

Statement of Work
for
Mid-Tier Networking Vehicular Radio (MNVR)

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MNVR Statement of Work

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MNVR Statement of Work

1 Scope

MNVR Statement of Work

This Statement of Work (SOW) describes the tasks and efforts the Contractor is required to perform to build, integrate, test, and deliver the Mid-Tier Networking Vehicular Radio (MNVR) sets.

The MNVR set is comprised of software and hardware consisting of operating and application software, Line Replaceable Units (LRUs), to include digital sections, analog sections, external power amplifiers, human-machine interface (HMI), intra-radio set connecting cables, and adapters/mounts for the LRUs. For reference (per AR 750-10), the Modification Kit (commonly called the A kit) is the assemblage of hardware and software necessary to modify the host system to accept the mounted set, such as power harnesses, shock isolators, ground busses, and cable clamps/guards. The Modification Kit is a permanent part of the vehicle and remains with it. The Installation Kit is the assemblage of hardware and software that interfaces between the modified host system and the mounted set and such as antennas, vehicle adaptor assemblies, vehicle mounts, and external connecting cables. The Installation Kit is intended for removal from the host system upon disposition and is not a permanent part of the host. The Installation Kit and MNVR set together are commonly called the B Kit.

The contract is for the MNVR set only, and does not include the Installation Kit or Modification Kit.

The intent of this contract is to rapidly acquire MNVR sets that meet requirements documented in the MNVR Performance Requirements Document (PRD) (see section J of the RFP).

This procurement will acquire the MNVR set as a Non-Developmental Item (NDI) in order to better realize the benefits of the vendor's investment and commitment to a supported radio product. The benefits of this approach being a sound business case for product growth, enhancement, and sustainment with shorter manufacturing lead times and broad customer acceptance. "Non-Developmental Item" means:

- a) Any previously developed item of supply used exclusively for governmental purposes by a Federal agency, a State or local government, or a foreign government with which the United States has a mutual defense cooperation agreement;
- b) Any item described above that requires only minor modification or modifications of a type customarily available in the commercial marketplace in order to meet the requirements of the procuring department or agency; or
- c) Any item of supply being produced that does not meet the requirements of paragraphs (a) or (b) solely because the item is not yet in use.

1.1 Contract Data Requirements List Use of DD Form 1423

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The Office of Management and Budget (OMB) approved DD Form 1423-1, February 2001, has been modified for automated data processing and incorporated within the text of this Statement of Work for ease of referencing. All references throughout this SOW and the contract to DD Form 1423, (CDRL), are references to the modified DD Form 1423-1 incorporated in this manner. Technical documents, including production, engineering, and logistics information required by the DD Forms 1423-1 in this SOW, shall be marked with a distribution statement in accordance with DoD Directive 5230.24, as applicable to the individual data item ordered by the Government. The Government will assist the Contractor in determining the appropriate distribution statement assignment for data items after contract award.

1.2 Data Deliverables

All formally delivered, unclassified data on this contract shall be furnished electronically by uploading digital files to the CDRL Database and emailing the CDRL Database Administrator. Contractor personnel requiring access to the Government data delivery system will be provided password(s) and logon privileges.

Electronic Mail (E-mail) will be used for other unclassified correspondence during the contract, subject to Export/ITAR restrictions.

Classified data shall be provided on magnetic or optical media. The Contractor shall handle and deliver all classified data in accordance with the DoD 5220.22-M, "National Industrial Security Program – Operating Manual," dated February 2006.

All data ordered in accordance with DD Form 1423-1 shall be submitted with a Letter of Transmittal (LT). The LT shall indicate the contract number, Contract Line Item, Sub-Line Item Number, Data Item Number, Title and Subtitle (when applicable) of the data, SOW paragraph number reference which required the data to be prepared and the date of transmittal.

1.3 Media and File Format

The Microsoft Office 2007(or later) suite of applications (MS Word, MS Excel, MS PowerPoint, and MS Project) is the preferred source of file formats for data furnished under this contract.

If the Contractor's file format is not compatible with the formats specified then the Contractor shall provide the required reader(s) software application(s), allowing the Government to read and write to the file when necessary, free of charge. Other formats for the transmittal of contract documentation, and methods for electronically signing DD Form 250s Material Receipt and Acceptance, shall be as set forth in the contract and as agreed to by the Government and Contractor.

2 Security

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The Contractor shall have a SECRET facility clearance. The Contractor shall provide for the protection of classified defense information and shall receive and generate classified material and fabricate/modify/store classified hardware and software to the SECRET level. The Contractor shall require access to COMSEC information, non SCI Intelligence information, and FOUO information. The Contractor shall also require access to program Security Classification Guide(s). A COMSEC account shall be required and there shall be a TEMPEST requirement. OPSEC requirements shall be provided by the government IAW AR 530-1. Use of the Defense Courier Service is authorized. Contract security requirements and contractor access to classified information shall be as specified in the DD Form 254. All of these requirements shall flow down to all subcontractors.

2.1 Supply Chain Risk Management (SCRM)

2.1.1 Bill of Materials (BOM) CDRL A001

Contractor shall supply a BOM of logic-bearing hardware devices and software/firmware modules in support of Directive Type Memorandum (DTM) 09-016 –titled, “Supply Chain Risk Management (SCRM) to Improve the Integrity of Components Used in DoD Systems, 25 March 2010.” The BOM shall be submitted IAW CDRL A001. It shall be used to identify suppliers for the purpose of engaging with the government to develop mutually-agreeable risk management plans.

2.1.2 Critical Functionality Analysis (CFA) CDRL A002

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The contractor shall submit a report IAW CDRL A002 that demonstrates visibility into its supply chain for critical components, supply chain risks, and the contractor's plans to implement risk mitigations. This report shall include the critical functional analysis and critical technology review of MNVR design and the component procurement practices used to manage supply chain risks to Critical Program Information (CPI), critical functions, and components. The report shall depict how countermeasures have been implemented to mitigate technology exploitation, supply chain and battlefield threats and system vulnerabilities that result in catastrophic protection failures. Supply chain risk management key practices may be found in the following references: DTM 09-016; NIST Interagency Report 7622, Piloting Supply Chain Risk Management (SCRM) for Federal Information Systems, <http://csrc.nist.gov/publications/drafts/nistir-7622/draft-nistir-7622.pdf>; and the National Defense Industrial Association Guidebook, Engineering for System Assurance, <http://www.acq.osd.mil/se/docs/SA-Guidebook-v1-Oct2008.pdf>.

2.2 Anti-Tamper (AT) CDRL A003

The contractor shall develop, use, and maintain an AT Plan to address protection of critical technologies from reverse engineering in accordance with DoD Anti-Tamper Guidelines, dated 1 April 2010. The AT plan shall be submitted IAW CDRL A003.

2.3 Critical Program Information Assessment

The Program Protection Plan (PPP) is required by DoDI 5200.39. The Contractor shall participate in the PPP development by assisting the PM in identifying CPI and shall develop a Program Protection Implementation Plan (PPIP) that addresses the requirements of the MNVR PPP. The Government and the Contractor shall conduct two CPI Assessment sessions at the Contractor site. The developer(s) and PM Representatives shall determine what CPI exists on the program and how this CPI will be managed. The first session shall be held not later than 15 days after contract award and shall be a one day kickoff session at the contractor site. During this first session the government will provide to the contractor an overview of the CPI assessment methodology and conduct an initial assessment session. This initial session requires the developer to provide System, Software, and Hardware Engineers, and other security-knowledgeable personnel to review the product's unique design characteristics and determine what CPI might exist. The second one-day session shall be conducted by the Government at the Contractor's site to assess CPI and shall be held 45 days after the first session. This session requires participation of the same developer engineering team. The group shall provide recommendations to the PM based on the results of the CPI assessment sessions.

2.4 Program Protection Implementation Plan (PPIP) CDRL A004

The PM makes the final CPI determination and provides a PPP to the Contractor within 30 days after the CPI assessment session. Based on the PPP the contractor shall provide a PPIP to the Government within 30 days of receipt of the PPP, IAW CDRL A004. The Contractor shall review the PPIP semi-annually and update it as required, based on revised information provided by the PMO, or as a result of changes in the Contractor's procedures. The Contractor shall conduct PPIP training to contractor personnel with access to sensitive technical and CPI information annually.

2.5 Global Positioning System (GPS) Certification CDRL A005

If the MNVR set uses internal GPS, the Contractor shall provide the PM a memorandum IAW CDRL A005 from the Global Positioning Systems Wing (GPSW) that demonstrates the Contractor's compliance with the GPS security requirements in accordance with Security Approval Requirements For Selective Anti-Spoofing Module (SAASM) Host Application Equipment (HAE), (GPU-09-105), dated 24 August 2009.

2.6 Public Key Infrastructure (PKI)

In order to operate with the Net Manager, the Contractor shall request PKI Certificates and Credentials in accordance with the following:

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- Joint Program Executive Office (JPEO) Joint Tactical Radio System (JTRS) Tactical PKI (TPKI) Interface Specification and Digital Certificate Processing Guidance; Version: 1.5; Document Date: 27 August 2009
- GMR Certificate Authority (CA) Interface Control Document (ICD); Revision: NC; Document Date: 02 May 2011.

2.7 Operations Security (OPSEC) CDRL A006

The contractor shall develop and submit an OPSEC Plan IAW CDRL A006. All work in support of this contract is to be performed in accordance with DoD Directive 5205.2, DoD Operations Security (OPSEC) Program, DoD Regulation 5220.22R, Industrial Security, and Army Regulation (AR) 530-1, Operations Security (OPSEC), and as specified in the DD Form 254.

2.8 National Security Agency (NSA) Certification

Prior to formal delivery of the first radio set, MNVR shall meet NSA certification requirements to cryptographically secure classified information up to Secret. The Contractor shall achieve NSA approval of the MNVR design and certification of the MNVR implementation within the Information Security Boundary in accordance with the Telecommunications Security Requirements Document (TSRD) – template, dated May 2012, its corresponding CDRLs, and the classified IA Security Requirements Document (IASRD) Master Version dated September 2011. The Contractor shall submit the TSRD deliverables to NSA.

2.9 DoD Information Assurance Certification and Accreditation Process (DIACAP)

Prior to and during operation as a DoD Information System (i.e., connected to a DoD network), the MNVR set shall be accredited. DIACAP accreditation entails technical analysis of the radio set's compliance with an assigned set of IA controls derived from DoD Instruction 8510.01, DoD Instruction 8500.2, and Army Regulation (AR) 25-2. An accreditation decision is expressed as an Authority To Operate, an Interim Authority To Operate, or an Interim Authority To Test.

2.10.1 DIACAP Documents CDRL A007

The contractor shall provide the following documents IAW CDRL A007:

- Hardware List (Name, Model, and Version)
- Software List (Name, Model, and Version)
- Illustrated Architecture Diagram (with accreditation boundary)
- Detailed Architecture Diagram (with accreditation boundary)
- Data Flow Diagram
- Ports, Protocols, and Services List

2.10.2 Technical Meetings

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The contractor shall provide two one day technical review sessions at the contractor site. The contractor shall provide subject matter experts of system, software, hardware, and security at both sessions.

The first session shall be held not later than 45 days after contract award. During this session the contractor shall provide a technical overview of the system IAW the documents in CDRL A006. The government shall assign IA Controls and initiate the System Identification Profile (SIP) and the DIACAP Implementation Plan (DIP). The contractor shall secure the MNVR set IAW applicable Defense Information System Agency Security Technical Implementation Guidelines (STIGs), AR 25-2 Information Assurance, and DoD 8500.2 IA Implementation.

The second session shall be held not later than 30 days after Formal Validation Scan results. During this session, the government will review the results of the scan and identify IA Controls that are non-compliant.

2.10.3 Validation Activities

The contractor shall host two system scans to evaluate the system against the assigned IA Controls. For each scan, the contractor shall set up and provide a functional MNVR set (including all components within the accreditation boundary). The contractor shall provide subject matter experts of system, software, hardware, and security during both scans.

The Dry-Run Validation Scan shall be performed by program office and held not later than 90 days after contract award. The Formal Validation Scan shall be performed by the government selected Agent of the Certification Authority and be held not later than 120 days after contract award. This scan will result in the DIACAP scorecard.

2.10.4 Plan of Action and Milestones (POA&M) CDRL A008

The contractor shall develop and submit a POA&M IAW CDRL A008 to address the vulnerabilities found during the validation scan. Vulnerabilities shall be addressed in order of severity. All Category I and II vulnerabilities shall be corrected. For vulnerabilities that cannot be closed completely, the contractor shall determine what mitigating factors exist, if any, to reduce the risks associated with the vulnerability. The contractor shall implement the corrective actions identified in the POA&M and report progress in the monthly status report IAW CDRL A026.

2.10 Security Markings

All custom parts, subassemblies, and assemblies within the Information Security (INFOSEC) Boundary must be conspicuously marked and identified by the Contractor with NSA-furnished zero-N (0N) part numbers IAW the marking requirements in the TSRD. All GPS Precise Positioning Service (PPS) Host Application Equipment (HAE) within the GPS Security Boundary shall be marked with 'ASD' (Advanced Security Device) following the assembly number by the developer. All GPS PPS shall be issued unique serial numbers. These GPS requirements are a part of the GPS certification requirements, which are addressed in CDRL item A005.

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3 Applicable Documents

3.1 Application

All documents cited by reference within this SOW are contractually binding to the extent specified herein. In the event of a conflict between this SOW and the contents of the documents cited by reference within this SOW, including hyperlinked information, this SOW shall prevail. Documents cited by reference in this Statement of Work shall have a valid effective date as of the award date for this contract, unless otherwise stipulated. Reference documents are cited within each appropriate paragraph and/or CDRL.

3.2 Government Furnished Information (GFI)

All GFI can be found in the JTRS Information Repository: <http://ir-public.jpeojtrs.mil/>.

4 MNVR Radio Set Production

This section describes the work necessary to produce the radio set configuration(s) that will be delivered under this contract consistent with the applicable CLINs.

Each radio set will be delivered with the appropriate set of software loaded. If used by the offeror, the license for the Raytheon BBN Technologies software for Wideband Networking Waveform (WNW) shall be included in the price.

The MNVR shall meet the requirements documented in the MNVR Performance Requirements Document (PRD).

4.1 Radio Set

The MNVR set is comprised of software and hardware consisting of operating and application software, Line Replaceable Units (LRUs), to include digital sections, analog sections, external power amplifiers, human-machine interface (HMI), intra-radio set connecting cables, and adapters/mounts for the LRUs. This SOW is for the MNVR set only, and does not include the Installation Kit or Modification Kit.

The Contractor shall procure, fabricate, assemble, integrate and test MNVR set components. The Contractor shall conduct acceptance testing in accordance with Production Acceptance Testing. After Government acceptance of the item, the Contractor shall package the units and deliver the MNVR systems as detailed in the Section B CLINs/Single Line Items (SLINs) on the contract. The MNVR sets will comply with the required capabilities in the PRD.

4.2 Interface Control Documents - CDRL A009

The Contractor shall prepare Interface Control Documents (ICDs) IAW CDRL A009 for the MNVR set and Line Replaceable Units (LRUs). The ICDs shall show physical dimensions, location and identification of ports, handles, etc, specify internal (between LRUs) and external hardware interfaces, connector types, signals on pins, protocols, and other data needed to adequately describe the radio set and LRU interfaces.

4.3 Computer Aided Design (CAD) Drawings CDRL A010

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The contractor shall provide three dimensional drawings of the MNVR IAW CDRL A010. The drawings should detail each of the components as well as the complete radio set, in all of its configurations, and should detail all physical dimensions. The drawings shall be of sufficient detail to be suitable for use in integration/installation on all target platforms and for use in fabricating any required mounts, brackets, accessories, etc.

4.4 Installation Instructions and Procedures CDRL A011

The contractor shall provide installation instructions IAW CDRL A011 detailing the procedures for installing the MNVR, in all configurations, into a generic platform. The installation instructions should include a description of any special tools required and should also include a description of all test tools required to execute the procedures such as a micro-ohm meter for bonding/grounding measurements.

4.5 Parts Lists CDRL A012

The contractor shall provide a parts list IAW CDRL A012 detailing all components of the MNVR, including all HW required for installation. The parts list should detail the manufacturer, part number, and quantity of each component.

4.6 Shipping

Upon the item's DD Form 250 acceptance by the Government, the Contractor shall package the items IAW MIL-STD 2073 and label the shipment IAW MIL-SED 129. Each packaged radio set shall include two copies of the item's up-to-date configuration records, a copy of the set's Production Acceptance Test Report (CDRL A014), an Operator Maintenance Manual (CDRL A019), and a Quick Reference/Pocket Guide (CDRL A021). The Contractor shall inform the Government upon the dispatch of each shipment.

5 Warranty CDRL A028

The Contractor shall electronically submit all data elements required for both the Warranty Tracking Information (WTI) and Warranty Source of Repair Instructions (WSRI) IAW CDRL A028 and attachment 15 to the RFP(Section J).

The contractor shall submit information on warranty actions taken IAW CDRL A028 and Attachment 15 to the RFP (Section J). The content and format for the submission of the data is contained in "Instructions for Electronic Submission of Warranty Tracking and Administration Information for Serialized Items"(RFP Section J, Attachment 15)).

5.1 Incoming Inspection

The Contractor and the cognizant DCMA representative shall jointly inspect warranty returned items upon receipt at the Contractor's facility and identify the following:

- Item Identification
- Signs of damage to or mishandling of the item (if applicable)
- Completeness of the item

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- Completeness and accuracy of accompanying documentation, including trouble reports

Any deficiencies noted as a result of the above inspection shall be brought to the attention of the DCMA representative, who will provide disposition instructions for the deficient item. The Contractor shall document each maintenance action and any discrepancies using the US Army PEO C3T Single Interface to the Field (SIF) Incident Response Management (IRM) module.

5.2 Inspection and Acceptance

Prior to its return shipment to the Government, the Contractor shall test each item returned under the warranty provisions in accordance with the Government-approved Acceptance Test Procedures. The test shall demonstrate that the item to be returned to the Government is in full working condition. Replacement items shall be in new condition and accepted IAW the Acceptance Test Procedure (ATP). The Contractor shall furnish all facilities, equipment and services necessary to perform these acceptance tests and inspections. Prior to returning a serviceable item to stock or shipment back to the point of origin, the Contractor will inform the DCMA representative as to the results of acceptance testing and inspection. Receipt and acceptance of returned or replacement items will occur via the automated Wide Area Workflow (WAWF) process and shall also be documented in US Army Single Interface to the Field.

5.3 Turn-Around Times (TAT)

Contractor shall meet the TAT described herein for all items returned to the Contractor for warranty repair. For non-critical items, whose failure does not render the Contractor's system inoperative: within 45 days of arrival at the Contractor's facility. For critical items, whose failure renders the Contractor's system inoperative: within 30 days of receipt at the Contractor's facility. TAT begins at time of receipt of the faulty item at the Contractor's facility and ends upon shipment of the item from the Contractor's facility. TAT does not include transit time from and to the Government delivery destination. This TAT includes subcontractor items and excludes the time taken for the Government to determine proper disposition of the item. The Contractor shall deliver appropriate replaced items/components, in accordance with Section D (Packaging) of the contract, to designated points of origin.

6 Production Testing and Support to Government Testing

6.1 Contractor Production Acceptance Test

Each Radio Set shall be subjected to and pass Production Acceptance Testing prior to final delivery and acceptance of the JTRS MNVR by the Government. This testing will be in accordance with Contractor Production ATP document, approved by the Government.

1.1.1 Production Acceptance Test Procedures (ATPs) CDRL A013

The Contractor shall submit a radio set level ATP IAW CDRL A013.

1.1.2 Production Acceptance Test Report (ATR) CDRL A014

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The Contractor shall submit an ATR for each radio set IAW CDRL A014.

6.2 MNVR Environmental Testing

The Contractor shall implement an environmental testing program on the units (witnessed by Government and/or representatives). The environmental test shall be designed to qualify the Contractor's product against the requirements found in Section 3 of the PRD and product specifications. The Government reserves the right to waive any tests if the contractor can provide evidence of successful completion via a Certificate of Conformance in accordance with FAR 52.246.15. If it is determined to be at the benefit of the delivery schedule, production will continue while the MNVR Qualification Testing is conducted.

1.1.3 MNVR Environmental Test Plan and Procedure CDRL A015

The Contractor shall provide test plans and procedures IAW CDRL A015 that identify the testing plan for the MNVR product.

1.1.4 MNVR Environmental Test Report CDRL A016

The Contractor shall deliver an Environmental Test Report IAW CDRL A016 for Government approval after successful completion of each test. The Environmental Test Report shall include all pertinent data on retests, failures, failure analysis/report and corrective actions.

6.3 Production Reliability Acceptance Testing (PRAT)

The Contractor shall conduct Production Reliability Acceptance Testing (PRAT) on 10 units from the MNVR production lot #1. All equipment entering PRAT shall first pass acceptance testing in accordance with the approved acceptance procedure for the applicable hardware.

1.1.5 PRAT Test Plan CDRL A017

The Contractor shall prepare a PRAT Test Plan IAW CDRL A017. Using Section 5 of MIL-HDK-781 as a guide, the PRAT Test Plan shall describe the test cases and acceptance/rejection criteria to cover the environmental test conditions. The cumulative PRAT test duration is intended to be sufficient to demonstrate the MNVR Mean Time Between Essential Function Failures (MTBEFF) by analytical extrapolation. The environmental conditions to be combined will include vibration Stress in accordance with MIL-STD 810G, test 514.6, and thermal stress in accordance with MIL-STD 810G, test 503.5.

1.1.6 PRAT Report CDRL A018

The Contractor shall submit a PRAT Report IAW CDRL A018 upon conclusion of testing.

7 Training

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The Contractor shall develop training products and conduct training courses as defined below to train full functionality of the MNVR sets. The training shall be designed to teach military and Government personnel the skills necessary to operate and maintain the MNVR system. All courses shall be developed using MIL-PRF-29612B and Training & Doctrine Command (TRADOC) Regulation 350-70 as guidance. The MNVR design should facilitate ease of training and operation while minimizing training costs and time. The design should objectively limit the sophistication of skills required to operate and maintain the equipment to those already possessed by personnel operating and maintaining legacy radios. The MNVR set should objectively not cause an increase in the number of characters of skills Military Occupational Specialty (MOS) of personnel required to operate and maintain the radio set, or introduce new tools or test equipment that is not part of the present DoD suite of tools and Test Measurement and Diagnostic Equipment (TMDE). The courses shall adhere to the TRADOC Training Development Capability (TDC) process, which is described at the Army website: <https://tdc.army.mil>.

7.1 Technical Manuals

The contractor shall develop system technical manuals as required for system operation and maintenance. Delivery of Technical Manuals (TMs) (one per radio or system) shall be included in the fixed price for the system.

The contractor shall develop and deliver radio set technical manuals as required for operation and maintenance including Repair Parts and Special Tools (RPSTL) information. The maintenance manual shall include a Maintenance Allocation Chart (MAC). The TMs shall be delivered as hardcopy paper Technical Manuals (TMs) and electronic TMs (ETMs) in Adobe Portable Document Format (PDF). The following Technical Manuals (TMs) shall be delivered.

- Operator's Technical Manual, TM -10
- Unit Level Maintenance Technical Manual with a Repair Parts and Special Tools List (RPSTL) Appendix, TM -13&P
- Operator's Pocket Guide

1.1.7 Verification

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The Government will verify the Contractor's technical manuals by performing 100 percent of the operator and maintenance tasks/procedures using target audience personnel. The Government will also conduct a 100 percent desk review of those portions of the publication not subject to hands-on performance (e.g., tables of contents, theories, indexes, etc.) All functional features of the technical manuals will be verified as operational and correct. The verification shall be held at the contractor's facility. At the verification site the contractor shall provide copies of each technical manual to be verified, appropriate office or work space to read each technical manual; a production model of the equipment to be verified, including hardware and software. The Contractor shall also provide personnel necessary to document changes to the publications; all tools and test equipment required, to perform all procedures in each technical manual according to the Maintenance Allocation Chart (MAC).

The contractor shall provide updates to reflect any configuration or design changes throughout the life of the contract. The Government intends to review the contractor's plan for the development of Technical Manuals. The Government shall be provided unlimited data rights for the system level information and reproduction rights for all COTS documentation.

1.1.8 Operator Maintenance Manual CDRL A019

The contractor shall develop, update, and maintain Operator Maintenance Manuals for the radio set IAW CDRL A019. The scope of the manuals shall include all information required for operation and support of the MNVR system/equipment, including system and equipment operation and maintenance, installation, setup, alignment, Preventive Maintenance Checks and Services (PMCS).

1.1.9 Field Level Maintenance Manual CDRL A020

The contractor shall develop, update, and maintain Field Level Maintenance Manuals Repair Parts and Special Tools List (RPSTL) for the radio set IAW CDRL A020. The scope of the maintenance manual shall include all information required for troubleshooting, fault isolation, LRU removal and replacement procedures, de-installation and preparation for transportation. The maintenance information shall include a Maintenance Allocation Chart (MAC). The contractor shall include the information necessary to implement ISP, including warranty procedures and instructions for the repair and return of unserviceable equipment.

1.1.10 Quick Reference/Pocket Guide CDRL A021

The contractor shall develop, update, and maintain a Quick Reference/Pocket Guide for the MNVR IAW CDRL A021. The Guide shall cover all subcomponents and serve as a quick reference guide for the operator's tasks, i.e. start-up procedure, operator controls, primary operator/preparation tasks, and special operator tasks etc. The contractor shall furnish a durable (e.g. plastic coated paper) hardcopy of the Guide to the Government with the delivered equipment. The Guide shall provide as a minimum the following:

- Front matter including safety information.

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- Instructions for deployment of the system up to and including power up and boot up of the system (including any unusual conditions) and instantiation of the applicable waveforms.
- Check list for system and waveform teardown.
- Troubleshooting procedures.
- System de-installation and preparation

1.1.11 TM/ETM Delivery Requirements

The contractor shall pack one copy of a paper operator's manual/TM and ETM (if used) and one paper copy of the Pocket Guide with each MNVR system delivered under this contract. The contractor shall separately provide one maintainer's manual/TM and ETM (if used) for every five MNVR systems delivered under this contract.

All technical publications shall conform to the specifications contained in MIL-STD-40051-3 "Preparation of Digital Technical Information for Page-Based Technical Manuals" and submitted in hardcopy format, searchable Adobe Acrobat PDF format with embedded fonts, and in the native format of the software used for preparation (e.g. Microsoft Office). If the contractor is using Interactive Electronic Technical Manuals IETMs, the contractor shall prepare them to specifications defined in MIL-STD-40051B, MIL-STD-2361B, and MIL HDBK-1222A. If used, IETMs will be developed using Standard General Markup Language (SGML).

7.2 Training Courses CDRL A022.

The Contractor shall develop and conduct training courses as defined below to train full functionality of the MNVR sets. The training shall be designed to teach military and Government personnel the skills necessary to operate and maintain the MNVR system. The MNVR design shall facilitate ease of training and operation while minimizing training costs and time. The design shall limit the sophistication of skills required to operate and maintain the equipment to those already possessed by personnel operating and maintaining legacy radios. The MNVR set shall not cause an increase in the number of characters of skills Military Occupational Specialty (MOS) of personnel required to operate and maintain the radio set, or introduce new tools or test equipment that is not part of the present DoD suite of tools and Test Measurement and Diagnostic Equipment (TMDE). The courses shall adhere to the TRADOC Training Development Capability (TDC) process, which is described at the Army website: <https://tdc.army.mil>.

At the completion of the training conducted for each course, the Contractor shall provide a training report IAW CDRL A022, which shall include as a minimum, the numbers of students trained, number passed, number of questions correctly and incorrectly answered and recommendations for improving the training.

1.1.12 Instructor and Key Personnel Training (IKPT)

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The contractor shall provide a one day course for 20 students per class that initially transfers knowledge of system operation and use to IKP, military and/or Department of the Army (DA) Civilians. IKPT personnel are Battalion or Brigade staff personnel, and other selected Government personnel who need to know how to operate and support the radio, but whose training is less extensive than training provided to operators. Training location shall be at CONUS government facilities.

1.1.13 Operator Training Course

The Contractor shall provide Operator Training sufficient to train selected military and government personnel in the operation of the MNVR radios. Operator training classes shall be no more than three days, and designed to accommodate a maximum of 20 students. MNVR sets, ancillary equipment, and ancillary information (e.g., cryptographic keys) required for training will be provided by the contractor, unless otherwise specified by the Government. Training location shall be at CONUS government facilities. Training held in Government facilities will not incur facility cost to the contractor, The Contractor shall provide each student with the training materials and operator's technical manuals required to support the conduct of operator training. Trained operators shall be capable of performing all critical operator tasks. As a minimum, operators shall be trained to successfully start; instantiate required waveforms and shut down the contractor's product. At the completion of the training, the Contractor shall provide a training report, which shall include as a minimum, the numbers of students trained, number passed, number of questions correctly and incorrectly answered and recommendations for improving the training.

1.1.14 Unit Maintainer Training Course

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The Contractor shall provide Unit Level Maintenance Training of no more than three days for 10 students, sufficient to train selected military and government personnel in the set-level maintenance of the MNVR sets. Contractor shall assume that the Operator Course is a prerequisite for the Maintainer Course. If the contractor's maintenance concept includes an operator/maintainer as one individual, the unit maintainer training may be incorporated into the operator training, provided all other TRADOC requirements of the operator Military Occupational Specialty are met. The number of training courses to be conducted is indicated in Section B. Classrooms, MNVR sets, ancillary equipment, and ancillary information (e.g., cryptographic keys) required for training will be provided by the contractor, unless otherwise specified by the Government. Training location shall be at CONUS government facilities. Training held in Government facilities will not incur facility cost to the contractor. The Contractor shall provide for each student with training materials and maintainer's technical manuals required to support the conduct of maintenance training. As a result of this training, unit maintainers shall be capable of detecting and isolating radio faults to a single LRU, removing and replacing the faulty LRU and restarting the radio IAW the PRD. At the completion of the training, the Contractor shall provide a training report IAW. The Training Report shall include as a minimum, the numbers of students trained, number passed, number of questions correctly and incorrectly answered and recommendations for improving the training.

7.3 Training Materials

The Contractor shall prepare Training Support Packages in accordance with this SOW and the applicable CDRLs to support Operator, Unit Level Maintenance training and IKPT for the MNVR set. The packages shall include:

- Instructional Performance Requirements Document
- Training Program Structure Document
- Training Conduct Support Package

1.1.15 Instructional Performance Requirements Document CDRL A023

The Contractor shall prepare an Instructional Performance Requirements Document for the Operator, Unit Maintenance Training Course and IKPT IAW CDRL A023.

1.1.16 Training Program Structure Document CDRL A024

The Contractor shall prepare a Training Program Structure Document for the Operator, Unit Maintenance Training Course and IKPT IAW CDRL A024.

1.1.17 Training Conduct Support Package CDRL A025

The Contractor shall prepare a Training Conduct Support Package (TCSP) for the Operator, Unit Maintenance Training Course, and IKPT IAW CDRL A025. The Training Conduct Support Package shall include:

- Lesson Plans
- Trainee Guide

MNVR Statement of Work

- Test Package i.e. Written/Performance
- Instructional Visual Aids (Transparencies)

8 Configuration Management

The contractor shall implement configuration management processes and procedures IAW American National Standards Institute (ANSI)/Electronic Industry Alliance (EIA)-649. The Contractor shall invite designated Government personnel to provide input to its Configuration Control Boards (CCBs), where CCB decisions affect usability or the user. The Contractor shall request Government concurrence for decisions that affect the degree to which its product meets PRD requirements.

9 Status Reporting CDRL A026

The Contractor shall report monthly program status IAW CDRL A026 that addresses the following:

- Program schedule
- Production delivery schedule
- Status of ECPs
- Running history of activities and accomplishment during each reporting period
- Program issues and concerns
- Status of NSA certification and DIACAP
- A summary of all formal action items
- Configuration management status
- Hardware and software upgrade status
- Manufacturing and production status
- Warranty repair status
- Risk Report

10 Safety CDRL A027

The contractor shall prepare a Safety Assessment Report (SAR) IAW CDRL A027 and shall utilize MIL-STD-882D as guidance for the implementation of a system safety program. The SAR shall identify all safety features of the system design, specific controls or precautions to be followed in the use of the MNVR, and shall provide verification of compliance to safety requirements identified in the Performance Requirements Document. The contractor shall attach a completed System Safety Design Verification Checklist (government will provide Checklist after contract award), Material Safety Data Sheets for all hazardous materials, and the Hazard Tracking Log to the SAR.

11 CONFLICT OF INTEREST

MNVR Statement of Work

The contractor acknowledges that it is familiar with FAR 9.5 and agrees that it will avoid conflicts of interest and, to the maximum possible extent, the appearance of conflict of interest, in accordance with the principles set forth in the FAR.

The contractor agrees, with respect to performance of this contract to abide by the following Conflict of Interest Provision.

11.1 Proprietary Data Exclusions

1.1.18 If performance requires the contractor to obtain data from another firm or data from another firm via Government channels which is considered proprietary, the contractor shall agree in writing with such other firms to protect such data from unauthorized use or disclosure until it is no longer considered proprietary. One copy of such agreement shall be provided to the Contracting Officer no later than thirty days after its execution.

1.1.19 If performance requires the contractor to obtain data from another firm which is considered proprietary, the contractor shall not utilize such data in supplying the systems or components thereof either by prime or subcontract, with the Government, the prime contractor, or any level of subcontractor.

1.1.20 For the purpose of this clause, proprietary data does not include data which is (i) known to the receiving party at the time of disclosure, (ii) in the public domain, or (iii) disclosed to the contractor from another source without violation of the agreement required by subparagraph (11.1.1) above.

11.2 Performance Exclusions

1.1.21 If performance of any effort requires the contractor to supply technical support for systems or projects with which the contractor is already directly concerned, either by prime or subcontract, with either another firm or the Government, including, and particularly, the cognizant DoD Program or Project Manager, the contractor shall so immediately inform the Contracting Officer. The specific effort may be withdrawn in writing at the discretion of the Contracting Officer without recourse by the contractor. Such withdrawal shall be final and not subject to the "Disputes" (FAR 52.233-1) clause of any resulting contract.

1.1.22 Further to subparagraph (11.2.1), above, the contractor shall not undertake performance of any effort which requires it to supply technical support regarding such systems until the notice required by subparagraph (11.2.1) is given, and written consent to proceed is issued by the Contracting Officer.

1.1.23 Failure of the Contractor to provide the notice required by subparagraph (11.2.1) may result in contract termination. If the contracting Officer is made aware that the contractor should have withdrawn, such withdrawal shall be final and not subject to the "Disputes" clause of this contract.