Engineering Incentive Clause (VEIC).

The VEIC allows the Contractor to submit Value Engineering Change Proposals (VECPs). Submission of VECPs by the Contractor is voluntary. Savings are shared IAW section F of the clause (Incentive). Insertion of the VEIC into a contract incurs no cost to the Government.

3.3.2.6.1 Requirements for Value Engineering

The submission of VECPs is encouraged to eliminate unnecessary requirements, reduce costs, and improve functionality of Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) managed weapon systems.

3.3.2.6.2 Value Engineering Information

To obtain more information about Value Engineering teaming within C4ISR, contact the Value Concepts Office at:

HEADQUARTERS U.S. ARMY CECOM LCMC
ATTN: AMSEL-LCL-E (Value Concepts Office)
6001 COMBAT DRIVE
ABERDEEN PROVING GROUND, MARYLAND 21005-1845
Phone: 443-861-5415

3.3.2.7 Public-Private Partnering (PPP)

3.3.2.7.1 Organic Depot Workload

The Contractor shall partner with Tobyhanna Army Depot for Core workload and may subcontract with the organic source for non-Core workload. Partnering is encouraged by, inter alia, Title 10 U.S.C. §2474, Centers of Industrial and Technical Excellence (CITES), §4544 Cooperative Arrangements, §2208(j) Working Capital Funds, and §4543 Army Industrial Facilities: Sales of Manufactured Articles or Services outside the DoD.

3.3.2.7.2 PPP with Tobyhanna Army Depot (TYAD)

The Government encourages the development of a PPP with TYAD. The PPP will provide a meaningful role for TYAD as a Product Support Provider (PSP). The PPP will define the specific TYAD role and how it will grow over time. The government shall provide the analysis used in determining the TYAD role. The Contractor shall provide all necessary measurable metrics to ensure the TYAD required outcomes are being accomplished. The Contractor shall define for TYAD incentives for exceeding and penalties for missing its metrics.

3.3.3. ILS (with deliverables)

3.3.3.1 Request for Nomenclature (DD FORM 61)

The Contractor shall prepare and submit Requests for Nomenclature (DD Form 61) blocks 1, 2, 4, 7, 9 through 18, and 21 through 26 per CDRL A014 (DI-SESS-81254C). The Contractor shall comply with the requirements contained in MIL-STD-196F. The technical characteristics, operating and power requirements, overall dimensions, weight, mounting data, complement data down to the lowest line replaceable unit, special features, functional description, design activity, manufacturer, interchangeability with other equipment and other pertinent information must be described on DD Form 61. The Contractor shall submit a request for assignment of Government nomenclature when new materiel is designed, developed, assembled or constructed to become part of the U.S. Army inventory. Nomenclatures shall be applied for non-commercial electronics

items developed under this contract meeting the criteria specified in MIL-STD-196F. These tasks, as required, for system delivery shall be included in the fixed price.

3.3.3.2 IUID

The Contractor shall implement and manage an IUID Program for all TROPO systems to ensure that all equipment meeting the IUID criteria is marked and the applicable data is submitted to the DoD IUID Repository. This IUID requirement shall be included in the fixed price.

3.3.3.2.1 IUID Marking

The Contractor shall comply with Defense Federal Acquisition Regulation Supplement (DFARS) 252.211-7003, Item Identification and Valuation to provide IUID, or DOD recognized unique identification equivalent, for all applicable equipment items with an acquisition cost of $5000 or more. IUID markings shall be per the latest version of MIL-STD-130. IUID markings are also required for embedded components in this contract. Guidance for IUID Marking of embedded components shall be per the latest version of MIL-STD-130 and the IUID website at: http://www.acq.osd.mil/dpap/pdi/uid/index.html.

3.3.3.2.2 IUID labeling shall be IAW Contractor's best practices for items if:

a) The cost is $5000 or greater, or is
b) Either a serially managed, mission essential or controlled inventory piece of equipment or repairable item, or is
c) A consumable item or material where permanent marking is required, or
d) It is a component of a delivered item if the Government Program manager has determined that unique identification is required.

3.3.3.2.3 In the process of examination, the item shall not be disassembled in a manner that would void the manufacturer's warranty, or affect the performance, durability or appearance of the item. The Contractor shall provide an IUID Marking Plan per CDRL A015 (DI-MGMT-81803).

3.3.3.2.4 USMC Unique Requirement:

IUID labeling shall be IAW Contractor's best practices and conform to the "Gold Standard" for all level 2 repairable items regardless of item cost.

3.3.3.2.4.1 The Contractor shall provide a production-level drawing of the data plate that will facilitate reproduction/fabrication in support of future repair/replacement activities. In addition to "Gold Standard" requirements, this drawing shall reflect format, layout, size, material, location on equipment, application method, etc…)

3.3.3.2.5 IUID Data Submission Guidance

The latest IUID Data Submission guidance may be found at: http://www.acq.osd.mil/dpap/pdi/uid/index.html.

3.3.3.2.6 USMC Unique Requirement:

Components with new IUID markings will have the marks and pedigree information submitted to Temporary Data Storage (TDS). The file format for submitting to the Marine Corps TDS is found at https://tds-iuid.com. In addition to the mandatory data elements for submitting the UII

to the OSD IUID Registry, the National Stock Number (NSN) and serial number will be included in the submission to the Marine Corps TDS.

For equipment with multiple serial numbers physically marked on the item, the priority order for use in the serial number data field is:

a) USMC registration (serial) number (not locally assigned)
b) Original Equipment Manufacturer (OEM) serial number
c) Third Party Logistics (3PL) provided serial number.

3.3.3.2.7 IUID Report

The Contractor shall provide and maintain an accurate, current IUID Report via the Invoicing, Receipt, Acceptance and Property Transfer (iRAPT) formerly known as Wide Area Work Flow (WAWF) Paperless Contracting Environment, per the latest published guidance, for all manufactured items delivered on this contract to the COR. Dates of manufacture, substitutions, shop changes, etc. shall be included in this report. The Contractor shall provide IUID report per CDRL A016 (DI-MGMT-81804A) IUID Marking Activity, Validation and Verification Report.

3.3.3.3 Logistics Reporting System (LRS)

The Contractor shall provide and maintain a reporting system that is World Wide Web-accessible to the Government and its specified agents. The system will document the status of work performed under this contract. Notwithstanding any other requirement of this contract for recording, record keeping and reporting, the Contractor shall provide access to an online system for monitoring ICS, warranty and non-warranty logistics activities. The system shall satisfy the maintenance reporting requirements, inventory reporting requirements, and warranty reporting requirements of this contract. The system shall be fully functional and available when the first TROPO system is delivered. This reporting system shall be included in the fixed price.

3.3.3.4 Disposal Plan

3.3.3.4.1 Requirement

The Contractor shall deliver a disposal plan IAW DA PAM 700-127, (DI-MISC-80508B) and CDRL A017. The plan shall outline the disposal of system components in compliance with national and foreign environmental laws and regulations.

3.3.4. Maintenance Engineering

3.3.4.1 Failure Mode, Effects and Criticality Analysis (FMECA)

The Contractor shall prepare an FMECA in accordance with DI-SESS-81495A using as a guide MIL-STD-1629A and MIL-HDBK-2155 to identify all system failure modes. Failure modes resolved by inherent Built-in Test (BIT) capabilities shall be identified in the analysis. For all failure modes not resolved by BIT, this analysis shall identify the Single Point of Failure or fault group of maintenance-worthy items applicable to the mode based upon the system architecture. The failure effects to the system shall be identified and described in addition to the criticality level of each failure (inoperable or degraded). In the event of a degraded effect, the Contractor shall describe the operational/inoperable functional capabilities. Failure indications/symptoms to the operator/maintainer shall be detailed within the report. FMECA findings shall be applied in

the Maintainability Task List (MTL) and applied during the conduct of the Maintainability Task Analysis (MTA). Supplemental data shall include, but not be limited to, drawings and schematics and shall form part of the FMECA report. The Contractor shall conduct a FMECA and provide a FMECA report CDRL A018 (per DI-SESS -81495A) using MIL-STD-1629 and/or SAE J1739 for guidance. The Contractor shall develop and deliver a Critical Items List (CDRL A019, (DI-RELI-80685 NOT1) that depicts all items that require special attention due to complexity, application of state-of-the-art technology, high cost, sole source of supply, or single point failure potential. The list will identify the special controls required for these items to reduce the risk they pose to the system/capability.

3.3.4.2 Level of Repair Analysis (LORA)

The Contractor shall perform a LORA to determine the optimal maintenance concept for the system using the USAMC Logistics Support Activity's (LOGSA) Computerized Optimization Model for Predicting and Analyzing Support Structures (COMPASS) (available at https://www.logsa.army.mil/lec/compass/). Using the outputs from COMPASS, the Contractor shall identify the major maintenance cost drivers, i.e., those costs that account for over 85 percent of maintenance costs. The Contractor shall provide a maintenance cost reduction plan that reduces costs by a minimum of 5 percent each year from the previous year's cost. During the period of performance of the contract, the Contractor shall, at least annually, update the LORA using COMPASS utilizing actual field failure information in order to optimize maintenance costs. The Contractor shall provide the updated estimates at program and technical reviews and include on the IMS. The Contractor shall submit the data per GEIA-STD-0007, (DI-SESS-81759A), and CDRL A020

The Contractor shall also use the results of LORA, including failure analysis, as a basis to determine and provide a contents of a Replenishment Spares package(s) for each major subcomponent as stated in CDRL A021 (DI-SESS-81759A).

3.3.4.2.1 USMC Unique Requirement

The Contractor shall provide the Marine Corps with COMPASS output in a Microsoft Excel format.

3.3.4.3 Input Data for Core Depot Assessment (CDA) Report

The Contractor shall use the following definitions in the performance of this task:

Non-Core workload is defined as the workload that the organic base DOES NOT have the capability (skill sets, support equipment, and facilities) and/or capacity to repair.

Core workload is defined as the workload that the organic base DOES have the capability (skill sets, support equipment, and facilities) and/or capacity to repair.

The Contractor shall provide the required data and support as listed in Appendix C to the Government so the Government can complete a CDA of the systems. The Government requires specific input data to perform the CDA during different timeframes of the program's lifecycle (as identified in the delivery order). This analysis is performed on an iterative basis as the program matures or changes, as the input data becomes more accurate, and as the Government's analytical

requirements become more focused and defined. The input data needed to conduct this analysis is essentially comprised of usage, reliability, maintainability, and repair capability information (skills, test equipment, and facilities) for the weapon system, its subsystems, assemblies, and subassemblies. CDA input data is required to identify core workload for which there must be an organic capability (i.e., basic skills, facilities, and equipment) per US Code Title 10 § 2464. The analysis evaluates the organic depot's capability and readiness to support the Depot Level Repairable (DLR) items specified in the Maintenance Concept. The Data shall be submitted per CDRL A022 (DI-MISC-80508B), this PWS, and Appendix C.

3.3.4.4 Family Tree

The Contractor shall prepare and submit a Family Tree per CDRL A023 (DI-SESS-8100E). In Contractor format, the Contractor shall develop a Family Tree for the system that graphically depicts the generation breakdown structure of the system from the end item down to the lowest repairable assembly. At a minimum, each system item shall be identified by name/nomenclature, part number and Functional Group Code (FGC), which indicates its relationship to its next higher assembly. FGC assignment shall correspond to the top down breakdown sequence of the system/end item. The Government shall provide guidance on FGC assignment during the start-of-work meeting as required by the contract.

3.3.4.5 Maintenance Allocation Chart (MAC)

The Contractor shall prepare a MAC that will identify the maintenance functions that must be performed, the maintenance level responsible for the function, and the active repair time, tools, and test equipment necessary to perform the function for each repairable assembly and subassembly of the end item. The Contractor shall submit the MAC for each end item (system, shelter, black box, etc.) per CDRL A024 (DI-MISC-80508B) and IAW the preparation instructions in Appendix D of this PWS and Marine Corps Order MCO 5215.17D.

3.3.4.6 Logistics Demonstration

The Contractor shall plan for the Government (Army and USMC) to perform a Logistics Demonstration prior to completion of Production Verification Testing (PVT). The Contractor shall develop a Logistics Demonstration Plan IAW CDRL A058 (DI-NDTI-80603A) in support of implementing the required Logistic Demonstration stated below. The Contractor shall schedule time, resources, and equipment necessary to support the Logistics Demonstration. Final approval of PVT requires successful completion of the Logistics Demonstration.

The Logistics Demo is a non-destructive disassembly and reassembly of the hardware system to confirm logistics data and procedures in a technical test type of environment using representative users. The Logistics Demo is conducted to:

a) Identify supportability deficiencies
b) Evaluate the System Support Package (SSP)
c) Confirm HFE factors, safety of operation, and maintenance procedures
d) Demonstrate adequacy of TMs
e) Confirm Test Measurement and Diagnostic Equipment and Spares
f) Confirm the allocation of maintenance functions

g) Confirm set-up, operator, and maintenance task times and verify the manpower requirements
h) Confirm setup and teardown times
i) Provide a separate and distinct test of Built-In-Test (BIT)
j) Confirm adequacy of personnel training (both operator and maintenance)
k) Confirm computer software can be reloaded by operational personnel
l) Evaluate HFE factors and safety concerns.

The purpose of the Logistics Demonstration is to verify that the logistics related requirements of the Specifications have been implemented and that the logistics resources required to support the system/equipment are available, complete, and support the Warfighter's mission. The Contractor shall document the results of the Logistics Demonstration IAW CDRL A025 (DI-NDTI-80809B).

The report shall also include:

a. Details on conduct of the Logistics Demonstration
b. Data collected during the Logistics Demonstration
c. All quantitative and qualitative findings from the Logistics Demonstration
d. A description of all necessary follow-on actions found at the Logistics Demonstration
e. Schedule for correcting and deficiencies discovered in the Logistics Demonstration
f. Schedule for completing/correcting training material and changes
g. Schedule for completing technical documentations, including TM redlines.

These tasks shall be included in the fixed price.

3.3.4.7 SSP Component List (SSPCL)

The Contractor shall prepare a SSPCL per CDRL A026 (DI-SESS-81759A). The SSPCL shall identify those logistics resources necessary to support the Logistics Demonstration. The SSPCL shall identify training materials, TMs, Spare Parts, Test Measurement and Diagnostics Equipment (TMDE) and other resources necessary to validate the supportability of the system (such as faulted LRUs to verify fault isolation procedures). The SSPCL submitted with the Contractor's proposal will be attached to the contract as an initial draft SSPCL. The Contractor shall update the SSPCL as the baseline is finalized. A final SSPCL shall be submitted in sufficient time to allow the Government 30 days to review and approve before the Contractor acquires the SSP to support Government conducted Logistics Demonstration**.**

3.3.4.7.1 System Support Package (SSP)

The contactor shall furnish a SSP for the TROPO equipment. The SSP shall contain the items identified on the Government approved SSPCL. The SSP shall be available for use at the Logistics Demonstration conducted by the Government. Following the Log Demo, the Contractor shall update/refurbish the SSP to like new condition and deliver the SSP to the Government for use in additional testing.

3.3.4.8 Requirements for Technical Manuals (TMs)

3.3.4.8.1 This section prescribes Contractor requirements for preparing new or revised TMs (equipment publications) and their formatted output for digital or paper end products. Examples of equipment publications are TMs, Technical Bulletins (TB), Depot Maintenance Work Requirements (DMWR) and National Maintenance Work Requirements (NMWR). The Contractor shall deliver the following Electronic TMs:

a) TM 11-XXXX-XXX-13&P (USMC Unique number TM XXXXXA-13&P to be included…)
b) DMWR 11-XXXX-XXX (USMC Unique number TM XXXXXA-XX to be included…) (for each Depot Level Repairable (DLR) item that is identified for transition to organic depot-level repair capability)
c) MWO-11-XXXX-XXX-XX (USMC Unique number MI XXXXXA-XX to be included…) **REQUIRED IF ANY ECP'S ARE INTRODUCED

3.3.4.8.2 These TMs shall be delivered in eXtensible Markup Language (XML) format IAW this PWS and DD Form 1423-1 for MIL-STD-40051-2. The Government will provide a tailored content requirements matrix as an attachment to the contract IAW DA PAM 25-33 and the military standard cited in Item 4 of CDRL A027. The content selected has supporting paragraphs in the rest of this Military Standard.

3.3.4.8.3 Validation and verification of the TROPO TM shall be exclusive of the GFI material.

3.3.4.8.4 USMC Unique Requirement

The Contractor shall deliver a Stock List – 3 Components List (SL-3) IAW MCO 5215.17D and Marine Corps Template in Microsoft Word Format (available upon request…) Marine Corps CDRL M028. The SL-3 Components list shall include National Stock Number (NSN), Federal item names, Federal item descriptions, reference part numbers, illustrations, unit of issue, unit of measure, identification (ID) numbers, supply system responsibility items, collateral material, using unit responsibility items, and other related end item data.

3.3.4.9 APPROVED EQUIPMENT CHANGES.

The Contractor shall incorporate coverage for all Government-approved changes and DA Form 2028s made to the equipment, up to delivery of the final equipment under this contract. Information based on Engineering Change Proposals or equivalents approved for the convenience of the Contractor shall be incorporated into the draft manuals by the Contractor at no additional cost to the Government.

3.3.4.9.1 FONTS: Embed all fonts, including symbols, should be delivered by the Contractor in Adobe Acrobat intelligent Portable Document Format (PDF) in addition to delivering a complete set of all XML and graphics source files in support of the developing TM(s) as either a complete set or subset. An intelligent PDF is a file which can be linked and has selectable and searchable text that can be copied and pasted into a Microsoft Word file (refer to AMC-R-25-76).

3.3.4.9.2 ILLUSTRATIONS: Photographs may be used for illustrations when a photograph provides for better clarity than a line drawing. All photographs must be delivered as digital photographs, regardless of source. Photographs shall not be used for RPSTL illustrations or on foldouts. Engineering drawings shall not be used as final illustrations.

3.3.4.9.3 Line Drawings. Line drawings, including exploded views, locator views, and detailed views, shall be used to support the operational and maintenance procedures and the Repair Parts and Special Tools Lists (RPSTLs).

3.3.4.9.4 RPSTL Illustrations. RPSTL illustrations shall be line art only. The Contractor shall prepare a separate figure for each breakdown of a repairable assembly. Existing illustrations, Government owned, or commercial illustrations, shall be used if they meet the requirements of MIL-STD-40051-2 and this PWS, otherwise the Contractor shall prepare new illustrations. If an existing illustration requires more than 25 percent additions and/or deletions of callouts, the callouts of that illustration shall be completely re-sequenced. For reference-designated equipment, all electronic equipment and components to include cable assemblies shall be identified by the applicable reference designator on the illustration of that particular functional group.

3.3.4.9.5 Multi-sheet RPSTL Figures. Multi-sheet figures may be used if appropriate, however, no more than three (3) sheets shall be allowed within any RPSTL figure.

3.3.4.9.6 Contractor's illustration identification number may be used.

3.3.4.10 SOURCE Data. The XML source data items are primary reference documents that supply information used to develop the publications. The Contractor shall develop and deliver those source items in XML format and will mark with an "X" in the "Contractor" column below in developing the publications. The Contractor shall use those XML source items marked in the GFI column in developing the publications:

Contractor	GFI	Source Data Item
	X	Document Type Definitions (DTD) for equipment publications developed to MIL-STD-40051-2 (Available from https://www.logsa.army.mil/mil40051/menu.cfm)
	X	XML Style Sheet for equipment publications developed to MIL-STD-40051-2 (Available from https://www.logsa.army.mil/mil40051/menu.cfm)
	X	Document Type Definitions (DTD) for equipment publications developed to MIL-STD-3031 (Available from https://www.logsa.army.mil/mil40051/S1000D.cfm)
	X	XML Schema for equipment publications developed to MIL-STD-3031 (Available from https://www.logsa.army.mil/mil40051/S1000D.cfm)
	X	Target Audience Descriptions
	X	Front Matter boilerplate
	X	Supporting Information boilerplate

Contractor	GFI	Source Data Item
	X	Ozone Depletion Substance Prohibition Listing (with recommended alternatives) – if applicable

3.3.4.10.1 The source data items checked above marked with an "X" in the "Contractor" column shall be developed by the Contractor in XML format as part of this contract. For equipment publications developed to MIL-STD-40051-2, the Contractor shall access the web site https://www.logsa.army.mil/mil40051/menu.cfm for XML DTD and XML Style Sheet source data items listed above marked with an "X" in the "GFI" column.

3.3.4.10.2 The Government will furnish at the start-of-work meeting the GFI source data items listed above marked with an "X" for "Target Audience Descriptions," "Front Matter boilerplate" "Appendices boilerplate," and "Ozone Depletion Substance Prohibition Listing."

3.3.4.10.3 MEETINGS. The start-of-work meeting shall take place at the post-award conference. The Contractor shall be prepared to discuss all TM requirements.

3.3.4.10.4 TM IN-PROCESS REVIEWS (IPRs). IPRs shall take place when approximately 30% and 70% of the TMs have been developed.

3.3.4.10.5 TM Validation. The Contractor shall validate the TMs at the Contractor's facilities. In addition to content validation, the XML tags shall be parsed and validated against the DTD and any errors corrected, and all TM functional features shall be validated as operational and correct. Contractor personnel performing operating and maintenance procedures on the equipment during validation shall be independent of the Contractor's TM preparation activity. Contractor validation records shall be subject to Government inspection at any time during the contract without prior notice. The Contractor shall notify the Government in writing upon completion of the TM validation. The Government reserves the right to witness the Contractor validation events.

3.3.4.10.6 TM Verification. The Government will verify the TMs at the Contractor's facilities by performing 100 percent of the operating and maintenance procedures using target audience personnel. A 100 percent desk review of those portions of the publications not subject to hands-on performance, e.g., table of contents, theory, index, etc., will be conducted. All functional features of the TM will also be verified. The Contractor shall provide at verification a minimum of 10 copies (5 for Army, 5 for USMC) of each TM to be verified, appropriate office or work space and sufficient hardware to read each TM, a fully operational configuration of the equipment covered by the TM(s), including hardware and software, on which Government personnel will perform the verification, personnel necessary to document changes to the publications and resolve hardware and software issues, and all tools and test equipment required, IAW the maintenance concept or MAC, to perform all procedures in each TM.

3.3.4.10.7 INCORPORATION of Comments. AMSEL-LCC-WS is the Government publications acceptance activity for this contract. Any publications comments received by the Contractor from other Government activities shall be forwarded to the above address for disposition.

3.3.4.10.8 DELINQUENCY. The Contractor shall notify the Procurement Contracting Officer, COR and the Government TM acceptance activity immediately by telephone if dates that work must be performed, or that TM and data that must be delivered will not be met by the Contractor. The Contractor shall follow up this telephone call immediately with a letter to the PCO, and shall at the same time send a copy of this letter to the Government publications acceptance activity at the following address:

Commander U.S. Army CECOM

ATTN: AMSEL-LCC-WS

Aberdeen Proving Ground, Maryland 21005-1848

3.3.4.10.9 DELIVERY. For all TM updates prepared under this contract, the Contractor shall deliver digital files IAW DD Form 1423-1 for MIL-STD-40051-2.

3.3.4.10.10 FINAL DIGITAL DELIVERY. The final digital delivery shall be: Date to be specified in CDRL A027.

3.3.4.10.11 A complete set of all XML and graphics files for the TM(s) validated against the XML DTD, unless otherwise discussed with and approved by the Government acceptance activity.

3.3.4.10.12 A text file describing file types, sequence and any special information relevant to their use.

3.3.4.10.13 A copy of each TM in editable Portable Document Format (*.pdf) compatible with version XI of Adobe Acrobat.

3.3.4.10.14 PACK-up of Operator’s TMs with Equipment. The Contractor shall pack one electronic copy (CD or media version) of the TM containing operator’s instructions with each equipment package delivered under this contract.

3.3.4.10.15 OZONE DEPLETION. Maintenance procedures shall not use any substance known to cause ozone depletion (reference paragraph 3.7.4.4. Source Data).

3.3.4.10.16 RESIDUAL MATERIAL. The Contractor shall package and deliver to the Government all source material, defined as operating plans, standard procedures, computer programs, and residual material to include computer disks, computer tapes, and all other media containing digital files developed to fulfill the requirements of this PWS.

3.3.4.10.17 DATA AND PRODUCT RIGHTS. The Contractor shall grant the Government in writing unlimited rights to any and all hardware and software data and products developed and produced under this PWS including unlimited intellectual property rights and technical data rights.

3.3.5. Requirements for PROVISIONING

3.3.5.1 Requirements for Provisioning Parts List (PPL)

3.3.5.1.1 The Contractor shall develop the PPL as described by CDRL A029 (DI-SESS-81758A) and the following:

a) SAE-GEIA-STD-0007-B Logistics Product Data
b) SAE-GEIA-HB-0007-B Logistics Product Data Handbook
c) SAE TA-HB-0007-1 Handbook and Guide for Logistics Product Data Reports
d) DI-SESS-81758A Logistics Product Data
e) Appendix B to this PWS entitled "Provisioning Requirements".
f) Add DIDs

3.3.5.2 The PPL shall be structured at the end item, component, or assembly level as specified by the Maintenance Allocation Chart. The PPL shall contain the end item, component, or assembly equipment and all support items which can be disassembled, reassembled, or replaced and which when combined, constitute the end item, component or assembled equipment. The PPL shall be structured in a top-down breakdown sequence. The Indenture Codes are in Alpha Character format. The Provisioning Line Item Sequence Number (PLISN) range of a PPL shall begin with Alphanumeric Codes in disassembled order with A001 as the first “B” indenture PLISN.

3.3.5.3 Efforts to be performed may be divided into the following areas:

a) Prepare PPL using available source data.
b) Revise PPL by updating existing data elements to include any changes or additions.
c) Prepare changes to the PPL caused by Design Change Notices (DCN), or addition of a new model Usable on Code (UOC).
d) Prepare Engineering Data for Provisioning (EDFP) (if required).
e) Prepare DCNs (if required).

3.3.5.4 The Contractor shall use Government supplied data (tape, drawings, RPSTLs, etc.) if available. The Contractor shall use the data supplied on the Government furnished CD ROM or DVD, and furnish a CD ROM or DVD to the Government containing only the PPL.

3.3.5.5 The Contractor is not responsible for the adequacy and accuracy of Government furnished data. The Contractor shall be responsible for notifying the Government of any inaccurate Government data.

3.3.5.6 The Data Requirements Form identifies the minimum data elements/card blocks to be delivered under this effort. Additional data elements/card blocks may be included in the PPL submitted by the Contractor, provided that the minimum elements can be unambiguously retrieved from the submitted PPL.

3.3.5.7 If a new model is added to the PPL, the UOC of the new model must be added to all PLISNs that are common to the new model. Only the unique parts shall be given new provisioning lines.

3.3.5.8 Special Tools required to fault isolate and repair the repairable items listed in the PPL, shall be included in the PPL. Special Tools are defined as tools, TMDE, or other support equipment designed and developed to perform a specific maintenance operation on specific assemblies or subassemblies of an end item. Common tools (those having multiple applications), shall not be listed in the PPL. The beginning PLISN for the special tools shall be T001.

3.3.5.9 Part Number Stabilization

3.3.5.9.1 It is the intent of the Government, through this requirement, to establish a stable manufacturer's part/reference number identification of spare and repair parts for submission on a PPL or spare/repair parts ordering. This is not to be construed as a requirement to freeze the design of the equipment or to influence the configuration management process.

3.3.5.9.2 The manufacturer's part/reference number identification referenced in Content Requirements for Preparation of Provisioning Technical Documentation (PTD) and utilized in the submission of a PPL will not be changed until the successful completion of Government acceptance of the production item. Any changes in the manufacturer's part/reference number identification after Government acceptance of the item shall be identified by utilization of the Prior Item PLISN data entry on the PTD or by Design Change Notice to the PTD.

3.3.5.9.3 In the event that an item identified on a PPL has ceased to exist (i.e., not been replaced by a form, fit, and function equivalent item) for any reason, the Technical Office, in Block 6 of DD Form 1423 for DI-ALSS-81529, shall immediately be notified of this fact, along with a narrative statement of the cause and predicted effect of the change.

3.3.5.9.4 If no requirement other than PTD exists in the contract, the Contractor may maintain his database in any appropriate format. The PTD shall be delivered in the format of a PPL. A separate CD ROM or DVD shall be delivered for each Provisioning Contract Control Number (PCCN). The PTD shall be loadable to the Logistics Modernization Program (LMP) with an accuracy rate of 95 to 98 percent for both content and data download as verified by sampling techniques and automated (LMP) tools. Any exceptions in loadable requirements or accuracy rate shall be approved by the provisioning activity.

3.3.5.10 Electronic Media. The PTD shall be delivered in the media defined below:

a) File Format Requirement. File shall be written in ASCII (Text) format.
b) External Label Requirements. External label shall describe contents (e.g. End Item, PCCN, UOC, Number of Records, number of PLISN lines).

c) Classification Label Requirements. A classification label identifying the security level of included data shall be attached to each separate package containing a CD ROM or DVD being shipped.

3.3.5.11 Requirements for Provisioning and Other Pre-Procurement Screening Data

3.3.5.11.1 The Contractor shall perform Defense Logistics Service Center (DLSC) prescreening for all Reference Numbers appearing on all applicable Provisioning Technical Documentation Parts Lists as described by CDRL A030 (DI- SESS-81759A) and IAW DOD 4100.39-M, (DI- SESS-81759A) as well as the requirements included in this PWS and Appendix B.

3.3.5.11.2 The Contractor shall provide screening results to the Government 30 days prior to each Provisioning In Process Review (IPR) and have the results of screening data available at each Provisioning IPR. The following data elements obtained as a result of valid NSN matches through DLSC screening shall be inserted into the PTD for review by Government personnel at each IPR.

Manufacturer's Reference Number
Commercial and Government Entity (CAGE)
Item Name
Reference Number Category Code (RNCC)
Reference Number Variation Code (RNVC)
Shelf Life Code
Unit of Measure Price
Recoverability Code

3.3.5.11.3 The Contractor shall contact DLSC for specific instructions.

Defense Logistics Agency, Katharine Perry, Army Provisioning Liaison, Katharine.Perry@dla.mil, 269-961-5413

3.3.5.11.4 DoD 4100.39-M is prepared and maintained by the Defense Logistics Information Service, Federal Center, Battle Creek, Michigan 49037-3084. Questions may be directed to the DLIS Customer Interaction Center, 1–877–352–2255

3.3.5.11.5 The Government requires the Contractor to interpret DLSC screening results and to extract current data which is required to be applied to the PTD. The data elements specified in paragraph 3.7.5.2.2 must be extracted for each Provisioning List Item Sequence Number (PLISN) line matched to an NSN and inserted in the applicable PTD Parts List, for Government review at each IPR.

3.3.5.11.6 Screening Data shall conform to DoD 4100.39-M, Volume 8 and 9. Use a fixed length record format IAW Figure l for Reference Number Data screening requests or Figure 2 for National Item Identification Number (NIIN) screening requests. Figures l and 2 are in Appendix B.

3.3.5.11.7 Additional information can be found in Appendix B.

3.3.6. Requirements for EDFP

3.3.6.1 The Contractor shall submit Engineering Data for Provisioning IAW this PWS and CDRL A031 (DI-SESS-81759A & DI-SESS-81874) for all PPL and DCN items which do not have NSNs assigned. EDFP is required in the following order of precedence for those items requiring EDFP and not supported by Government or recognized industry specifications or standards:

a) Technical data equivalent to approved product drawings (Production Drawings) as defined under MIL-STD-31000A;
b) Technical data equivalent to in-process/incomplete product drawings (Developmental/Partial Annotation) as defined under MIL-STD-31000A;
c) Commercial drawings, commercial manuals, catalogs, catalog descriptions, sketches or photographs with brief descriptions of dimensional, materiel, mechanical, electrical, or other descriptive characteristics (Conceptual/Minimal Annotation) as defined under MIL-STD-31000A.

Production drawings may be required for all non-proprietary consumable parts (e.g. cables...). These drawings shall include applicable standards, performance data, design materials, sizes, dimensions, pin-outs, etc… to facilitate open acquisition as well as operator-level repair efforts.

3.3.6.2 EDFP shall be marked in such a manner as to identify the proprietary rights (limited or unlimited) in accordance with DFARs Clause 252.227-7013.

(1) Hard Copy: The Contractor shall mark each hard copy with the Provisioning Line Item Sequence Number (PLISN) in the upper right hand corner. CAGE and P/N should be marked if not present on the technical data.

(2) Electronic Copy: The Contractor shall mark each copy with the Provisioning Line Item Sequence Number (PLISN) in the upper right hand corner. CAGE and P/N should be marked if not present on the technical data. The Contractor shall name each electronic file in the following format:
"PLISN_PART NUMBER_" example, "A001_12345.pdf"

3.3.6.2.1 The above EDFP shall provide for the following:

a) Technical Identification of items for maintenance support considerations;
b) Preparation of item identification for the purpose of assigning NSNs;
c) Review for item entry control;
d) Standardization;
e) Review for potential interchangeability and substitutability;
f) Item management coding;
g) Preparation of allowance/issue lists;
h) Source, Maintenance, and Recoverability coding.

3.3.6.2.2 The EDFP furnished by the Contractor shall be written in the English language or shall have English language translation. The EDFP will be sequenced by part number. The EDFP shall be delivered in *.pdf digital format. An alternative would be MS Word or compatible digital format. The EDFP shall be delivered in by both electronic submission (e.g. e-mail, FTP, etc…) as well as by CD-ROM or DVD media format readable by computers running Microsoft Windows.

3.3.6.2.3 EDFP shall not be provided when the item is:

a) Identified by a Government specification or standard which completely describes the item including its material, dimensional mechanical and electrical characteristics.
b) Item is listed as a reference item (subsequent appearance of an item) on a parts list.

3.3.7. Requirements for TM Repair Parts and Special Tools List (RPSTL)

3.3.7.1 The Contractor shall submit and deliver a TM (page-based) RPSTL IAW this PWS and MIL-STD-40051-2, DoD Standard Practice: Preparation of Digital Technical Information for Page-Based TMs. Use MIL-STD-40051-2, Appendix A (C-Band only) to select the content for the page-based manual. The content selected has supporting paragraphs in the rest of MIL-STD-40051-2. See paragraph 3.3.4.8 Requirements for TMs for additional manual requirements.

3.3.7.2 DELIVERY For all RPSTL updates prepared under this contract, the Contractor shall deliver digital files IAW CDRL A033 (DI-MISC-80711A).

3.3.7.3 FINAL DIGITAL DELIVERY. The final digital delivery shall be:

a) A complete set of all text and graphics files for the RPSTL(s) IAW the CECOM XML DTD, unless otherwise discussed with and approved by the Government acceptance activity.
b) A text file describing file types, sequence and any special information relevant to their use.
c) A copy of each RPSTL with the changes incorporated in editable Portable Document Format (*.pdf) compatible with the version XI of Adobe Acrobat.

3.3.8. Product Drawings/Models and Associated Lists, (Technical Data Package "TDP")

The Contractor shall provide a complete Product Level Drawing Package in accordance with MIL-STD-31000A, which completely documents the system design. All drawings in this Product Drawing Package shall comply with ANSI Y14.100, ASME Y14.24 and ASME Y14.34M.

3.3.8.1. This Product Drawing Package shall include assembly drawings, wiring diagrams, and detail drawings down to the piece part for all items designed and developed at Government expense. The assembly and detail drawings shall provide necessary design, engineering, manufacturing and quality assurance requirements necessary to enable the procurement or manufacture of an interchangeable item, which duplicates the physical and performance characteristics of the original product, without additional design, engineering or recourse to the original design activity (minimum Level 2 – Developmental drawings…). Drawings for items such as Any Special Inspection Equipment (SIE), any Special Tooling (ST), and any specialized non-

Ethernet cabling shall be a minimum of Level 3 – Production drawings to facilitate higher degree of repair (field or sustainment-level) and/or fabrication.

3.3.8.2. This Product Drawing Package shall also include control drawings for all commercial off the shelf (COTS) items that do not conform to recognized Government or industry specifications, non-developmental items (NDI), and items developed at private expense for which the Government has not acquired unlimited rights. These control drawings shall provide the applicable performance specification form, fit, function and interface information needed for competitive re-procurement of that item or an interchangeable item.

3.3.8.3. The Contractor shall also provide any digital modeling data files developed in support of this Product Drawing Package or the system design.

3.3.8.4. The Product Level Drawing Package shall be delivered in accordance with CDRL A007 (DI-SESS-81000E) Product Drawings/Models and Associated Lists.

3.3.9. Data and Product Rights. The Contractor shall grant the Government in writing unlimited rights to any and all data and products produced under this PWS including unlimited intellectual property rights and technical data rights.

3.3.10. Residual Material. The Contractor shall package and deliver to the Government all source material, defined as operating plans standard procedures, computer programs, and residual material to include computer disks, computer tapes, and all other media containing digital files developed to fulfill the requirements of this PWS.

3.3.11. Requirements for DCN

3.3.11.1.1 The Contractor shall submit DCNs IAW this PWS and the CDRL A034 (DI-SESS-81758A). DCNs shall document Engineering Change Proposals (ECP), if applicable, which have been approved by the appropriate Government authority and DCNs shall be submitted for changes to the equipment after the delivery of the PPL. DCN's shall document PPL changes and impacts to any TMs. DCN data shall be provided to the Government on the required medium by completion of data blocks as shown by the Data Requirements Form (DRF) (appendices 3.6.5.1.6), while maintaining and honoring the Provisioning Requirements Statement and the Provisioning Data Element Definitions as they are defined within this PWS.

3.3.11.1.2 DCNs shall be supplied for changes to equipment or parts supplied by the Contractor during this contract for any change that affects the part number of a part or assembly that is listed in the PTD or; any change that affects the listing of piece parts for a repairable assembly and any change that affects the TMs. PPL changes documented in the PTD should be developed IAW the following information.

3.3.11.1.3 One-way interchangeable (OW) items are those wherein the newer part will satisfy all the requirements of both the old and new applications. However, the older part will not meet the requirements of the new application. The new (superseding) part shall be delivered in the 036 Report format under its own (unique) PLISN. The 036 Report (PPL), block 29 ("C" card) shall contain the PLISNs of all Next Higher Assembly (NHA) applications. Block 44 ("D" card) shall contain the identifying UOC which has been assigned to each end item it is a part of (as a minimum it should list the older model's UOC, plus the UOC of at least one newer model). Interchangeability information on the "F" card shall contain the approved ECP number in block 67; the Interchangeability Code (IC) in block 68 shall be equal to "OW"; block 71 shall contain the superseded item's PLISN; and block 72 must equal "R". The old (superseded) part shall remain under its assigned PLISN. Interchangeability information on the "F" card shall contain the approved ECP number in block 67; the IC, block 68 shall equal "OW"; block 71 shall contain the superseding item's PLISN; block 72 shall be blank.

3.3.11.1.4 Two-way (TW) interchangeable items are those items wherein both the newer part and the older part will satisfy all requirements of both the new and old applications.

3.3.11.1.5 TW interchangeable, non-repairable items shall be assigned to the same PLISN as the old part number. The new part number will be assigned as the primary reference number and the old part number will become an additional reference. Interchangeability information on the "F" card for this PLISN shall contain the approved ECP number in block 67; the IC in block 68 shall equal "TW"; block 71 shall contain the PLISN of the line itself; block 72 shall be blank.

3.3.11.1.6 TW interchangeable repairable items shall be assigned a unique PLISN. Both the new and the old item's "C" and "D" cards shall be updated with the identical NHA and UOC information. The new and old item's "F" cards shall list the approved ECP in block 67 and the IC in block 68 shall be equal to "TW". However, block 71 of the new item must reflect the old item's PLISN and Block 72 must be equal to "R". Block 71 of the old item must contain the new item's PLISN and Block 72 must be blank.

3.3.11.1.7 Not Interchangeable (NI) items are those wherein the new part cannot be used in all applications. However, the old part can no longer be used in its present configuration. If the old part cannot be modified or reworked to the new version, it should be discarded (safety, etc. reasons). The new part shall be assigned a unique PLISN and contain all appropriate NHA PLISN and UOC data. In the "F" card, Block 67 shall contain the approved ECP number, block 68 shall equal NI, block 71 shall contain the PLISN of the old part and block 72 shall equal "R". The old part's "F" card shall be updated to reflect the approved ECP number in block 67. The IC in block 68 shall equal NI. Block 71 shall reflect the superseding part's PLISN. Block 72 shall be blank.

3.3.11.1.8 DCNs are not required for changes which have no impact on provisioning documentation e.g., changes to the finish, tolerances, etc., if they do not require a change to the part number.

3.3.11.1.9 The Contractor shall prepare PTD as specified and IAW Appendices 3.7.5.1.6 entitled "Data Requirements Form" and "Provisioning Data Element Definitions" IAW applicable columns checked on Data Requirements Form. Efforts to be performed may be divided into the following general areas:

3.3.11.1.10 Revise PPL as necessary by updating existing data elements to include any changes and/or additions.

3.3.11.1.11 Prepare changes to the PPL caused by DCN, or addition of a new model (UOC).

a) Prepare EDFP
b) Prepare DCN

3.3.11.2 The PTD shall be prepared IAW applicable CDRLS and, and applicable data checked on the appendix entitled "Provisioning Requirement Statement". The blocks checked on the DRF are the minimum requirements for PTD, which shall appear on the 036 report/PPL. If the Contractor uses the Provisioning Requirements data tables to prepare reports for his own purposes, or for other users, it is permissible for him to use additional data blocks. These additional data blocks will not have to be removed from the 036 report/PPL. The Contractor is also permitted to use the data tables to document items other than those that appear on the 036 report/PPL. These items shall not appear on the 036 report/PPL.

3.3.11.3 If a new model is added to the PPL, the UOC of the new model must be added to all PLISNs that are common to the new model. Only the unique parts shall be given new provisioning lines.

3.3.11.4 Special Tools required to fault isolate and repair the repairable items listed in the PTD, shall be included in the PTD. Special tools are defined as tools, TMDE, or other support equipment designed and developed to perform a specific maintenance operation on specific assemblies or subassemblies of an end item. Common tools (those having multiple applications) shall not be listed in the PTD. The beginning PLISN for the special tools shall be T001.

3.3.11.5 Submit DCNs in Contractor format in either ASCII "Text" or "Microsoft WORD" word processor format using the delivery medium as specified in Block 16 of the CDRL for DCNs. Each disk shall be plainly marked with its contents.

3.3.11.6 TM Impacts. The Contractor shall notify the Government of any changes to the PPL that affect the TMs in any way.

3.3.12. Training

3.3.12.1 Army Requirement (Optional)

3.3.12.1.1 The Contractor shall develop an Integrated Training Plan that encompasses the training requirements identified in the following paragraphs and consists of New Equipment Training (NET) and Instructor/Key Personnel (IKP) Training. The Contractor shall develop and deliver a Technical Training Plan, IAW CDRL A059 (DI-SESS-81958)

Pricing for this Army-optional element shall be submitted as part of the contractor's initial proposal to the government.

3.3.12.1.2 Training Conferences (TCs)

3.3.12.1.2.1 The Contractor shall host all required TCs at the Contractor's facility. Prior to scheduled meetings, discussion of agenda is required between Contractor and the Government training representative who will chair the conferences. As a minimum, the Contractor shall have his training developer at all training conferences. The purpose of the training conferences is to allow the Government representatives to review training materials, schedules, and required equipment and facilities. It is anticipated that there will be three training conferences.

3.3.12.1.2.2 TC 1 will be held approximately 30 days after contract award. The purpose of TC 1 will be to discuss the agenda for subsequent training conferences.

3.3.12.1.2.3 TC 2 will include a review of the preliminary 75 percent draft Training Materials. The Contractor shall provide these materials to the Government 30 days prior to the start date of TC 2. Other topics will include discussion of training schedules and other training related issues.

3.3.12.1.2.4 TC 3 will include a review the updated 100 percent of the draft Training Materials. The Contractor shall provide these materials to the Government 30 days prior to the start date of TC 3.

3.3.12.1.3 NET

The Contractor shall provide NET services and associated training materials to instruct Government designated personnel on the operation, maintenance, and administration of the

TROPO equipment. Courses will be conducted at the fielding sites designated by the Government.

3.3.12.1.3.1Training Courses

The Contractor will develop and conduct NET courses for the TROPO Solution equipment purchased under this contract. All courses shall be developed using MIL-PRF-29612B and TRADOC Regulation 350-70 as guidance. The courses shall adhere to the TRADOC Systems Approach to Training (SAT) process and Automated Systems Approach to Training (ASAT) process (http://www.asat.army.mil/). The Contractor shall design each training course to ensure that no less than 60 percent of each course is devoted to practical exercises. The Contractor shall develop training materials that covers all levels (Corps/Division, Brigade/BCT, and Battalion) of TROPO Solution users.

3.3.12.1.3.2Class Size

Class size will depend on the Government-approved student-to-equipment ratio and the number of systems available for training. However, the operator/maintainer courses shall not exceed sixteen (16) students per class. The maintenance courses shall not exceed six (6) students per class.

3.3.12.1.3.3Training Packages

The Contractor shall develop and provide Training Support Packages (TSP's) for each course per CDRL A035 (DI-SESS-81523C). The Contractor shall deliver to the Govt. all of the 100% completed TSP's in printed and uploaded into electronic media (CD's, tablets, etc…) devices, which will be always be delivered in TDC database. Delivery of the TSP's 100% drafts should be made available to the Govt. one week prior to the hosting of the NET TSP Validation event. The final draft of the TSP should also be delivery to the Govt. one week prior to the NET TSP final Verification event. Training materials developed by the Contractor for NET shall be reusable for refresher training, institutional training and Distance Learning. Commercially available materials may be used as well as newly developed materials where none exist. The Contractor shall submit copies of training materials per requirements, quantities, and schedules contained in the applicable delivery order(s). The Contractor shall provide the following training materials and/or updates, as necessary for each training course conducted:

a) Program of Instruction
b) Test Package i.e. Written/Performance Test/Practical Exercises
c) Instructional Media Package i.e. Instructional Media Guide
d) Lesson Plan
e) Student Training Guide
f) Trainee and Training Course Completion Reports, including Attendance Rosters, Course Critiques, and Certificates of Training

3.3.12.1.3.4 The Contractor shall provide one hardcopy Student Training Guide for each student in each class. The Contractor shall ensure that all training material developed under this contract is compatible with the Shareable Courseware Object Reference Model (SCORM)/reusable content/virtual courseware.

3.3.12.1.3.5 Training Material Revisions

The Contractor shall maintain and update training materials to reflect changes in equipment or software configuration of the TROPO Solution equipment. The Contractor shall develop and provide updated training materials per CDRL A035 (DI-SESS-81523C).

3.3.12.1.3.6 Training Equipment

The Contractor shall furnish all supplies, additional equipment, and tools necessary to conduct the training courses. Exception to this will be those items and materials provided as GFE at the fielding location (Unit), such as classroom and furniture. The Contractor shall use fielded production equipment for the NET, or furnish additional training suite equipment for the duration of the training.

3.3.12.1.3.7 Training Task and Skill Analysis

The Contractor shall conduct a Training Task and Skill analysis to identify all system operational and maintenance tasks and provide a basis for the selection or non-selection for training. The analysis shall include the following factors: criticality of correct performance, training emphasis rating, and difficulty of performance. The Contractor shall utilize the results of the analysis for the development of the training materials.

3.3.12.1.3.8 Field-Level Training

The Contractor shall conduct field-level follow-on refresher and delta training as required by the Government and as specified in individual delivery orders. The Contractor shall use the same training materials as was used for NET.

3.3.12.1.3.9 Individual Key Performance Training (IKPT)

The Contractor shall provide initial transfer of system operation and use knowledge to IKPT, military and/or Department of the Army (DA) Civilians. The Contractor shall conduct training for all TROPO equipment to the platform training team personnel as required. The Contractor will schedule IKP based on availability of IKP personnel and will be held at locations determined by the Government.

3.3.12.1.3.10 Training Materials

The Contractor shall design, develop, and integrate Commercial Off-The-Shelf (COTS)/Government Off-The-Shelf (GOTS) products as appropriate into training materials. The Contractor shall deliver these training materials to teach skills and knowledge to perform, as a minimum, the following tasks: set up, activate, check out, operate all operational/administrative functions, maintain, troubleshoot, fault-isolate and repair (as appropriate) and safety procedures. These training materials and applicable instruction constitute the IKP Training package. The IKP Training package shall be modular, with portions addressing TROPO functional areas and hardware platforms. Training materials shall include procedures on system configuration and

checkout. The Contractor shall develop all training materials using the TRADOC Systemic Approach to Training (SAT) process (e.g. Analyze, Design, Develop, Implement, Evaluate…), ASAT and/or its Successors and Shareable Courseware Object Reference Model (SCORM)/reusable content. The Contractor shall develop and conduct training courses for Government selected personnel as described below. All courses shall be developed IAW MIL-PRF-29612B, TRADOC Regulation 350-70, and this PWS using DI-SESS-81523C as guidance. Copies of this training material will be submitted to the Government IAW CDRL A035 and include requirements, quantities and schedules. NET Training Material shall be prepared and be delivered in digital media format (Tablets, CD's etc...) for each TROPO suite. The Contractor shall provide the following training materials/package and/or updates, as necessary for each IKP course presented in TDC format:

a) Program of Instruction
b) Test Package i.e. Written/Performance Test/practical exercises
c) Instructional Media Package i.e. Instructional Media Guide (including the Student Training Guide)
d) Lesson Plan (including the Written/Performance Test)
e) Student Training Guide
f) Trainee and Training Course Completion Reports, including Course Critiques

3.3.12.2 USMC Requirement (Required…)

3.3.12.2.1 The contractor shall develop integrated training materials that encompass the training requirements identified in the following paragraphs and consists of New Equipment Training (NET) and Instructor & Key Personnel Training (I&KPT) training package. The contractor shall develop and deliver training materials and associated documentation IAW CDRL M036 (DI-ILSS-80872).

3.3.12.2.2 Training Conferences (TCs)

3.3.12.2.2.1 The contractor shall host all required TCs at the contractor's facility. Prior to scheduled meetings, discussion of agenda is required between contractor and the Government training representative who will chair the conferences. At a minimum, the contractor shall have his/her training developer at all training conferences. The purpose of the training conferences is to allow the Government representatives to review training materials, schedules, and required equipment and facilities. It is anticipated that there will be three training conferences.

3.3.12.2.2.2 TC 1 will be held approximately 30 days after contract award. The purpose of TC 1 will be to discuss the agenda for subsequent training conferences.

3.3.12.2.2.3 TC 2 will include a review of the preliminary 100 percent draft training materials and associated documentation. The contractor shall provide these items to the Government 30 days prior to the start date of TC 2. Additional topics will include discussion of training schedules and other training related issues.

3.3.12.2.2.4TC 3 will include a review the updated 100 percent of the draft training materials and associated documentation. The contractor shall provide these items to the Government 30 days prior to the start date of TC 3. The objective of TC3 is to finalize the training products.

3.3.12.2.3 NET

The contractor shall provide NET services and associated training materials to instruct Government-designated personnel on the operation, maintenance, and administration of the TROPO equipment. Courses will be conducted at the fielding sites designated by the Government.

3.3.12.2.3.1Training Courses

The contractor will develop and conduct NET courses for the TROPO Solution equipment purchased under this contract. All courses shall be developed using MIL-PRF-29612B and NAVMC 1553.1A as guidance. The courses shall adhere to the Marine Corps Instructional Systems Approach to Training and Education (SATE) process. The contractor shall design each training course to ensure that no less than 60 percent of each course is devoted to practical exercises. The contractor shall develop training materials that cover all levels (operator, supervisors, maintenance, and administrator) of TROPO solution users.

3.3.12.2.3.2Class Size

Class size will depend on the Government-approved student-to-equipment ratio and the number of systems available for training. However, the operator/maintainer courses shall not exceed sixteen (16) students per class. The maintenance courses shall not exceed six (6) students per class.

3.3.12.2.3.3Training Materials

The contractor shall develop and provide training support materials (TSPs) for each course per Marine Corps CDRL M036 (DI-ILSS-80872). The contractor shall deliver to the Government all of the 100% completed TSPs in printed format and uploaded into electronic media (CD’s, tablets, etc.) devices, which will be always be delivered in Tabular Data Control (TDC) and Hypertext Markup Language (HTML) format. Delivery of the TSPs 100% drafts should be made available to the Government two weeks prior to the hosting of the NET TSP validation event. The final draft of the TSP should also be delivered to the Government two weeks prior to the NET TSP final verification event. Training materials developed by the contractor for NET shall be reusable for refresher training, institutional training, and distance learning. Commercially available materials may be used as well as newly developed materials where none exists, but all should comply with NAVMC 1553.1A and MIL-PRF-29612B format guidance. The contractor shall submit copies of training materials per requirements, quantities, and schedules contained in the applicable delivery order(s). The contractor shall provide the following training materials and/or updates, as necessary for each training course conducted: course structure document, instructor preparation guide, operational risk assessment, lesson plan, student training guide, instructional media package, test package, and trainee and training course completion reports.

a) Course Structure Document

b) Instructor Preparation Guide
c) Operational Risk Assessment
d) Lesson Plan
e) Student Training Guide
f) Instructional Media Package; i.e., Instructional Media Guide
g) Test Package; i.e., Written/Performance Test
h) Trainee and Training Course Completion Reports, including Attendance Rosters, Course Critiques, and Certificates of Training

3.3.12.2.3.4 The contractor shall provide one hardcopy student training guide for each student in each class. The contractor shall ensure that all training material developed under this contract is compatible with the Shareable Courseware Object Reference Model (SCORM)/reusable content as well as NAVMC 1553.1A and MIL-PRF-29612B format guidance.

3.3.12.2.3.5 Training Material Revisions

The contractor shall maintain and update training materials to reflect changes in equipment or software configuration of the TROPO solution equipment. The contractor shall develop and provide updated training materials per Marine Corps CDRL M036 (DI-ILSS-80872).

3.3.12.2.3.6 Training Equipment

The contractor shall furnish all supplies, equipment, and tools necessary to conduct the training courses. Exception to this will be those items and materials provided as GFE at the fielding location (Unit), such as classroom and furniture. The contractor shall use fielded production equipment for the NET or furnish additional training suite equipment for the duration of the training.

3.3.12.2.3.7 Training Task and Skill Analysis

The contractor shall conduct a training task and skill analysis to identify all system operational, maintenance, and administrative tasks and provide a basis for the selection or non-selection for training IAW Marine Corps CDRL M037. The analysis shall include the following DIF factors for each task: Difficulty of learning each task, Importance of correct performance for each task, and Frequency that each task is performed. The contractor shall utilize the results of the analysis for the development of the training materials.

3.3.12.2.3.8 Training Pilot Event

The contractor shall conduct a training pilot event in which the I&KPT/NET is conducted no less than two months prior to the initial I&KPT/NET events. The training pilot event will include no fewer than eight Marine students from targeted MOSs who will operate, maintain, and perform administrative functions for the TROPO system. Program Office Government personnel will attend the training pilot event to evaluate the training, provide feedback, and conduct curriculum reviews after revisions are made. The contractor shall use the feedback to improve the training packages and submit the revised materials to the Government no more than 21 days from the completion of the pilot. The Government shall use no more than 14 days to review the revised package for approval.

3.3.12.2.3.9Field-Level Training

The contractor shall conduct field-level follow-on refresher and delta training as required by the Government and as specified in individual delivery orders. The contractor shall use the same training materials (or updated as required) as was used for NET.

3.3.12.2.3.10 Individual & Key Personnel Training (I&KPT)

The contractor shall provide for initial transfer of system operation and use knowledge to I&KP, military, and/or USMC civilians. The contractor shall conduct training for all TROPO equipment to the platform training team personnel as required. The contractor will schedule I&KPT based on availability of I&KP and will hold the training at locations determined by the government.

3.3.12.2.3.11 Training Materials

The contractor shall design, develop, and integrate COTS/Government Off-The-Shelf (GOTS) products as appropriate into training materials IAW PRF-29612B and NAVMC 1553.1A as guidance. The contractor shall deliver these training materials to teach skills and knowledge to perform, at a minimum, the following tasks: safety as required in the technical manual as well as any Government-added safety items, set-up, activation, checkout, operation of all operational/administrative functions, tear-down, maintenance, troubleshooting, fault isolation, and repair (as appropriate). These training materials and applicable instruction constitute the I&KPT and NET packages. The training packages shall be modular, with portions addressing TROPO functional areas and hardware platforms. Training materials shall include procedures on system configuration and checkout. The contractor shall develop all training materials using PRF-29612B and NAVMC 1553.1A as guidance. The contractor shall develop and conduct training courses for Government-selected personnel as described below. Copies of this training material will be submitted to the Government IAW Marine Corps CDRL M037 and include requirements, quantities, and schedules. Training materials shall be prepared and delivered in hardcopy for each student as well as digital media format (Tablets, CD’s, etc...) for each TROPO suite. The contractor shall provide the following training materials/package and/or updates, as necessary for each training course presented in TDC format:

a) Course Structure Document
b) Instructor Preparation Guide
c) Operational Risk Assessment
d) Lesson Plan
e) Student Training Guide
f) Instructional Media Package; i.e., Instructional Media Guide
g) Test Package; i.e., Written/Performance Test
h) Trainee and Training Course Completion Reports, including Attendance Rosters, Course Critiques, and Certificates of Training

3.3.13. Packaging

3.3.13.1 Preservation, packing and marking for shipment shall be IAW Section 'D' of the contract. Packaging shall be IAW ASTM D3951-15 Standard Practice for Commercial Packaging. Level of Preservation (LOP): Commercial, Level of Pack (LPK): Commercial, Quantity Unit Pack (QUP): 001. Marking shall be IAW MIL-STD-129R with change 4. Radio Frequency Identification (RFID) requirements shall be IAW the Section "F" clause, DFARS 252.211-7006 of the contract. MIL-STD-129R is applicable.

3.3.13.2 Wood Packaging Material Requirements

3.3.13.2.1 Wood packaging material (WPM) includes but is not limited to pallets, skids, load boards, pallet collars, wooden boxes, reels, dunnage, crates, frames and cleats. This requirement excludes materials that have undergone a manufacturing process, such as corrugated fiberboard, plywood, particleboard, veneer, and oriented strand board (OSB).

3.3.13.2.2 All WPM shall meet the requirements of the International Standards for Phytosanitary Measures (ISPM) Number 15, "Regulation of Wood Packaging Material in International Trade". DoD shipments inside and outside of the United States shall meet the requirements of ISPM 15 whenever WPM is used to ship DoD cargo.

3.3.13.2.3 All WPM shall comply with the official quality control program for heat treatment (HT) or kiln dried heat treatment (KDHT) IAW American Lumber Standard Committee (ALSC), Incorporated, Wood Packaging Material Program and WPM Enforcement Regulations (see http://www.alsc.org/).

3.3.13.2.4 All WPM shall include certification/quality markings IAW the ALSC standard. Markings shall be placed in an unobstructed area that will be readily visible to inspectors. Pallet markings shall be applied to the stringer or block on diagonally opposite sides of the pallet and be contrasting and clearly visible. All containers shall be marked on a side other than the top or bottom, contrasting and clearly visible. All DUNNAGE used in configuring and/or securing the load shall also comply with ISPM 15 and be marked with an ALSC approved DUNNAGE stamp.

3.3.13.2.5 Failure to comply with these requirements may result in refusal, destruction, or treatment of materials at the point of entry. The Government reserves the right to recoup from the Contractor any remediation costs incurred by the Government.

3.3.13.2.6 Handling, Storage, Preservation, Packaging and Shipping. The Contractor shall establish, maintain, control and be responsible for the handling, storage, preservation, packaging and shipping to protect the quality of the materials and to prevent damage from loss, deterioration, degradation, or substitution of products.

3.3.14. Item Marking

3.3.14.1 Item marking is a part of a compliance process mandated by DoD.

3.3.14.2 Part Number Marking

Each TROPO system delivered under this contract shall be marked with a data plate identifying system identification information as outlined in MIL STD-130N (Identification Marking of U.S. Military Property). Each assembly, subassembly, and module, shall be legibly marked with the appropriate part number and manufacturer's identification. Hardware such as screws, nuts, bolts, need not be marked. The marking shall become permanently part of the item after it is applied, and can be applied using deformation, tag, and rubber stamp with permanent characteristics or stencil. The marking shall not interfere with proper operation of the item, and shall have no deleterious effect on the item. Any item deemed unsuitable for marking as outlined herein shall be identified to the KO for resolution as to marking requirement. This requirement may be entirely met by existing marking requirements contained within the drawings or PSPEC cited in this contract.

3.3.14.3 Serial Number Marking

Any item or subassembly which contains a serialization requirement shall have serial numbers applied to each item in the place provided (generally on a nameplate/serial number plate) in accordance with MIL STD-130N (Identification Marking of U.S. Military Property). In addition, the Contractor shall obtain a block of serial numbers from the Government within 30 days of request from:

Commander, US Army Communications-Electronics Command

ATTN: AMSEL-LCC-TNN. APG, MD 21005

3.3.14.4 The Contractor shall include the following information in the request.

a) Contract Number
b) Quantity of items on contract
c) Item part numbers as noted in Section B of the contract
d) Contractor's name and address

3.3.14.5 USMC Unique Requirement

3.3.14.5.1 The Contractor shall include the following data attributes on the nameplate/serial number plate affixed to end items delivered to the USMC. This nameplate shall be developed per the "Gold Standard" DTG 201546Z 16 Naval message (format can be provided upon request)

3.3.14.5.1.1 The Contractor shall provide a production-level drawing of the data plate that will facilitate reproduction/fabrication in support of future repair/replacement activities. In addition to "Gold Standard" requirements, this drawing shall reflect format, layout, size, material, location on equipment, application method, etc…)

3.3.14.6 Safety Marking

Each case as well as individual components will have all applicable safety markings including but not limited to lift requirements, voltage, Radio Frequency (RF), Electromagnetic Interference, etc… per MIL STD 1472G.

3.3.15. Records

The Contractor shall maintain an accurate, current list of serial numbers for all manufactured items under this contract. The list shall be available for inspection by the KO or COR at any time during the life of the contract and for a period of three (3) years following the completion of the contract.

3.3.16. Product and Architecture Configuration Data

3.3.16.1 The Contractor shall deliver and maintain Product Data (PD) that accurately reflects the historical and current description of each Configuration Item (CI) in the Product Baseline (PBL) for the entire length of the contract. PD encompasses all the information necessary for a complete definition of each CI in the PBL and for accomplishing engineering analyses, manufacture, and integrated logistics support. Product Configuration Data, its maintenance, updates and associated costs shall be included in the fixed price.

3.3.16.2 The Contractor is responsible for CM of the system. The Contractor shall implement and maintain a CM system using MIL-HDBK-61A (SE) as a guide to assure each delivered item conforms to the generated documentation. The Contractor shall establish a Configuration Management Process to control the configuration of the terminals for the duration of this contract.

3.3.16.3 Validation of the system's technical data to ensure all configuration changes are incorporated into the Configuration Management (CM) data base and drawings to ensure the system's most current configuration is documented. Contractor needs to ensure DMSMS is addressed in the CM program plan.

3.3.17. Delivery of Product Data

The Contractor shall provide Product Data as part of the Configuration Baseline IAW CDRL A038 (DI-CMAN-80776). The data shall include, as needed:

a) Interconnection Diagrams, for each subcomponent of the system, which show connections between LRUs, to the port level, and cabling, to include cable details and pin-outs.
b) Rack Elevation Diagrams, to include front and back views of rack assemblies with LRUs installed and connected.
c) Power Distribution Diagrams, which show routing of electric power throughout the cases.
d) Hardware and software settings and strappings, equipment configurations, port settings, firewall settings, access control lists (ACLs) of each LRU.
e) CM 'Artifacts' such as LRU cut-sheets, policies, IP addressing and telephony addressing plans, and settings (DHCP, ACL, etc).

3.3.18. Audit of Product Data

3.3.18.1 The Government will review the delivered PD for accuracy and completeness. Upon the Government's request, the Contractor shall provide necessary resources, including hardware, to perform an audit on the PD delivered. The audit process may require disassembly of Contractor provided hardware.

3.3.19. Source Data for Diminishing Manufacturing Sources and Material Shortages (DMSMS)

3.3.19.1 Obsolescence and DMSMS Management Plan. The Contractor shall develop and submit an Obsolescence and DMSMS Management Plan for managing the loss, or impending loss, of manufacturers or suppliers of parts and/or material required for performance of this contract. All costs shall be included in the fixed price. The DMSMS Plan shall be developed IAW this PWS and the CDRL A039 (DI-MGMT-81948).

3.3.19.2 Obsolescence and DMSMS Implementation Plan. The Contractor shall develop and submit an Obsolescence and DMSMS Implementation Plan to assess how the contractor plans to implement the requirements for the program's DMSMS Management plan identifying and managing the loss, or impending loss, of manufacturers or suppliers of parts and/or material required for sustained operational availability of the TROPO system. All costs shall be included in the fixed price. The DMSMS Plan shall be developed IAW this PWS and the CDRL A060 (DI-MGMT-81949).

3.3.19.3 An obsolete part is defined as a specific component/subcomponent utilized under this contract that a viable supplier, at any tier, elects to no longer offer. The prices under this contract do not include cost associated with obsolescence that occurs beyond the period of performance of this contract. In addition, obsolescence activities, including but not limited to, redesign, qualification testing, etc., shall be the subject of a separate contract action.

3.3.19.4 The Contractor's responsibility under this contract includes early identification of such problems and the mitigation of the impact to the supply availability metric. Accordingly, the Contractor shall perform an ongoing post production support obsolescence/Diminishing Manufacturing Sources (DMS) program as identified within this PWS to mitigate future obsolescence/DMS impact and provide the Government advance notification of obsolescence/DMS issues that would require additional funding. The Contractor recognizes that significant redesign, re-qualification and/or other non-recurring activities require immediate notification to the government in order to develop timely technical and acquisition plans of action, including the programming of budgets to affect major redesign and/or re-qualification.

3.3.19.5 Requirements for DMSMS Reporting

The Contractor shall develop the forecasting source data that will enable the identification, forecasting and management of piece part obsolescence impacts and mitigations as a part of the DoD Program Managers' Total System Life Cycle Management responsibilities. This data is planned for use in DMSMS forecasting tools using a common data standard that enhances efficiency across programs that may share the data on common items. The data may be obtained during any program life cycle phase using sources such as the preferred parts list, bill-of materials (BOM), vendor surveys, inspections, etc. The DMSMS data shall be developed IAW this PWS and the CDRL A006 (DI-SESS-81656B) and submitted on a quarterly basis.

The report shall include forecasted end of Life, end of sale, and end of support dates obtained from the Outside Equipment Manufacturers (OEMs). It shall also include any form-fit-functional replacement items that could serve as substitutes when original parts are no longer available.

3.3.19.6 If the contractor is unable to fulfill the equipment/parts demands or identify form-fit-functional replacements for equipment identified to be obsolete, the contractor shall provide the government with the level of technical data necessary to take appropriate action in the form of reverse engineering, organic depot support, or another vendor

3.3.19.7 Obsolescence Escrow Account

3.3.19.7.1 For any spare parts that the Government orders on this contract, the contractor shall assemble and submit for review and inspection by the Government, an Obsolescence Escrow Account Data Package (OEADP). The Obsolescence Escrow Account Data Package shall be placed in an Obsolescence Escrow Account, and the Contractor shall hold and manage the OEA. The intent of the OEADP is to ensure that in the event the Contractor refuses to continue support of TROPO spare or repair parts or cessation of sustainment support by the Contractor or Contractor bankrupts, the Government is not left without sustainment support of TROPO. This package shall include production drawings, associated lists and corresponding circuit descriptions narrating the production drawings, and master patterns to support follow-up sparing, equipment procurement, quality control, production and repair test procedures, and tolerances for each replaceable component. Production drawings, for each replaceable component, shall be provided to a level of definition sufficiently complete to enable a competent manufacturer to produce and maintain quality control of items to the degree that physical and performance characteristics interchangeable with those of the original design are obtained without resorting to additional product design effort, additional design data, or recourse to the original design activity. Fabrication drawings of all production and depot level test beds and fixtures shall be provided.

3.3.19.7.2 Obsolescence Escrow Account Data Package shall contain all versions of the technical data and software (that reflect all fielded versions of the TROPO system. The Contractor shall clearly organize and mark the technical data and software to enable the Government (or a skilled manufacturer) to ascertain what fielded version of the TROPO system is depicted in the technical data. If the Government elects to order the OEA, then the Contractor shall continue to maintain and update the OEADP in the OEA until the end of the effective period of the contract (to include any delivery orders and their delivery periods).

3.3.19.7.3 <u>Obsolescence Escrow Account Data Package (OEADP)</u>

3.3.19.7.3.1 If ordered by the Government, the Contractor shall establish and maintain (including bear the cost) of an escrow account containing a complete set of the technical documentation for the TROPO system. Changes approved under the Contractor's configuration management program shall be applied to the data in the Obsolescence Escrow Account.

3.3.19.7.3.2 The OEA shall include the following data:

a) Product drawings and associated lists
b) Special inspection equipment drawings and associated lists
c) Special tooling drawings and associated lists
d) Software Product Specification
e) Computer Program End Item Documentation

3.3.19.7.3.3 The Contractor shall deliver technical data contained in the Obsolescence Escrow Account to the Government if one of the following triggering events occurs:

a) The Contractor ceases to provide sustainment support for the TROPO system;
b) The Contractor ceases to offer to sell a spare or repair part or LRU item (for the TROPO system) to the Government; or
c) The Contractor bankrupts.

3.3.19.7.3.4 Examples of events that would not trigger a release of technical data contained in the Obsolescence Escrow Account:

a) The Contractor replaces a component or subcomponent with a suitable substitute that is backwards compatible with all versions of the TROPO system previously delivered under this contract;
b) The Contractor’s business unit is absorbed by another business unit within the company or the Contractor is acquired by another business entity, but the Contractor continues to support the TROPO system; or
c) The Contractor debuts a new version of the TROPO system after the effective period of this contract, but continues to support all of the versions of the TROPO system delivered during this contract.

3.3.19.7.3.5 The Contractor’s obligation to keep the OEADP in the OEA survives after the end of the effective period of the contract or the termination of the contract. In addition, the Contractor’s obligation to deliver the technical data, if one of the above events occurs, survives after the end of the effective period of the contract or the termination of the contract.

3.3.19.7.3.6 In the event that the Contractor ceases to offer to sell all TROPO system spare/repair parts (or ceases to sell the total TROPO system), the Contractor shall deliver all of the technical data (contained in the Obsolescence Escrow Account) CDRL A061 (DI-SESS-80776A).

3.3.19.7.3.7 In the event the Contractor ceases to offer a component or subcomponent without a suitable backwards compatible replacement/substitute, the Contractor shall deliver all of the technical data (contained in the Obsolescence Escrow Account) CDRL A061 (DI-SESS-80776A) that relate to the component or subcomponent.

3.3.19.7.3.8 In the event that the Contractor ceases to offer to sell only specific TROPO system spare/repair parts (as opposed to ALL TROPO system product spare/repair parts), the Contractor shall only deliver the technical data (contained in the Obsolescence Escrow Account) CDRL A061 (DI-SESS-80776A) that is needed to enable a competent manufacturer to produce and maintain quality control of the specific spare/repair parts (which the Contractor no longer sells) to the degree that physical and performance characteristics interchangeable with those of the original design are obtained without resorting to additional product design effort, additional design data, or recourse to the original design activity.

3.3.19.7.3.9 Obsolescence Escrow Account Index

3.3.19.7.3.9.1 The contractor shall deliver an Obsolescence Escrow Account Index CDRL A062 (DI-EGDS-80918) of all the technical data contained in the Obsolescence Escrow Account. The Contractor shall maintain the index and deliver an updated index to the Government at the end of each month during which changes have been posted. As a part of the Obsolescence Escrow Account Index, the Contractor shall document that the data in the escrow account and elements thereof conform to the contractual requirements and accurately depict the hardware developed, produced and modified under the contract. Contractor's use of the data in the escrow to produce, inspect, and test the system hardware is considered acceptable evidence that the validation requirement has been met.

3.3.20. Delivery of Architecture Data

3.3.20.1 The Contractor shall provide Architecture Data as part of the Configuration Baseline IAW CDRL A038 (DI-CMAN-80776).

3.3.21. Correction of Noncompliant Equipment and Technical Data

3.3.21.1 If this contract contains configuration control requirements, the Contractor shall initiate the appropriate configuration control document to correct all affected drawings/specifications which conflict with or omit the marking requirements stipulated in the previous paragraphs.

3.3.21.2 If configuration control requirements do not apply and the equipment on order is defined by technical data which conflicts with or omits the marking requirements stated above, the Contractor shall advise the PCO. Such advice shall list the number of each deficient drawing/specification and a brief description of the deficiency.

3.3.22. Data Rights

3.3.22.1 The Government's rights in commercial technical data and software deliverables shall be governed by DFARS 252.227-7015 and DFARS 252.227-7028, respectively. Pursuant to the requirements set forth in DFARS 252.227-7017, Offerors are required to specifically identify Data/Software Rights Assertions related to technical data and software deliverables. As indicated in DFARS 252.227-7017(e), an Offeror's failures to submit, complete, or sign the aforementioned Data and Software Rights Assertions with its offer may render the offer ineligible for award. The Offeror's Data/Software Rights Assertions shall be submitted IAW DFARS 252.227-7017: "Identification and Assertion of Use, Release, or Disclosure Restrictions."

3.4. System Safety

The equipment shall be designed so that under all conditions of normal use (installation, operation, maintenance) and under a likely fault condition (including human error), it protects against the risk of electric shock and other hazards. All hazards shall be eliminated or reduced to the lowest risk level practical using methods in the following order of precedence: design; incorporation of safety devices; incorporation of warning devices; labeling (per MIL STD 1472G), and procedures/training. Catastrophic or Critical hazards shall not rely solely on warnings, cautions, or procedures/training for control of risk.

The Contractor shall provide Safety Assessment Reports (SARs) CDRL A040 (DI-SAFT-80102C) for the TROPO system to support Milestone Decisions and other program reviews. DoDI 5000.02, Enclosure 12 Section 6 applies

3.4.1. Electrical Requirements

3.4.1.1 Equipment shall meet the applicable requirements of the National Electrical Code, NFPA 70-14, and UL 60950-1, Information Technology Equipment Safety.

3.4.1.2 Where COTS Equipment is used, the Contractor shall select equipment that has been listed or certified to an appropriate industry safety standard by a Nationally Recognized Test Laboratory, such as Underwriters Laboratories. The Listing or Certification must cover the intended equipment usage and operating environment. Where equipment or systems are not Listed, Certified, or are modified, they shall comply with the design requirements of NFPA 70-14 and the appropriate ANSI/UL or other industry safety standard.

3.4.1.3 Operators shall not have access to components with voltages exceeding 30V. The operator will not be exposed to stored energy shock at the disconnecting means IAW UL 60950-1, paragraph 2.1.1.7.

3.4.1.4 Protection will be provided to personnel during maintenance and repair to prevent unintentional contact with voltages exceeding 30V. Current sources exceeding 25A shall be protected from accidental short circuiting. Capacitors shall be discharged to less than 30V and 20J energy prior to maintainer access. Circuits and components exceeding 600V shall be completely enclosed and interlocked (non-bypassable). Where interlocks are used, they shall comply with UL 60950-1, section 2.8.

3.4.1.5 Interface with power sources and a readily accessible disconnecting means shall be IAW NFPA 70-14 and UL 60950-1, sec 3.4. Equipment designed to have multiple-input power capabilities, or powered by a generator with multiple-voltage output capabilities, shall be protected from damage when connected to incorrect input power/voltage levels or polarity.

3.4.1.6 Equipment grounding shall comply with the requirements of NFPA 70-14, article 250, and the requirements of UL 60950-1, par 1.6.4 and section 2.6. Hinges and slides shall not be relied upon as the sole means for grounding. The system shall also be provided with an Army approved grounding system (ground rod, SWGK, etc).

3.4.1.7 Equipment leakage current to ground shall not exceed 3.5 mA when tested to UL 101. Redundant equipment grounding conductors and labeling shall be required where currents exceed 3.5 mA as per Government approval.

3.4.1.8 Wiring shall comply with the requirements of UL 60950-1, paragraphs 3.1.1 - 3.1.3. AC supply conductors shall be color-coded black and white for line and neutral conductors, respectively. DC supply conductors shall be color coded red and black for plus and minus polarity, respectively.

3.4.1.9 Equipment having potentially hazardous conditions and capable of being operated remotely shall be provided with a reliable lockout means to prevent accidental remote operation during maintenance.

3.4.1.10 Connector selection and design shall comply with the requirements of UL 60950-1, par 3.2.1 and 4.3.6.

3.4.2. Mechanical Safety

3.4.2.1 The equipment shall provide maximum access and safety to personnel during installation, operation, and maintenance.

3.4.2.2 Under the conditions of normal use, wind loading, incline, etc., the equipment shall not become physically unstable to the degree that it could become a hazard to personnel. Additional requirements concerning stability and mechanical hazards are addressed in UL 60950-1, Sections 4.1 and 4.2.

3.4.2.3 Provisions shall be made to prevent accidental pulling out of drawers or rack mounted equipment. Latches used to safely secure doors, drawers, etc. in an open or closed position shall be reliable as outlined in the TROPO PSPEC detailed in Appendix A.

3.4.2.4 Operator accessible parts shall comply with the temperature limits shown in UL 60950-1, Section 4.5.4.

3.4.2.5 Equipment shall be able to be removed, handled, and lifted safely IAW MIL-STD-1472G, Section 5.8.6.3 and shall be labeled to specify lifting requirements (i.e. man or person lift, the weight of the object, and how high it can be lifted).

3.4.2.6 Equipment enclosures, as well as lenses, switches, wiring, and the like which enclose hazardous voltages, shall have adequate mechanical strength to withstand rough handling during expected use as outlined in the PSPEC detailed in Appendix A .

3.4.2.7 Equipment power switches shall be protected so as to prevent accidental actuation, if such an action could pose a hazard to operators or maintainers.

3.4.3. Battery Box Design Safety

3.4.3.1 Battery compartments shall prevent electrolyte from being expelled in the event of battery leakage or rupture. Battery leakage and explosive or harmful battery gases shall not leak into the equipment or to any other source of ignition. Battery compartments shall safely release any out-gassing of batteries. Enclosures for lithium batteries shall prevent major system damage or serious personnel injury in the event of a violent battery rupture.

3.4.4. Other Safety

3.4.4.1 Pressurized components shall be provided with blowouts or relief valves which will vent in a safe location and manner.

3.4.4.2 Audible/visual warning devices shall be provided to indicate malfunctions that could cause severe injury/equipment damage. Audible warning signals shall be distinguishable from other sounds under normal operating conditions. Visual signals shall be readily visible and easily recognized. A readily visible indicator light will be provided to indicate when a battle short switch is on.

3.4.4.3 Mechanical lifts, winches and jacks shall incorporate reliable stops or limit devices to protect against over-extension that may lead to system damage. Winches, lifts and cranes shall incorporate features to prevent inadvertent release.

3.4.4.4 Expandable and collapsible structures shall incorporate self-locking or other fail-safe devices to prevent accidental or inadvertent collapse or falling.

3.4.4.5 Safety Markings and Labels

3.4.4.5.1 Safety markings and labels shall be provided identifying any potential hazards to personnel. Safety markings and labels shall comply with the requirements of ANSI Z535.4. RF radiation hazards and voltages in excess of 30V shall use the signal word WARNING. Voltages in excess of 600V shall use the signal word DANGER. Safety labels shall complying with the durability requirements of UL 60950-1, paragraph 1.7.11 and/or UL 969.

3.4.4.5.2 Markings shall be readily visible IAW MIL-STD-1472G. They shall not be removed when a barrier or access door is opened/removed.

3.4.4.5.3 All safety hazards not eliminated through design shall be addressed in the appropriate TMs and Training Materials. Information regarding hazard-avoiding procedures and safety warning labels on equipment shall be included in all manuals. Maintenance TMs shall address replacement procedures for damaged or missing safety labels.

3.4.5. Non-ionizing Radiation Safety

3.4.5.1 All equipment capable of emitting RF or microwave radiation shall protect personnel from overexposure during operation and maintenance. Personnel exposure to such radiation shall be limited to upper tier values listed in Institute of Electrical and Electronics Engineers (IEEE) C95.1 as supplemented by DoDI 6055.11. Microwave or RF radiation labels shall warn personnel of danger zones. Shields, covers or waveguides which require removal during maintenance and which may cause radiation overexposure shall be interlocked (non-bypassable).

3.4.5.2 A RF radiation safety kit shall be provided to mark off and warn of the RF radiation control area associated with the TROPO antennas. The kit shall consist of stakes and a rope and RF radiation warning signs to be placed 10 meters apart. A storage bag shall be provided to store RF Radiation Kit for transport.

3.4.5.3 Fiber Optic Interfaces shall meet Class 1 or Class 1M laser Accessible Emission Limits IAW ANSI Z136.1 during use, maintenance and installation of components. Where power levels must exceed Class 1 levels during normal operation with all fiber optic cables connected, Automatic Power Reduction (APR) shall be used to reduce laser radiation levels to Class 1 limits during maintenance, when connectors are removed, during optically-aided viewing, or in the event of a fiber break. APR shall be reliable and fail safe. Proper warning labels will be applied to the equipment and TM warnings incorporated IAW ANSI Z136.1 where Class 1 levels are exceeded.

3.4.6. Environmental/Chemical Safety

3.4.6.1 Hazardous materials that can be exposed to personnel or the environment during any operational (to include fabrication, transportation, and setup/teardown) procedure, maintenance procedure, or as a result of damage to the equipment, or require special disposal procedures, shall be kept to a minimum. Non-toxic/environmentally acceptable substitutes shall be used whenever possible.

3.4.6.2 Use of any hazardous materials and disposal of hazardous waste, shall be IAW current applicable Federal, State or local laws, regulations, standards and requirements. Hazardous material exposure to personnel shall be controlled to levels below the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits, the Association Advancing Occupational and Environmental Health (ACGIH) Threshold Limit Values, or other applicable standard.

3.4.6.3 Use of radioactive material shall be kept to an absolute minimum. Nonradioactive substitutes shall be used whenever possible. Where substitution is not possible, the least hazardous type and form of radioisotope shall be chosen. Information regarding the material shall be provided to the CECOM Directorate for Safety.

3.4.6.4 Class 1 and Class 2 ozone depleting substances shall not be used with the equipment. Use of ODS free refrigerants other than CO2 and R-134A requires Government approval.

3.4.6.5 The use of hexavalent chromium is prohibited in a concentration greater than 0.1 percent by weight in any homogeneous material. Homogeneous materials are those of uniform composition throughout and that cannot be mechanically disjointed into different materials by actions such as unscrewing, cutting, crushing, grinding, and abrasive processes. Where substitution is not possible, information shall be provided to the Government to obtain approval by the PEO and the Army Corrosion Control and Prevention Executive.

3.4.7. Health Hazards

3.4.7.1 Operator exposure to noise shall be limited 85 dBA irrespective of location and exposure time IAW MIL-STD-1474D, unless superseded by more stringent noise requirements elsewhere in this spec. A noise level evaluation shall assess operator exposure to noise as well as maintainer exposure with panels removed/opened. Where noise levels are exceeded during maintenance, warnings shall be provided. Warnings shall also be provided where headsets, handsets, earplugs, or the like can exceed the above noise level criteria.

3.4.8. Software Safety

3.4.8.1 Software components determined to have safety-significant functionality shall be designed and tested to provide a sufficient level of confidence that safety-significant software functions will perform as required and will not contribute to a system hazard mishap IAW MIL-STD-882E.

3.4.8.2 The software shall be designed IAW with the Department of Defense Joint Software Systems Safety Engineering Handbook.

3.5. Human Factors Engineering (HFE)

3.5.1. HFE Program

The Contractor shall execute an HFE program. The HFE program shall include HFE analysis of the TROPO hardware and software warfighter-machine interfaces, with emphasis on the warfighter tasks (both hardware and software) associated with setting up, operating, maintaining, and tear down of the TROPO system. The Contractor shall apply HFE principles and methodology to optimize warfighter performance, minimize warfighter error, prevent warfighter injury and equipment damage, minimize workload (physical and cognitive), and simplify/reduce training requirements. The Contractor shall analyze ease of performance and efficiency of all tasks and the time required to install, enter and be managed in the network, remove TROPO links, and maintain TROPO. The goal of this analysis is to simplify, increase efficiency, and improve performance of all tasks. The Contractor shall integrate and schedule the HFE program with the systems engineering and software development efforts in order to provide timely inputs. The Contractor shall include HFE requirements with hardware and software specifications. As part of the HFE Program, the Contractor shall describe all HFE activities, HFE design inputs and HFE accomplishments at weekly HFE Meetings and Design Reviews. The Contractor shall conduct evaluations of HFE design requirements. The Contractor shall report results in CDRL

A003, Contract Performance Report (DI-MGMT-81861A). The Contractor shall implement usability enhancements resulting from data collected during Contractor HFE evaluation, the Logistics Demonstration, and from feedback/interviews/surveys provided at formal operational test events (e.g. NIE).

3.6. Configuration Management

3.6.1. The Contractor is responsible for Configuration Management (CM) of the system. The Contractor shall implement and maintain a CM system using MIL-HDBK-61A as a guide to assure each delivered item conforms to the generated documentation. The Contractor shall establish a Configuration Management Process to control the configuration of the TROPO system for the duration of this contract. A Government designated representative shall participate in the Contractor's Configuration Control Board (CCB) as a non-voting member. The Contractor shall designate a CM representative to serve as a primary point of contact (POC) to the Government for all CM matters and be responsible for any Sub-Contractor CM efforts. The Contractor shall support Government program office CCB requirements that pertain to approving TROPO baseline changes that are required. The configuration management process shall include specific, approved processes for identification of changes which may instigate ECPs or deviations from designs and architectures presented to or reviewed by the Government. System changes that affect form, fit or function shall require prior Government approval. Any hardware, software, or firmware changes proposed by the Contractor that impact the performance baseline, cost, or schedule, require approval by the Government prior to implementation.

A configuration baseline shall be formally established at the point in time that the subsystems have been integrated, installed, tested, demonstrated, and accepted by the Government as meeting required performance objectives. This configuration should be documented in the "as built" baseline product data that the Contractor maintains thru the as-built configuration listing developed for each deliverable item on the contract.

The Contractor shall establish and maintain a documented Configuration Management plan to ensure that all of the Contractor's activities have access to and exercise the use of the configuration baseline, approved changes, and effected data. The documented procedures and data in use shall be made available for Government review and discussed during all Technical Reviews. Any changes to the established/approved design shall be presented and submitted to the Government for review and approval.

The Contractor shall notify the Government of any changes, which affect the Contractor's established CM process.

3.6.2. Baseline Changes

Any change to the PSPEC, technical and/or logistics data used by the Government to operate and maintain the equipment, including TMs, PTD (PPL and EDFP), and training materials requires Government approval as defined in "Changes" paragraph below. No Class 1 changes to these documents or delivered TROPO systems that conform to these documents will be allowed

without prior formal Government approval through the submission of a Class 1 ECP, its approval and issuance of a contract modification for its implementation.

3.6.3. Changes

Both Class 1 and Class 2 ECPs shall be uniquely and sequentially numbered starting with 0001. The following classes of ECPs apply to this contract:

3.6.3.1 Class 1 Engineering Changes. A Class 1 Engineering Change is a change that impacts the form, fit, function, cost, or schedule of the TROPO system. This includes all hardware, software, spare/repair parts and all logistics and engineering data delivered under the contract to support the TROPO system. Logistics data is further defined as TMs, warranty technical bulletins, provisioning data, training materials, specifications and drawings or any other information required to support the TROPO system used by the Government. All Class 1 Engineering Changes shall be submitted to the Contracting Officer with supporting detailed data, identifying proposed ECP overall impact on the system's CM, Technical Data Package (TDP), Logistics, Technical Documentation, Maintenance, Software etc., including associated implementation cost for Government evaluation. All Class I ECPs require formal Government submission, approval with issuance of a contract modification prior to implementation. The Contractor shall repair/correct all failures which occur within 3 business days, followed by regression testing.

3.6.3.2 Class 2 Engineering Changes. A minor Engineering Change that does not impact the form, fit or function of the TROPO system; its logistics data; or its and engineering data is defined as a Class 2 Engineering Change. A minor change that, based on the Maintenance Concept established for the TROPO system, is transparent to the Government/military operators and maintainers and does not impact information contained in Government owned technical or logistics documentation used to support the system is Class 2 Engineering Change. The Contractor has the authority to approve and implement Class 2 ECPs. However, the Government must review and concur that the ECP is in fact Class 2 before the Contractor implements it. If the Government does not agree with the classification of a specific change, they may direct the Contractor to elevate it to Class I. Final classification decision shall be defined by the Government. The Contractor shall repair/correct all failures which occur within 3 business days, followed by regression testing.

3.6.3.3 Approved ECP changes to the system shall be reflected / updated in all requirements baselines.

3.6.4. Materiel Review Board (MRB)

The MRB is a privilege extended to Contractors by the Government for disposition of non-conforming materiel when determined to be in the best interest of the Government. Defense Contracting Management Agency (DCMA) has the authority to allow the Contractor to set up a MRB where authority is limited to Type II, non-critical, non-major defects, not affecting form, fit or function. Type I defects must be referred to the Government for approval. DCMA will

participate in the MRB process as a representative of the Government Program Office. The Qualitative Assurance Representative (QAR) may observe or review any procedure, activity, report, or decision made during the MRB process. The QAR may also overrule any MRB decision if the QAR determines it is in the best interest of the Government. Final decisions regarding acceptance of non-conforming materiel/supplies are solely the prerogative of the Government. When non-conforming materiel is accepted, consideration may be required. Grounds for consideration shall be determined on a case-by-case basis.

3.6.5. Configuration Control Document

All Contractor proposed changes to the requirements described in a configuration control documents shall be made by one of the following means below:

3.6.5.1 ECP. The ECP shall be sufficiently detailed to allow the Government to evaluate its technical, logistics, cost and programmatic impact. The use of a DD Form 1692, Engineering Change Proposal, 01 Aug 1996, or Contractor formatted equivalent form is required for the submission of ECPs to the Government. The preparation costs of unsolicited Contractor proposed ECPs are not reimbursable. Unsolicited Class 1 ECPs shall be submitted to the Government for approval. The cost of implementing the ECP shall be negotiated under the "Changes" clause of the contract. A copy of each Contractor internal Class 2 ECP shall be furnished for informational purposes only at no cost to the Government. The implementation of a Class 2 Engineering Change shall not impact contract cost. If implementation of a Class 2 Engineering Change impacts schedule the Government may seek consideration.

3.6.5.2 Value Engineering Change Proposal (VECP). VECPs shall be submitted the requirements set forth in the "Value Engineering Incentive" clause of the contract. The use of a DD Form 1692, Engineering Change Proposal, 01 Aug 1996, or Contractor formatted equivalent form is required for the submission of VECPs to the Government.

3.6.6. Physical Configuration Audit

The Contractor, in concert with the Government, shall conduct a Physical Configuration Audit (PCA) for each of the Configuration Items procured under this contract. The PCAs shall be scheduled as early as possible after completion of the PVT tests for transportability and environmental conditions. The purpose of the PCA is to ensure that the "as-built" CI conforms to the production documentation (e.g. specification, drawings, etc). At the conclusion of the PCA, the Contractor shall deliver a PCA Report IAW CDRL A012 (DI-MISC-80711A). The report shall document all discrepancies between the "as-built" CI and recommend how the discrepancies will be resolved.

3.6.7. Production Readiness Review (PRR)

The Contractor shall conduct an internal PRR that may be incrementally performed to formally evaluate the Contractor's production readiness and identify existing or projected manufacturing problems and areas of risk. The Contractor shall demonstrate capability in the following areas: (1) achieving the program production goals; (2) resolving manufacturing problems (or that a plan

for their resolution acceptable to the Government has been developed); (3) mitigating all production risks; and (4) accurately tracking Production Costs. The Contractor shall show that the system design has included the key production factors (e.g., least cost, minimum time, manufacturing simplicity/flexibility, resource availability, recurring engineering, etc.) necessary to assure the system can be acquired on schedule and within cost. The PRRs will be conducted at the Contractor production facility. The PRR dates will be Contractor-proposed, Government-approved, and incorporated into the Integrated Master Schedule (IMS). The items covered in the completed PRR shall include at least the following considerations:

a) A Manufacturing Program Review to include the overall manufacturing system and detailed factors such as: manufacturing organization; responsibilities; facilities and equipment; manufacturing methods; and production flow
b) A status review of all production efforts for cost and schedule considerations
c) A status review of manufacturing technology and other previously recommended actions to reduce cost, manufacturing risk, and industrial base concerns
d) The identification of open production concerns which require additional direction/effort to minimize risk to the production program
e) A status review of production engineering efforts, tooling and test equipment demonstrations, new materials, processes, methods, special tooling, and test equipment
f) A status of the hazard list from the Environmental, Safety and Health (ESH) analysis
g) The status of long lead items for production, if any
h) Status of configuration management and product data for hardware and software configuration documentation

3.7. Warranties

3.7.1. Contractor/OEM Warranty Requirements

The Contractor shall provide an initial one-year warranty on the system hardware and software. The warranty coverage shall begin when the hardware is inspected and officially accepted by the Government via DD250, unless the government arranges to hold the equipment in bonded storage. The Contractor shall also provide to the Government all commercially available OEM warranties offered for system components. These warranties shall be transferrable to the government. The Contractor shall keep a record of all items under warranty and make the record available to the Government upon request. This record shall identify the equipment, vendor, and terms of the warranty, as provided with the equipment delivery. All Contractor/OEM warranties will be documented and managed IAW CDRL A041 (DI-SESS-81639A) Warranty Performance Report.

3.7.2. Extended Warranties

Additionally, the contractor shall provide priced options for purchasing additional extended warranty coverage in 12 month increments extending to the end of the contractual Period of Performance (PoP). This pricing shall be submitted as part of the contractor’s initial proposal to the government. The government will determine whether or not to purchase this additional coverage for items whose initial warranty has not yet expired. Items whose warranty has already expired are not subject to this option.

3.7.3. Warranty Performance

Said warranties (both initial and extended) shall address, Contractor/OEM hardware and software warranty support at levels 1 (basic), 2 (intermediate), and 3(advanced), when applicable. This support shall include troubleshooting, repairs, replacement, software patches/upgrades, and Help Desk support for the End User when required. The Contractor shall be responsible for return shipment of items submitted for warranty replacement. Turn-around times for warranty-covered items shall be no more than 10 days for Continental United States (CONUS) locations, and 15 days for Outside Continental United States (OCONUS) locations. Items found to be outside of warranty coverage (IE… Other Than Fair Wear and Tear "OTFWT" or "expired warranty") shall be addressed according to the requirements outlined in the Interim Contractor Support (ICS) section of this PWS. These requirements shall include shipping time, and shall begin when defective components are received at contractor's facility.

3.7.4. Software Maintenance Plan / Warranty

3.7.4.1 The warranty shall include software and security fixes to meet system requirements; and obsolescence issues associated with Diminishing Manufacturing Sources and Material Shortages (DMSMS).

3.7.4.2 The Contractor shall fix through a maintenance plan / warranty all software Category 1, 2 and 3 Type failures immediately upon becoming aware of the failure IAW Contractor's Best Practices and the Government Configuration Control Process.

3.8. Software Products/Licenses

3.8.1. COTS Software Products/Licenses

3.8.1.1 Efforts in support of this contract, upon approval by the Government, shall require the Contractor to include purchase of COTS software products/licenses to support the PM Tactical Network mission.

3.8.1.2 The Contractor shall purchase COTS Software products / licenses with 1 year of maintenance as identified by PdM Network Modernization that is within scope of the contract, as determined by the PdM Network Modernization project office.

3.8.1.3 The Contractor shall provide quotes, End User License and Maintenance Agreements for software procurements to be reviewed by designated Government POC to ensure accuracy.

The Contractor shall provide all COTS software procurement documentation and licensing data to PdM Network Modernization (to include but, not limited to, final purchase orders, invoices, license Information - keys, serial numbers, and proof of Army ownership).

3.8.2. Computer Software Configuration Items (CSCI) Development/Delivery

3.8.2.1 The Contractor shall provide a complete Software Bill of Materials as a contract data requirement IAW CDRL A032 (DI-MISC-80711A), for the initial software baseline and provide updates as changes are applied, IAW post-deployment software support (PDSS) changes to be delivered on a quarterly basis.

3.8.2.2 The contractor shall prepare and deliver a Software Version Description Documents for each platform with new integrated software IAW CDRL A042 (DI-IPSC-81442A). Perform software integration and testing for each platform with new integrated software. Perform a Government-witnessed test for each new integrated platform software image, and for each Government-witnessed test. Prepare and deliver a Software Test Plan IAW CDRL A043 (DI-IPSC-81438), and Software Test Description IAW CDRL A044 (DI-IPSC-81439). The Contractor shall also deliver a Software Test Report IAW CDRL A045 (DI-IPSC-81440).

The contractor shall execute testing prior to delivery of any software product (including Government approved Software enhancements/trouble reports). The level of Government witness and participation shall be coordinated between the contractor and Government, based upon the magnitude and visibility of the changes. The Government may participate and witness testing. All priority 1 and 2 Software Trouble Reports (STRs), as agreed to by the Government and contractor, shall be closed prior to delivery of the product. Priority 1 STRs shall be corrected while priority 2 STRs shall be corrected or mitigated down to the lesser priority STR.

Priority	Applies if a problem could:
1	a. Prevent the accomplishment of an operational or mission essential capability b. Jeopardize safety, security, or other requirement designated "critical"
2	a. Adversely affect the accomplishment of an operational or mission essential capability and no work-around solution is known b. Adversely affect technical, cost, or schedule risks to the project or to life cycle support of the system, and no work-around solution is known
3	a. Adversely affect the accomplishment of an operational or mission essential capability but a work-around solution is known b. Adversely affect technical, cost, or schedule risks to the project or to life cycle support of the system, but a work-around solution is known
4	a. Result in user/operator inconvenience or annoyance but does not affect a required operational or mission essential capability b. Result in inconvenience or annoyance for development or support personnel, but does not prevent the accomplishment of those
5	Any other effect

Note: All Government stakeholders must agree that work-around solutions are acceptable.

Fixes for priority 1 or 2 anomalies must undergo regression testing, sufficient to ensure problems are fixed. Regression testing will also ensure that fixes do not cause any new or additional problems. The contractor shall perform regression testing of previous system capabilities in each new version of software. The verification and validation shall include regression tests to prove that the integrity of the system has not been degraded and that all documentation has been updated to accurately describe the changes. After successful completion of regression tests, all support software and documentation shall be updated under formal configuration control update and approval procedures.

3.8.3. Organic Sustainment

3.8.3.1 Software Transition Plan should include, but not be limited to the specification of: the Integrated Development Environment (IDE); identifies unique test tools and/or equipment; Required personnel and skillset/expertise level required for software maintenance; training plan; and transition schedule. The Contractor shall deliver a Software Transition Plan IAW CDRL A046 (DI-IPSC-81429).

3.8.3.2 Describe and provide the appropriate level of technical data rights for the government to effectively perform organic software sustainment of the TROPO system. The Contractor shall deliver Software Data Rights IAW CDRL A074.

3.8.3.3 Identify and deliver the Software specification data that enables the Government to establish and execute organic sustainment. These include, but are not limited to the following:

a. Configuration Control Documentation Package CDRL A064 (DI-MISC-80508B)
b. Software Development Build (SDB) & Debugging Procedures CDRL A065 (DI-IPSC-81429)
c. Software Installation Procedures CDRL A066 (DI-MISC-80508B)
d. Software Quality Assurance Plan CDRL A067 (DI-MISC-80508B)
e. Software Requirements Specification CDRL A068 (DI-IPSC-81433A)
f. Software Design Document CDRL A069 (DI-IPSC-81435A)
g. Software Product Specification CDRL A070 (DI-IPSC-81441A)
h. Interface Control Document CDRL A071 (DI-SESS-81248B)
i. Source Code CDRL A072 (DI-SDMP-81465A)
j. Supporting IA/ATO requisite RMF Documentation and Artifacts

3.8.3.4 Identify and develop a Transition Package to support establishment of organic sustainment environment. Transition support shall include but not be limited to the resources required to:

a. Transition IDE to government designated facility

b. Establish and validate IDE at government facility
c. Provide Training of build procedures
d. Execution of Validation Test Procedures of CSCIs
e. Transfer of applicable licenses CDRL A073 (DI-SDMP-81465A)

3.8.3.5 Contractor shall identify and additional requirement for establishing an organic depot maintenance capability not addressed in above sections.

3.8.4. NON-PDSS Transitioning CSCIs

For Software Configuration Items not transitioned to CECOM PPSS, or systems for which software support is not performed on other contracts: identify and evaluate applicable Information Assurance Vulnerability Alert (IAVA) and bulletins. Identify, test, and document vendor patches, software updates and configuration changes that resolve IAVAs and other software anomalies. Deliver IAVA solutions and other software updates with appropriate installation documentation to units. This software support tasking shall include the following tasks:

a. Provide quarterly software/firmware update releases, which include IAVA fixes, anti-virus updates, software anomaly resolution, COTS/GOTS software updates, software configuration changes, and system planning data updates as required
b. Provide emergency releases of software in between quarterly releases if required
c. Prepare and deliver Software Version Description Documents for each software release IAW CDRL A042 and DI-IPSC-81442A
d. Perform software integration and formal testing for each software release, as well as a Government-witnessed test/demonstration for each software release. For each Government-witnessed test, prepare and deliver a Software Test Plan IAW CDRL A043 and DI-IPSC-81438, and Software Test Description IAW CDRL A044 and DI-IPSC-81439. The Contractor shall also deliver a Software Test Report IAW CDRL A045 and DI-IPSC-81440.
e. Hold a Test Readiness Review prior to each software testing event
f. Provide Configuration Management of all software baselines and releases
g. Perform Software Anomaly Tracking and Prioritization
h. Support Government Information Assurance Accreditation activities as required.
i. Distribute software releases to PdM Network Modernization.
j. The IAVA release schedule shall begin and continue in a quarterly cycle until transition of the software support to Government Post Production Software Support, unless otherwise advised by PdM Network Modernization. For systems transitioning to PPSS, the Contractor shall deliver a Software Transition Plan IAW CDRL A046 and DI-IPSC-81429
k. Work with Field Support and Government Support Personnel as necessary to resolve issues that arise

3.9. PAT

The Contractor shall perform in-plant PAT on all units/systems delivered IAW Government-approved test plan(s). All costs associated with PAT shall be included in the firm fixed price of the system. These tests shall be witnessed by the Government. PAT includes Acceptance Testing and Confidence Testing.

3.9.1. **Acceptance Testing Plan**. The Contractor shall provide a plan for 100% Visual/Mechanical and Electrical Testing in-plant IAW CDRL A047 (DI-NDTI-80566A).

3.9.2. **Confidence Testing Plan**. The Contractor shall provide a plan for Confidence Testing on one sample of each respective TROPO configuration in plant IAW CDRL A048 (DI-NDTI-80566A) prior to shipping to destination. The Confidence Testing shall demonstrate that the sampled systems have been configured with unit specific parameters such that the delivered systems' network connectivity, functionality, configuration, and interfaces with legacy equipment support the missions of the Gaining Unit.

3.9.2.1 Final acceptance will be predicated on the successful completion of the aforementioned tests and assurance that all safety requirements continue to be met.

3.9.3. PAT Procedures

3.9.3.1 The contactor shall provide PAT Procedures. The Contractor shall not deviate from Government-approved PAT Procedures without prior Government approval. The Acceptance Test Procedures shall be comprised of two sections: In-plant Acceptance Test Procedures and In-Plant Confidence Test Procedures.

3.9.3.2 Acceptance Test Procedures.

Acceptance Test Procedures shall include in-plant, 100% Visual/Mechanical and 100% Electrical procedures for all systems/equipment, excluding spares, repair parts, and ancillary items. Spares and Repair Parts acceptance will be based upon 100% inventory. Unless Confidence Testing is also required for the equipment prior to preparation for shipment IAW CDRL A049 (DI_NDTI-80603A), successful completion of this test will result in Government acceptance and signing of the DD 250.

3.9.3.3 Confidence Test Procedures.

Confidence Test Procedures are those additional procedures the Contractor performs to obtain Government acceptance prior to shipment and delivery to the receiving unit. Successful completion of this test, after also successfully completing Acceptance Testing, will result in Government final acceptance and signing of the DD 250 IAW CDRL A050 (DI-NDTI-80603A). The Confidence Test Procedures shall be organized into those procedures that are applicable to each of the following: Turn-Key Networks, JNN, BnCPN, SSS, and NETOPS.

3.9.3.4 Acceptance Test Reports.

The Contractor shall provide a Test Report for each delivery subjected to Acceptance Testing IAW CDRL A051 (DI-NDTI-80809B w/Notice 1). Acceptance Test reporting shall include, but not be limited to, all test results, test data records, failure analysis, and suggested corrective

actions. All Acceptance testing results shall be traceable to each required and approved Test Procedure which is traceable to its test verification method identified the PSPEC detailed in Appendix A. This report then must be approved by the Government, before any corrective action is taken.

3.9.3.5 Confidence Test Reports

The Contractor shall provide a Test Report for each delivery subjected to Confidence Testing, IAW CDRL A052 (DI-NDTI-80809B w/Notice 1). Confidence Test reporting shall clearly document and cross reference each applicable Test Procedure to its tested result. This report then must be approved by the Government, before any corrective action is taken.

3.9.4. PVT

The Contractor shall conduct PVT of the TROPO to verify that it meets the technical parameters of the PSPEC detailed in Appendix A. All associated costs shall be included in the fixed price. The PVT shall be conducted per the Contractor-generated, Government-approved Production Verification Test Plan, Test Procedures, and Section 4 of Appendix A. The Contractor shall use units from the initial production lot order for testing. The Contractor shall obtain frequency clearance necessary to prepare for and complete PVT. Prior to the start of PVT, or Government witnessed test or Government personnel test participation, the Contractor shall submit and receive approval of a Safety Assessment Report (SAR) IAW CDRL A040 (DI-SAFT-80102C) for the system/equipment being tested. The Contractor shall conduct a Logistics Demonstration prior to the completion of PVT, as described in Paragraph 3.3.4.6.

Part of the PVT is the requirement for the Contractor to conduct an Over-the-Air Test to demonstrate compliance with throughput and range requirements delineated in Appendix A.

As a minimum, the test plan shall address the following:

3.9.5. TROPO Test Architecture:

a) Performance of a platform characterization test to determine the frequency (RF) signature and performance characterization of a system when operating all antennas in a platform
b) Network Management: Configure, monitor, and manage the network under various scenarios
c) Information Assurance (IA): Protect multiple level security, provide awareness of, access to, and delivery of information across the system
d) Instrumentation Architecture used to characterize and measure network performance
e) Description of voice, data, and video sources used

3.9.6. PVT Plan

The Contractor shall provide a PVT Plan per CDRL A053 (DI-NDTI-80566A). The Plan shall identify all test grouping, allocation of test units, locations, schedules, resources, and personnel necessary to implement a PVT and to assure it meets the requirements outlined in the Verification Cross Reference Matrix contained in Appendix A.

3.9.7. PVT Procedures

The Contractor shall provide PVT Procedures per CDRL A054 (DI-NDTI-80603A). The PVT Procedures shall document step by step procedures that will be used to implement the test. The Procedures shall provide a cross reference between the PVT and Appendix A. The Procedures for the TROPO shall include individual TROPO equipment testing parameters and system-level testing parameters which encompasses integration of the TROPO terminals. The Contractor shall provide a list of all test equipment and instrumentation required to perform each test.

3.9.7.1 Use of Government Test Facilities during PVT

Government Test Facilities including but not limited to Aberdeen Proving Ground, MD, Army Test and Evaluation Command/Electronic Proving Ground (ATEC/EPG), Fort Huachuca, AZ, and White Sands Missile Range, NM are available for performance of PVT, as necessary, for a fee. The schedule and fee for the use of these facilities will be negotiated between the Contractor and the individual Government Test Facility. The Contractor is authorized to obtain test support/services at DoD rates from Major Range and Test Facilities Base (MRTFB) installations. The Contractor is responsible for all costs for the use of MRTFB including all equipment transportation costs to and from the test facility. PM TRCS will provide a POC at each facility, if requested. The Contractor may use these facilities for the conduct of the applicable tests during PVT.

3.9.7.2 Training of PVT Government Participants

Government representatives will participate in PVT either as witnesses or as active participants, depending on the nature of the PVT and the Test Plan and Procedures. If required, the Contractor shall provide training to Government PVT Participants' 90 days prior to each applicable PVT.

3.9.7.3 System Information Assurance (IA) Certification and Accreditation (C&A)

Prior to the start of PVT the Contractor shall support the Government security engineering team in completing the IA C&A. The Contractor shall document in the Test Procedures how he will support the Government security engineering team in their IA C&A of the system/equipment.

3.9.7.4 PVT Report

The Contractor shall provide PVT Reports per CDRL A055 (DI-NDTI-80809B with Notice 1). Test Reports shall be prepared by the Contractor for each major PVT event, such as Network PVT, Log Demo, etc. Each report shall include, but not be limited to, all test results, test data records, failure analysis, and suggested corrective actions. Test Reports shall clearly document and cross reference each applicable Test Procedure to its tested result. PVT Report(s) shall be traceable to each required and approved Test Procedure which is traceable to its test verification method identified in Section 4 of Appendix A. A final consolidated PVT Report shall be delivered IAW CDRL A055 (DI-NDTI-80809B with Notice 1) after the conclusion of the last PVT event. The Contractor shall maintain electronic records of all test data, demonstrations and analyses set forth in this PWS and the PSPEC detailed in Appendix A. These records are to be retained by the Contractor for 10 years, and made available to the Government upon request.

3.9.7.5 Refurbishment of PVT Test Units

Subsequent to completion of PVT and approval of the PVT Report, the Contractor shall refurbish the PVT units to like new condition and ship these units as part of a production delivery as ordered by the Government.

3.10. Quality Assurance

3.10.1. Quality Assurance Program

The Contractor shall comply with a higher-level quality management system such as the ANSI/ASQ 9001:2008, *Quality Management Systems - Requirements*, or equivalent in all production facilities involved in this contract. The Contractor shall provide and maintain a comprehensive quality assurance program within its production/manufacturing facility which addresses Hardware and Software/Firmware Quality. The Contractor shall flow down all quality requirements to subContractors as they apply to procured material and services. The Contractor may change to an alternate Quality Management System during the term of the contract as long as a written request is submitted and approved by the Government.

The Government reserves the right to examine or audit the Contractor's Quality Management System and any manufacturing/production processes and may interview key business and technical staff at the Government's discretion. The Contractor shall provide the Government the right to make such inspections and audits while the work is in process in order to provide confidence that the project complies with contractual requirements. The Contractor shall provide personnel and facilities to support Government's inspections and audits.

3.10.2. Quality Management System Documentation

The Contractor shall maintain documentation of its inspection work, and shall make all records available to the Government upon request. The Contractor shall perform failure analyses to determine root cause of critical failures affecting the system's performance or safety. The Contractor shall report to the Government all preventive and/or corrective actions implemented on critical failures.

3.10.3. Quality Assurance Program Plan

The Contractor shall prepare a Quality Assurance Program Plan (QAPP), which shall be prepared and provided for Government review and approval IAW with CDRL A056 (DI-QCIC-81794, w/ Notice 1).

3.10.4. Reliability and Maintenance Program

The Contractor shall implement a Reliability & Maintenance Program for the TROPO System. As a minimum, the program shall contain the following items.

a) Reliability and Maintainability predictions and models. Item failure rates may be derived by accepted mathematical modeling, Original Equipment Manufacturer (OEM) information, test results and field reports when available.
b) FMECA see section 3.3.4.1
c) Preventive and corrective maintenance action recommendations and procedures
d) Establish a closed loop Failure Reporting and Corrective Action System (FRACAS) using MIL-HDBK-2155 or SAE-GEIA-STD-0009 Reliability Program Standard for Systems

Design, Development, and Manufacturing as reference. The Contractor may propose commercially accepted standards to the Government for consideration.

e) Manage Reliability and Maintainability requirements for subContractors
f) Perform and document a Mean Time Between Failure (MTBF) Analysis down to the LRU-level.

The Contractor shall present and discuss relevant data from above referenced reliability and maintenance program requirements during each of the quarterly program reviews that are held throughout this contract.

3.10.4.1 Reliability Analysis

The Contractor shall provide reliability predictions based on the defined configuration baseline. Reliability analysis shall be predicted and/or adjusted to apply a Ground Mobile environment and shall account for end-user environmental conditions, including the effects of sun load conditions. System environmental parameters presented in the PSPEC detailed in Appendix A. De-rating criteria applied to calculations shall be detailed within the reliability report. Where equipment reliability history data exists and can be substantiated, this data shall take precedence over predicted data and be adjusted accordingly to mission thermal and environmental characteristics. The predictions shall be provided to the lowest indenture level. In the event where the system architecture provides redundant functional and/or physical capabilities, the reliability report shall also separately summarize adjustments to the predictions and identify the Mission Reliability. The Contractor shall prepare and deliver a top-down indentured reliability report to include the identification of the Mean Time Between Failure (MTBF) for each maintenance-worthy item in addition to identification of the system MTBF. Application of MIL-HDBK-217F as guidance is encouraged. The Contractor shall submit the Reliability Analysis to the Government in accordance with CDRL A057 Reliability Predictions (DI-SESS-81497A).

3.11. Technology Insertion

While technology insertions from all sources are welcome in the interest of the improvement of the network, the Government requires the ability to determine future technology insertions and enhancements, which are in concert with already funded and executed Army communications modernization programs. Traditional clauses are included in this procurement, for engineering changes to facilitate this process. In addition to potential technologies from industry and other Government agencies, the Government reserves the authority to determine enhancements and technology insertions as these technologies are matured, tested, and assessed for potential inclusion in the system baseline through the engineering change process. The Contractor may be required to insert new technologies, components and/or configuration items into the TROPO system and its derivatives as specified by the Government under separate ECPs and/or contract modifications. This technology insertion task will be implemented from time to time as new technologies mature that will facilitate integration of the TROPO systems into the future networks.

3.12. Survivability

3.12.1. High Altitude Electromagnetic Pulse (HAEMP)

All TROPO components shall be subjected to an analysis to determine their ability to meet HAEMP requirements as defined in MIL-STD-2169B. Any TROPO component rendered inoperable due to HAEMP will be removable for repair determination or replacement.

3.12.2. Lightning Protection

The TROPO system shall perform all mission essential functions following a Near Strike Lightning (NSL) environment as specified in MIL-STD-464C.

3.12.3. Chemical Biological, and Radiological Contamination Survivability (CBRC)

External surfaces of all TROPO equipment and transit cases shall survive contamination and decontamination processes. All TROPO equipment rendered inoperable due to contamination shall be removable for repair determination and replacement. All TROPO equipment and transit cases shall be evaluated to determine their ability to meet the CBRC decontamination, hardness, and compatibility requirements delineated in US Army Regulation (AR) 70-75 and the US Army Nuclear and Combating Weapons of Mass Destruction Agency (USANCA), Fort Belvoir, Virginia, Department of the Army (DA)-Approved Nuclear, Biological, and Chemical (NBC) Contamination Survivability Criteria for Army Materiel.

3.12.4. Electrostatic Discharge (ESD) Operation

All TROPO equipment shall be safe for transportation, storage, handling and operation when subjected to personnel and vertical lift ESD while in the tactical modes of operation as specified in MIL-STD-464C. All TROPO equipment shall meet the ESD requirements delineated in sections 5.8 and 5.8.1 of MIL-STD-464C. All TROPO equipment shall not pose electromagnetic hazards to personnel, ordnance and fuels.

4. Cybersecurity

The Contractor shall comply with all necessary DoD Cybersecurity requirements, performing work as specified in this section when required. The Contractor shall provide transmission security (TRANSEC) over the radio communication path/links. The Contractor shall configure the devices (e.g., radio) that directly support the IP protocol suite to comply with DoD Instruction (DoDI) 8551.1, Ports, Protocols, and Services Management (PPSM).

4.1. National Institute of Standards and Technology Certification

The Contractor shall obtain and maintain National Institute of Standards and Technology (NIST) Federal Information Processing Standards (FIPS) 140-2 certification under the Cryptographic Module Validation Program on appropriate newly developed system components implementing encryption. The Contractor shall make the applicable documents available to the Government for review upon request that verify NIST certification has been obtained in advance of certification and accreditation of the system. Demonstrate NIST certification for all applicable devices no later than the Critical Implementation Review.

4.2. Information Assurance Vulnerability Alerts Release and Security Technical Implementation Guides Support

The Contractor shall implement or mitigate all urgent applicable IAVAs or Security Technical Implementation Guides (STIG) within 24 hours as directed by the Government when they occur.

The Contractor shall maintain a record of all patches that have been applied and make this record available to the Government upon request. The Contractor shall perform software scans and support generation of Plan of Action and Milestones (POA&Ms).

4.3. Cybersecurity Documentation Requirements

The Contractor shall support Government Information Assurance (IA)/Cybersecurity, Assessment and Authorization (A&A), and Connectivity or Interconnectivity activities as required, including providing A&A documentation, upon request, in a format acceptable to DoD IA/Cybersecurity and A&A activities.

4.3.1. The Contractor shall report all applicable IAVAs, STIGs and Bulletins within a system POA&M at least monthly and provide a list outlining which were implemented, those not implemented and why they were not and how they were mitigated if mitigation was required. All non-implemented IAVAs and STIGs shall have Government concurrence. The Contractor shall provide a comprehensive and up to date software scan using current Army Best Business Practices for scanning and remediation every month. This data will be rolled up to the Assistant Secretary of the Army for Acquisition, Logistics and Technology ASA(ALT) Cyber and the Program Executive Office (PEO) to ensure the basic mission assurance techniques are implemented uniformly with the portfolio.

4.3.2. The Contractor shall perform manual scans at least monthly to ensure the system is Federal Information Security Management Act (FISMA) and STIG compliant.

4.4. Updates, Incident Reporting and Vulnerabilities Management

The Contractor shall monitor all update requirements including but not limited to vendor sites, mailing lists, third party sources, vulnerability scans and U.S. Army Cyber Command (ARCYBER) G36 SharePoint site for Information Assurance Vulnerability Alert Messages. The Contractor shall make mitigation, patching, upgrade or modification recommendations and provide a POA&M for all requirements that cannot be fulfilled on time, in a format approved by the PEO for each update requirement. The Contractor shall treat the POA&M as specified in the system's security classification guide (SCG) and provide a digital copy to the Government via a method approved the Government. The Contractor shall provide a comprehensive and up to date software scan using current Army Best Business Practices for scanning and remediation every month.

4.5. Risk Management Framework Process

4.5.1. The Contractor shall complete items mandated by the Risk Management Framework (RMF) and Security Control Assessor - Validator (SCA-V) to include documentation called out in the DoD 8500 and CJCS 6510 series directives, instructions, and manuals. The Contractor shall assist the program office to initiate and plan the IA/Cybersecurity A&A leading up to the implementation and validation of assigned security controls.

4.5.2. The Contractor shall design and implement an IA/Cybersecurity program to ensure that the system meets the security controls of Confidentiality (High), Integrity (High) and Availability (High) as defined in the CNSS 1253. In addition, the system needs to meet the other DoD IA/Cybersecurity requirements IAW Army Regulation (AR) 25-2 "Information Assurance", DoDI 8500.1 "Cybersecurity", DoDI 8500.2 "Information Assurance Implementation", and DoDI 8510.01 "Risk Management Framework (RMF) for DoD Information Technology".

4.5.3. The Contractor shall support the activities in RMF process for the system. The Contractor proposed implementation shall be compliant with current policies, guidelines, and requirements within DoD governing A&A.

4.5.4. The Contractor shall update the RMF package and the embedded IA/Cybersecurity Test Plan, as required, to reflect relevant changes in the system hardware and software baselines.

4.6. Interim Approval to Test (IATT)

4.6.1. The Contractor shall perform self-assessment prior to any Government witnessed tests, and remediate all Category1, 2, and 3 findings.

4.7. Authority to Operate (ATO)

4.7.1. The Contractor shall support all IA/Cybersecurity meetings, reviews, testing and activities to support and enable the Government to obtain and maintain an ATO IAW DoDI 8510.01. The ATO process will occur every 3 years for a fully accredited system. In the case that a short term ATO is granted, Contractor is required to provide additional remediation before achieving full ATO status. Contractor shall complete self-assessment and support 3rd party SCA-V system security validation and requirements where the 3rd party SCA-V is identified by the Government. The Contractor shall support POA&M maintenance which will occur quarterly and respond to Government's inquiry related to the security posture of the system.

4.8. Federal Information Systems Management Act

4.8.1. The Contractor shall implement and execute the yearly activities associated with satisfying the Annual Review and meeting the reporting requirements of Federal Information Systems Management Act (FISMA). The annual review date will be recorded in the System Security Plan (SSP), which will coincide with the date the PM has approved.

4.9. Program Protection Plan

4.9.1. The Contractor shall assist and support the U.S. Government in performing all Critical Program Information (CPI) assessments on the system. The CPI assessment is a structured approach to identify the "technical know-how" in the areas of Concept, Material, Design, Manufacturing, and Integration that enables the hardware and/or software elements to meet the threshold of CPI as defined in DoDI 5200.39, 16 Jul 08, incorporating Change 1, 28 December 2010. This requirement shall flow down to all subContractors.

4.9.2. The Contractor shall provide Subject Matter Experts (SMEs) to support all CPI Assessments to include system engineers, software engineers, hardware engineers, integration engineers and logistics analysts. The Contractor shall provide all program documentation required by the Project Management Office (PMO) for each CPI Assessment. This requirement shall flow down to all subContractors.

4.9.3. If CPI is identified, the U.S. Government shall prepare a Program Protection Plan (PPP). The U.S. Government shall provide the Contractor with written guidance reference implementation of countermeasures to protect CPI. The Contractor shall provide a program protection implementation plan to the U.S. Government within 30 days of receiving countermeasures and provide periodic countermeasure and implementation status to the PMO via Contract Deliverables. This requirement shall flow down to all subContractors.

4.9.4. The Contractor shall provide technical support for the Government's Program Protection Plan (PPP) process performed IAW DoDI 5200.39, DoDI 5200.02, and DA PAM 70-3. This shall include support for a Critical Functionality Analysis (CFA) of the acquisition program. This requirement shall flow down to all subContractors.

4.10. IAW Federal Acquisition Regulation (FAR) paragraph 25.004 and 41 U.S.C. 10a, the Contractor shall assist and support the U.S. Government in performing a Supply Chain Risk Management (SCRM) analysis of the system. The Contractor shall identify suppliers of logic-bearing devices and software/firmware modules to both services' Program Offices. The Contractor shall identify who is designing, building, testing and distributing critical components and where this work occurs. Data will include company name, address, CAGE Code and a supplied item description. This requirement shall flow down to all subContractors.

4.11. Information Assurance (IA)/Cybersecurity Workforce

4.11.1. The Contractor is required to provide a certified IA/Cybersecurity workforce. IAW DoD 8570.01-M, Contractor personnel performing IA/Cybersecurity duties shall be appropriately certified prior to being engaged. Contractor personnel shall have the appropriate baseline and computing environment certifications. Contractor personnel who do not have the appropriate certifications shall be denied access to DoD information systems. The contracting officer shall ensure that Contractor personnel are appropriately certified. This requirement shall flow down to any sub-Contractors engaged by the Contractor.

5. TRAVEL

5.1. Travel and miscellaneous expenses under these requirements shall be reimbursed to the Contractor on a cost reimbursement basis. Travel reimbursement shall be IAW the Joint Travel Regulation (JTR). All travel shall be approved in advanced by the COR.

6. Information Security (INFOSEC) and Operational Security (OPSEC) Areas

6.1. Access and General Protection/Security Policy and Procedures: Contractor and all associated sub-Contractors employees shall comply with applicable installation, facility and area commander installation/facility access and local security policies and procedures (provided by Government representative). The Contractor shall also provide all information required for background checks to meet installation access requirements to be accomplished by installation Provost Marshal Office, Director of Emergency Services or Security Office. Contractor workforce must comply with all personal identity verification requirements as directed by DOD, Headquarters, Department of the Army (HQDA) and/or local policy. In addition to the changes otherwise authorized by the changes clause of this contract, should the Force Protection Condition (FPCON) at any individual facility or installation change, the Government may require changes in Contractor security matters or processes.

6.2. Contractor and all associated sub-Contractors employees travelling Outside the Continental United States (OCONUS) shall make them available and shall receive Government provided area of responsibility (AOR) specific AT awareness training as directed by AR 525-13. Specific AOR training content is directed by the combatant commander with the unit ATO being the local POC.

6.3. The Contractor and all associated sub-Contractors, with an area of performance within an Army controlled installation, facility or area, shall brief all employees on the local iWATCH program (training standards provided by the requiring activity ATO). This local developed training will be used to inform employees of the types of behavior to watch for and instruct employees to report suspicious activity to the COR. This training shall be completed within 30 calendar days of contract award and within 15 calendar days of new employees commencing performance with the results reported to the COR NLT 40 calendar days after contract award.

6.4. Per AR 530-1, Operations Security, Contractor and all associated sub-Contractor employees must complete Level I OPSEC training within 30 calendar days of their reporting for duty. All Contractor employees must complete annual OPSEC awareness training.

6.5. Contractors and all associated sub-Contractor employees requiring performance or delivery in a Foreign Country shall comply with DFARS Clause 252.225-7043, Antiterrorism/Force Protection for Defense Contractors outside the US. All non-local national Contractor personnel shall comply with theater clearance requirements and shall allow the combatant commander to exercise oversight to ensure the Contractor's compliance with combatant commander and subordinate task force commander policies and directives.

6.6. Contractors and all associated sub-Contractor employees shall comply with FAR 52.204-2, Security Requirements requiring compliance with - (1) The Security Agreement (DD Form 441), including the National Industrial Security Program Operating Manual (DoD 5220.22-M); (2) any revisions to DoD 5520.22-M, notice of which has been furnished to the Contractor.

6.7. The Contractor shall require access to the PM Tactical Network Security Classification Guide (SCG), dated 15 Feb 2012 or later. The Contractor shall adhere to all guidance contained in the SCG. These requirements shall flow down to all subContractors engaged by the Contractor.

6.8. The Contractor shall provide technical and programmatic support for PM Tactical Network SCG updates. This requirement shall flow down to all subContractors engaged by the Contractor.

6.9. Contractor security representatives shall perform an OPSEC review of all related documentation to include press announcements, articles, speeches, briefings, etc., prior to public release. The OPSEC review shall include classification, CUI and OPSEC considerations. The OPSEC review will seek to identify and limit discussion of CPI and sensitive indicators of program activity. The OPSEC review will be coordinated with the PMO. This requirement shall flow down to all subContractors engaged by the Contractor.

6.10. The Contractor shall develop and implement a security awareness and education program consistent with the Government's overall program across all Contractor locations and activities. This requirement shall flow down to all subContractors engaged by the Contractor.

7. Antiterrorism (AT) Area

7.1. Implement a verification process, whether through contractually required background checks or other similar processes applicable to the area of operation that demonstrates the trustworthiness of Defense Contractor and subContractor employees. This includes U.S. citizens, foreign nationals, and host nation (HN) personnel.

7.2. Develop and implement site-specific risk mitigation measures to maintain positive control of Defense Contractor or sub-Contractor access to and within installations, sensitive facilities, and classified areas.

7.3. Develop and implement site-specific risk mitigation measures to screen Contractor or sub-Contractor transportation conveyances for chemical, biological, radiological, nuclear, and high yield explosive materials (CBRNE) hazards before entry into or adjacent to areas with Army personnel and mission-essential assets.

7.4. Ensure contracts comply with AT provisions of the DFARS.

7.5. Ensure contracts incorporate AT Level I requirements (para 5–26b(2)(b) and app E).

7.6. Ensure that an AT/OPSEC Cover Sheet is included in the contract requirements package for all contracts and executed.

7.7. The Contractor shall promptly submit a written report to the nearest field office of the Federal Bureau of Investigation (FBI) regarding information coming to the Contractor’s attention concerning actual, probable or possible espionage, sabotage, terrorism or subversive activities at any of its locations. An initial report may be made by phone, but it must be followed in writing, regardless of the disposition made of the report by the FBI. A copy of the written report shall be provided to the cognizant security agency (CSA).

8. ORGANIZATIONAL CONFLICT OF INTEREST

The Contractor shall be subject to the restrictions of FAR 9.5 which addresses organizational conflicts of interests. Pursuant to FAR 9.5, as a result of undertaking this effort the Contractor shall be subject to restrictions prohibiting the Contractor from undertaking any work that results in a conflict.