STATEMENT OF WORK

CONNECTIONS II

# Order Identification Number: [######] Land Mobile Radio

## Issued by:

### **[Agency Logo]**

## [Name of Agency]

## [Address of Agency]

**V3**

# DATE: [DD MM YYYY]

| **About this SOW Template**  This Statement of Work (SOW) Template has been provided by GSA to help customer Agencies contract for communications and networking solutions at the Local Area Network (LAN), building, campus, and enterprise level for the **Connections II contract**. The template is designed as a guide for developing a SOW and contains an example statement of work and requirements that can be readily tailored to meet Agency procurement needs.  At a minimum, the SOW must include the description and quantity of supplies and equipment to be delivered, the staffing needs to be provided, and support services to be performed as well as the evaluation criteria upon which the evaluation will be based.  Orange text should be replaced with Agency-specific information.  Context boxes in this template contain informational material or instructions that should be deleted by the Agency when finalizing this document.   * **BLUE context boxes** such as this one contain informational material, no action required. * **YELLOW context boxes or highlighting** contain instructions, or suggested requirement language/narratives and possible options the Agency may choose to include or discard when developing the SOW requirements. * **ORANGE Text** are placeholders where Agency provides a numeric value (e.g. n for number of days, or number of pages) or replace with its own Agency name, etc.   In most instances, a context box describes what requirements should be captured or included in a section; it may have a brief Q&A to guide the Agency in describing to the offeror the desired solution including products/equipment and staffing or support services the agency intends to obtain.  Sections of this SOW template may be deleted if they are not relevant to the SOW, and new sections may be added to meet the agency’s specific needs.  The text “***DRAFT SOW TEMPLATE”*** watermark and the references in the page footers should also be removed for the final copy.  **REMOVE THIS PAGE WHEN FINAL DRAFT IS GENERATED** |
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# Project Description

This is the [Agency] Statement of Work for the following task(s) utilizing the General Services Administration’s Connections II contract:

**[Project Name]**

Note: Text boxes contain informational material that should be deleted by the Agency when finalizing this document. Please delete the box and use this space to give a short overview of the Project named above.

The Connections II Land Mobile Radio Project Statement of Work (SOW) Template is provided by the General Services Administration (GSA) to help customer Agencies contract for Land Mobile Radio support. It is recognized that agencies have a very wide spectrum of Land Mobile Radio tasks that can be performed by a Connections II offeror. This SOW Template is designed as an example SOW that must be tailored to meet an Agency’s specific needs. It should not be used to capture requirements to build new radio towers to establish a new LMR infrastructure.

Note also that although the SOW Template implementation tasks are generally ordered in the sequence they will be executed, they may overlap in some cases and be performed in parallel (see *Section 2 ‑ Statement of Work*).

The SOW Template is intended to accommodate Agency customers with Land Mobile Radio services. All task-specific sections are offered as examples of what sort of information should be entered by the agency. It is assumed that client agencies will have their own specific Land Mobile Radio tasks with varying levels of detail and therefore parts of the SOW Template may be tailored, replaced or omitted entirely, depending on the requirements of the Agency.

## Purpose

This Statement of Work (SOW) supports the development and implementation of an enterprise-wide Land Mobile Radio (LMR) solution for non-emergency or emergency communications. The Government requires effective, reliable, and often secure wireless communications capabilities to successfully carry out a wide range of enforcement, protective, and security missions. Private LMR networks provide a unique level of reliability and privacy required by enforcement, protective, and security missions. The tasks in this SOW describe the requirements for equipment and services to implement and support the modernization or augmentation of a voice-centric land mobile radio for the Agency. The LMR solution aims to provide consistent, available, reliable voice communications enabling agency workers to work and support its mission anywhere and anytime.

The [Agency] has requirements for a point to multi-point communications platform to connect, collaborate, and exchange information which may require push-to-talk capabilities, direct connections without infrastructure, large coverage areas, or closed user groups. The implementation of an Agency-wide Land Mobile Radio platform aims to improve productivity, improve collaboration, and reduce operational costs.

## Background

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| To provide background information relevant to this SOW, this section should include at a minimum the following subsections. |

### Organization and Mission

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| This is where the Agency provides brief description of its organization and mission. |

[Add Agency-specific information here]

## Objectives

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| This is where the Agency may provide additional justification and benefits of deploying Land Mobile Radio (LMR).  The SOW is separated into tasks to identify objectives and requirements across a broad scope of potential needs. There is a template task for Radio Frequency (RF) infrastructure to enhance or add coverage area, another one for buying additional subscriber devices, one for testing and deployment, and another for hardware, software, licensing and warranty support. Separately, additional tasks are designated for information security certification and accreditation, overall project management, and potential ad hoc support services. This division of tasking allows agencies to pick and choose the requirements most applicable for them, and simply delete others that may not be needed. |

The objective of this SOW is to describe the equipment and services to be provided by the offeror for the augmentation of an existing Land Mobile Radio (LMR) system **or** to implement and support the establishment of new LMR capabilities or functionality for [the Agency].

The expected LMR solution shall be Project 25 (P25), digital, narrowband, Over the Air Re-keying (OTAR) if there are keys, and Advanced Encryption Standard (AES) compliant. The LMR system shall be backward compatible with any existing capital investment infrastructure and subscriber equipment.

[Additional Agency-specific information can be inserted here]

## Scope

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| **Land Mobile Radio**  (LMR) are field radio communications systems which use portable, mobile, base station, and dispatch console radios in the VHF or UHF or 700 MHz frequency bands to support the accomplishment of the agency mission statement. The 700 MHz Band of spectrum is available for both commercial wireless and public safety communications.  The Band consists of 108 megahertz of spectrum running from 698-806 MHz and was freed up as a result of the Digital Television Transition.  The 700 MHz signals penetrate buildings and walls easily and cover larger geographic areas with less infrastructure (relative to frequencies in higher bands).  Operation of LMR radio equipment is based on such standards as APCO 25, MPT-1327, and Digital Mobile Radio (DMR) which are designed for dedicated use by specific organizations, or standards such as NXDN intended for general commercial use. Typical examples are the radio systems used by first responders such as police forces and fire brigades. Key features of professional mobile radio systems include:   * Point to multi-point communications (as opposed to cell phones which are typically point to point communications when talking) * Push-to-talk, release to listen — a single button press opens communication on a radio frequency channel * Metro, regional, or statewide coverage areas * Closed user groups * Use of VHF, UHF or 700/800 MHz frequency bands.   **Assumptions:**  This LMR SOW template is designed based upon the following assumptions:   * Agencies will overwhelming want to upgrade an existing infrastructure, or system rather than implement a new system * The Government is seeking a single offeror to design, develop, procure, deploy, and maintain the new LMR system * The Government does not include a dispatch center as part of this procurement. * The System may include backhaul infrastructure implementation or upgrade * The contractor will perform system staging and implementation * The contractor will perform the initial programming based on Government specifications * The contractor will provide project management support * The Agency will have an accurate inventory of their current systems which will be available as part of the RFP |

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| This section should briefly describe the scope (products and support services) that the agency intends to obtain. A brief summary of the scope of acquisition may include professional support services (labor types), equipment, software, and hardware components associated with implementing a LMR platform.  Scope information for this SOW should include the following services at a minimum. The scope should focus on the tasks, related activities, staffing/labor, and equipment requirements to deliver a complete LMR solution.  Depending on Agency needs and the size and complexity of the project, the scope for a LMR Solution may include all or a combination of the following services:   1. **RF Infrastructure** – Designing and implementing the equipment and materials necessary to provide or improve the coverage and the infrastructure to implement the system 2. **Handheld/Mobile Devices** – Provisioning the handheld or mobile radio devices, antennas, and consoles to interact with the system 3. **Testing and Deployment** – Assistance in engineering design, analysis, functional verification and deployment of the end-state LMR 4. **Support** – Training, warehousing, transportation of parts, field operations support, and equipment and material supply as called for within the SOW.   The agency may require the offeror to act as system integrator and coordinate with the Agency’s network service provider during the integration of an LMR platform into any existing infrastructure.  The proposed solution must be able to support the agency’s hierarchical structure. |

### General Description of Requirements

The offeror shall provide LMR equipment, development, deployment and support as needed in support of [Agency’s] LMR network and systems. LMR equipment, development, deployment and support includes, but is not limited to: assistance in engineering design and analysis, equipment configuration, system installation, system testing, training, warehousing, transportation, field operations support, maintenance, and equipment and material supply as called for within this SOW.

The offeror shall assist [Agency] in the initial configuration of talk-groups and channels, and perform any activities required for RF sites to interoperate with external LMR systems. The offeror shall also provide quantities of Hand-held, Desktop, and Vehicular units, and assist with the initial programming of the units for comprehensive acceptance testing.

The offeror shall be responsible for the monitoring, fault detection, and corrective maintenance for the core LMR system and all RF sites; subject to Service Level Agreements defined in the SOW. The offeror shall also be responsible for preventative maintenance for the LMR system, including patches and updates to applications and Operating Systems (OS). The offeror shall service, maintain and repair all fixed and portable LMR system equipment for the life of the contract including coverage enhancing equipment provided by the offeror to meet coverage requirements.

The Government’s representative will conduct independent acceptance testing for each site, and once system acceptance has occurred at each location, the offeror shall provide preventative and corrective maintenance for all LMR equipment and maintain the coverage and services provided. The offeror shall maintain access to replacement parts to support corrective maintenance service requirements, including complete RF sites, as well as engineering services by labor category for the Term.

The equipment and services requested under this SOW will be applied in coordination with the Government Contracting Officer’s Technical Representative (COR), and/or the COR-designated Task Monitor(s).

[Add Agency-specific information here]

### Existing Communications and Network Infrastructure

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| Agency may also add a logical architecture diagrams, maps, or other configuration diagram of the existing systems configuration, site locations in terms of size and categorization (host, dispatch, backup and remote). This can be labeled Appendix A Current Configuration Diagrams, Figures and Tables. |

See ***Appendix A – Current Configuration Diagrams, Figures and Tables*** for configuration data, tables and diagrams.

[Add Agency-specific information here]

### Anticipated Limitations and Constraints

[Add Agency-specific information here]

## Acquisition Selected

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| The order type for the Land Mobile Radio SOW defaults to **Firm Fixed Price.**  TheAgency may choose instead to specify a **Time and Materials** (T&M) type task order. ATime-and-Materialstask ordermay be used when it is not possible for the Agency at the time of placing the task order to estimate accurately the extent or duration of the work or to anticipate costs with any reasonable degree of confidence. (FAR 16.601 (c) Time-and-materials contracts).  A time-and-materials task order provides for acquiring supplies or services on the basis of (1) Direct labor hours at specified fixed hourly rates that include wages, overhead, general and administrative expenses, and profit; and (2) Actual cost for materials (except as provided for in 31.205-26(e) and (f)). |

This is a Firm Fixed Price Task Order against the GSA Connections II Indefinite-Delivery, Indefinite-Quantity (IDIQ) Contract.

The offeror shall adhere to the terms and conditions specified in the Connections II Contract in addition to the service specific requirements in this solicitation.

## Period of Performance

The Tasks agreed upon by [Agency] and the offeror will remain in effect for the life of the Connections II Task Order. The offeror shall provide technical support, and shall procure and install [or recommend] the equipment for these Tasks.

The term of the order will be from the date of award through a base period plus [n] option periods. The overall period of performance is specified in the following table.

**Table 1.7-1: Date of Task Order Award**

|  | **Start Date** | **End Date** |
| --- | --- | --- |
| Base Year | <<Performance\_Start\_Date>> | <<Performance\_End\_Date\_Base\_Periodr>> |
| Option Period 1 | <<Performance\_Start\_Date\_Option\_Period\_1>> | <<Performance\_End\_Date\_Option\_Period\_1>> |
| Option Period 2 | <<Performance\_Start\_Date\_Option\_Period\_2>> | <<Performance\_End\_Date\_Option\_Period\_2>> |
| Option Period 3 | <<Performance\_Start\_Date\_Option\_Period\_3>> | <<Performance\_End\_Date\_Option\_Period\_3>> |
| Option Period [n] | <<Performance\_Start\_Date\_Option\_Period\_4>> | <<Performance\_End\_Date\_Option\_Period\_4>> |

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| Note: This table is for illustration purposes only. The Agency has the option to add or remove years in order to complete the LMR Deployment. The Connections II contract was awarded in October 2011. Connections II contract ends January 18, 2021. An order placed by January 18, 2021 can last until January 18, 2026. |

## Place of Performance/Hours of Operation

The offeror shall comply with the geographic requirements specified in this solicitation to provide support for the LMR solution. The deployment, installation, and provisioning of the LMR solution shall be installed at the sites/support locations identified in Appendix B.

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| Appendix B contains a column for hours of operation for each site. If all sites have common hours of operation or if hours of operation can otherwise be conveniently summarized (e.g., one set of hours for headquarters location, another of branch locations) then the Agency may choose to put that information here and delete the column in the Appendix. A full listing of all locations in two places, however, should be avoided. |

Sizing for each location is expressed in terms of the number of users, as defined in Appendix B.

The offeror shall adhere to the hours of operation described herein. Any work performed at government sites after normal business hours will be allowed as necessary upon prior approval and coordination with the **[Agency] COR**.

## Fair Opportunity

This SOW will be released for Fair Opportunity under **FAR 16.505**.

## Regulatory Requirements and Compliance Guidelines

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| This is where the Agency should provide the general description of the compliance requirements, OMB directives, and general policy and guidelines that the offeror must stipulate compliance with, provide acknowledgement of, or must complete to meet the requirements stated herein. The text given below in this section is for sample purpose only. The Agency may keep, alter or delete text entirely, depending about task requirements.  Specific Agency requirements must be specified in Item 1 below. |

The offeror shall review the following requirements and guidelines:

### Regulatory and Standards Requirements

The Land Mobile Radio Solution shall comply with the following standards, as applicable:

1. All applicable **[Agency]** and **[Department]** standards
2. Federal Communications Commission (FCC) VHF/UHF Narrowbanding requirement for all public safety and business industrial land mobile radio systems operating in the 150-174 and 421-470 MHz radio bands to cease operating using 25 kHz efficiency technology, and begin operating using at least 12.5 kHz efficiency technology.

(<https://www.fcc.gov/general/vhfuhf-narrowbanding-information>)

1. American National Standards Institute (ANSI) / Telecommunications Industry Association (TIA) Publication 222-G (Structural Standards for Steel Antenna Towers and Antenna Supporting Structures), including addendum Z(TIA/ANSI 222-G-1) (<http://www.tiaonline.org/standards/>)
2. CFR29 Labor Part 1926. OSHA – Work force safety
3. CFR47 Federal Communications Commission Part 17 – Construction, marking and lighting of antenna structures.
4. National Fire Protection Association (NPFA) 70 – National Electric Code (NEC) (<http://www.npfa.org/>)
5. US Army Corp of Engineers, EM-385-1-1, Safety and Health Requirements Manual
6. Federal; Information Processing Standard (FIPS) Publication 140-2, “Security requirements for Cryptographic Modules” (<http://csrc.nist.gov/publications/fips/fips140-2/fips1402.pdf>)
7. Federal; Information Processing Standard (FIPS) Publication 197, “Advanced Encryption Standard”

(<http://csrc.nist.gov/publications/fips/fips197/fips-197.pdf>)

1. All appropriate standards for any applicable underlying access and transport services supporting the platform

[Additional Agency-specific information can be inserted here]

#### Compliance Guidelines

For Land Mobile Radio, Project 25 (P25) lays the foundation for interoperability. P25 is the result of a collaboration between:

* Association of Public-Safety Communications Officials-International (APCO)
* National Association of State Telecommunications Directors (NASTD)
* National Telecommunications and Information Administration (NTIA)
* National Communications System (NCS)
* National Security Agency (NSA)
* Department of Defense (DoD).

The system shall support P25 guidelines (http://www.project25.org/) for Common Air Interface (CAI) operation over the infrastructure and in the subscriber-to-subscriber mode, as well as, support P25 CAI in both trunked and conventional operation. The system shall also support P25 Data Interfaces: Mobile Data Interface (A Interface) and Fixed Host Data Interface (Ed Interface), P25 Telephone Interconnect Interface, P25 Inter-RF Subsystem Interface (ISSI), P25 Network Management Interface (NMI), P25 Console Subsystem Interface (CSSI), P25 Fixed/Base Station Subsystem (FSSI), and P25 Wireless/Mobile Console Interface (b Interface). Project 25 Statement of Requirements can be found in Attachment Z.

System shall comply with P25 standard features and functions as defined within the following published standards: **In the event the standard has been updated prior to technical solution, offeror shall comply with the most current version of these published standards.**

* TSB-102-A, APCO Project 25 System and Standards Definition, January 2003
* TIA/EIA-102.AAAB-B, Digital Land Mobile Radio Security Services Overview, January 2005
* TIA/EIA-102.AAAD, Project 25 Block Encryption Protocol, July 2002
* TSB-102.AABA-A, APCO Project 25 Trunking Overview, June 2004
* TIA/EIA-102.AABB-A, Project 25 Trunking Control Channel Formats, January 2005
* TIA/EIA-102.AABC-B, Project 25 Trunking Control Channel Messages, March 2005
* TSB-102.AABD, Project 25 Trunking Procedures, October, 2002
* TSB-102.AABF-A, APCO Project 25 Link Control Word Formats and Messages, December 2004
* TIA/EIA-102.AACA, Project 25 Over-The-Air-Rekeying (OTAR), April 2001
* TIA/EIA-102.AACB, Project 25 Over-The-Air-Rekeying (OTAR) Operational Description, November 2002
* TIA/EIA-102.AACC, Conformance Test for the Project 25 Over-The-Air-Rekeying (OTAR), July 2002
* TIA-102.AACD, Key Filled Device (KFD) Interface Protocol, February 2005
* TIA/EIA-102.BAAA-A, Project 25 FDMA Common Air Interface, September 2003
* TSB-102.BAAB-B, Project 25 Common Air Interface Conformance Test, March 2005
* TIA/EIA-102.BAAC-A, Project 25 Common Air Interface Reserved Values, December 2003
* TIA/EIA-102.BABA, Project 25 Vocoder Description, December 2003
* TIA/EIA-102.BABB, Project 25 Vocoder Mean Opinion Score Conformance Test, May 1999
* TIA/EIA-102.BABC, Project 25 Vocoder Reference Test, April 1999
* TSB-102. BACA, Inter-RF Subsystem Interface Messages, April 2003
* TSB-102. BACC-A, Inter-RF Subsystem Interface Overview, December 2003
* TIA/EIA-102.BADA-A, Telephone Interconnect Requirements and Definitions (Voice Service), March 2000
* TIA/EIA-102.BAEA-A, Project 25 Data Overview, June 2004
* TIA/EIA-102.BAEB-A, Project 25 Packet Data Specification, March 2005
* TIA/EIA-102.BAEE-A, Project 25 Radio Control Protocol, September 2004
* TIA/EIA-102.CAAA-B, Digital C4FM/CQPSK Transceiver Measurement Methods, December 2004
* TIA/EIA-102.CAAB-B, Digital C4FM/CQPSK Transceiver Performance Recommendations, July 2004
* TSB-102.CAAC, Project 25 Mobile Push-to-Talk and Audio Interface – Definitions and Methods of Measurements, September 2002
* TIA-102.CABB, Interoperability Test Procedures, OTAR, August 2003
* National Telecommunications and Information Administration (NTIA) Redbook, Manual of Regulations and Procedures for Federal Radio Frequency Management, 9 September 2009.

[Additional Agency-specific information can be inserted here]

# Statement of Work

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| **A Primer on Land Mobile Radio (LMR)**  Land Mobile Radio (LMR) consists of various services utilizing regularly interacting groups of base, mobile, portable, and associated control and relay stations for private and generally non-profit radio communications by eligible users. LMR is used by Federal and local governments, and other organizations to meet a wide range of communication requirements, including coordination of people and materials, important safety and security needs, and quick response in times of emergency. These systems, which often share frequencies with other private users, make possible many day-to-day activities that people across the United States have come to rely on, whether directly or indirectly. Public safety agencies, utilities, railroads, manufacturers, and a wide variety of other businesses rely on their business radio systems every day, particularly for voice communications (the majority of data communications have migrated to cellular). The services included in LMR are Public Safety, Industrial/Business, Private Land Mobile Paging, and Radiolocation.  Emergency responders—police officers, fire personnel, emergency medical services—must exchange communications seamlessly across disciplines and jurisdictions to successfully respond to incidents and large-scale emergencies. Project 25 (P25) is the standard for interoperable digital two-way wireless communications products and systems. Equipment that demonstrates compliance with P25 is able to meet a set of minimum requirements to fit the needs of public safety. These include the ability to interoperate with other P25 equipment, so that users on different systems can talk to each other and so that agencies are more likely to not be locked into a single offeror.  **Land Mobile Radio features and capabilities**.  LMR Service licensees in the 150-174 MHz and 421-512 MHz bands are subject to the Federal Communication Commission's January 1, 2013 deadline to migrate to narrowband (12.5 kHz or narrower) technology. Information concerning narrowbanding migration and compliance is available at the Public Safety and Homeland Security Bureau's [narrowbanding](http://www.fcc.gov/pshs/public-safety-spectrum/narrowbanding.html) webpage.  The TIA/EIA-102 suite of standards, also known as Project 25, provides the basis for the required ELMR technical specifications which provides for a “Common Air Interface” (CAI) and Inter Sub-System Interface (ISSI), across which radio equipment from multiple offerors will interoperate.  The requirements in this section are suggestive and it is up to the agency to determine the most suitable solution that meets their goals and objectives. |

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| This section should describe in detail the technical requirements for the support services (labor), equipment, and equipment services that the agency intends to obtain.   * For the majority of tasks for standard or baseline requirements, the Agency may simply identify the quantity and types of equipment and devices, the performance (usage requirements), and the total number of support personnel (staffing). * For complex requirements, the Agency may attach any other relevant documentation (e.g., “As is” logical and physical network diagrams, end user count for radios by site/support locations, groups, currently in place).   The Agency should consider addressing the following areas at a minimum, and as appropriate to their specific requirements, since offerings for an end-to-end LMR solution may vary by Connections II offeror:   1. RF Infrastructure 2. Handheld/Mobile Devices 3. Testing and Deployment 4. Support 5. Information Security Certification and Accreditation 6. Project Management 7. Ad Hoc Support Services   Next Level of definition…   1. RF Infrastructure    * Coverage Requirements    * Physical Design and Configuration    * Implementation and Deployment Roll out Plan    * Testing and Acceptance 2. Handheld/Mobile Devices    * Numbers and Types of devices and accessories    * Capacity for acquiring additional devices at a future period 3. Testing and Deployment    * System Staging    * System Installation and Deployment    * System Optimization    * Acceptance Testing 4. Support    * Hardware/Software/Licensing Maintenance    * Performance and Service Level Requirements    * LMR Technical Support    * Instructional Training 5. Information Security Certification and Accreditation Task 6. Project Management Task    * Status Reporting    * Project Status Review Meetings 7. Ad Hoc Support Services Task |
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## System Overview

The offeror shall provide all equipment and services in support of the program. System designs should allow for the upgrade of the existing equipment where possible, and any equipment that may be reused shall also be considered in the design.

The proposal must discuss how the design will address proprietary and/or aging technology and the impact the use or reuse of that technology on the objective for an open and interoperable system.

The system shall consist of new Ultra-High Frequency (UHF), Very High Frequency (VHF), or 700/800 MHz band 12.5 kHz-narrowband-capable equipment that complies with Federal Communications Commission (FCC) requirements and National Telecommunications and Information Administration (NTIA) directives. The system architecture shall use the P25-defined data standard for connectivity and routing. The system shall comply with full Project 25 (P25) standard features and functions with a P25, 9600-baud control channel. The system shall also support P25 AES encryption, P25 OTAR, and P25 OTAP. All encryption hardware and software/firmware shall be certified, in accordance with current NIST and NSA requirements (depending upon agency protocols) and offerors shall submit copies of certification with their proposal. The system shall be software-based, and readily accept software enhancements for technology updates. Updates may include performance enhancements, as well as new or optional features.

### System Functionality Description

The offeror shall provide a system design that meets the following requirements:

* System shall be a digital, trunked system that complies with all applicable NTIA and FCC standards and specifications.
* The system shall include Advanced Encryption System (AES) encryption compatible with the existing subscriber base.
* System shall support P25 OTAR (if applicable).
* System shall support P25 OTAP/ Programming Over Project 25 (POP25).
* System shall be compliant with the Telecommunications Industry Association/Electronics Industry Association-102 (TIA/EIA-102) suite of standards and specifications.
* System shall be designed to function in the VHF/UHF frequency bands.
* The system shall also be software upgradeable to incorporate future technology.
* In the event of the loss of the system controller, the repeaters sites shall remain available for use.

### Basic System Requirements

The basic equipment shall include repeaters and communications infrastructure equipment necessary for connection back to the existing system core. Efforts include systems analysis, engineering services, system design, equipment programming, equipment installation and optimization, acceptance testing, training and maintenance support for the system described in this document. The basic system shall consist of the following equipment:

* Trunked repeaters with redundant controllers
* Network interconnect equipment with link encryption and remote rekey capability
* Transmitter combiner(s), if required
* Receiver Multi-coupler(s), if required
* Filtering equipment, if required
* Antennas, Transmission line, and surge suppression, if required

### APCO Project 25 Compliance

The system shall support current P25 guidelines and applicable Technical Service Bulletins for Common Air Interface (CAI) operation over the infrastructure and in the subscriber-to-subscriber mode, as well as support P25 CAI in both trunked and conventional operation. The system shall also support P25 Data Interfaces: Mobile Data Interface 9A Interface) and Fixed Host Data Interface (Ed Interface), P25 Telephone Interconnect Interface, P25 Inter-RF Subsystem interface (ISSI), P25 Network Management Interface (NMI), P25 Console Subsystem Interface (CSSI), P25 Fixed/Base Station Subsystem (FSSI), and P25 Wireless/Mobile Console Interface (b Interface).

The system shall comply with the Telecommunications Industry Association/Electronics Industry Association (TIA/EIA) guidance. The latest version of these documents may be obtained from <http://www.tiaonline.org>.

### Frequencies

The system shall use existing frequency pairs allocated for trunked system use. The actual frequency assignments will be provided upon award. Any new frequencies provided for any additional channels will be within specifications of existing combining/multicoupling system.

### Primary Power

The offeror shall specify the primary power requirements for the equipment at each site at the Reference Architecture.

### Interconnecting Communications/Circuit Requirements

The offeror shall specify the interconnecting communications circuits required for the proposed system:

* Number of circuits required (To/From) – From building and room number to building and room number. If there is no building or room number, identify the locations by site common name such as “RF repeater shelter”.
* Type of circuit required - Such as full T1, fractional T1, or 10/100 Base-T Local Area Network (LAN) Extension. LAN extension circuits will be full duplex capable and compliant with Institute of Electrical and Electronics Engineers (IEEE) 802.3 standards.
* Minimum bandwidth required - If a T1 or fractional T1 is required, specify the minimum number of DS0’s required. If an Ethernet LAN extension is required, specify the minimum required bandwidth (or throughput).

### Reliability

In their proposal, the offeror shall describe possible failure scenarios. Failure scenarios shall be addressed for each of the priced system line-items related to the RF communications system. Descriptions shall be provided for system controller, site link, control channel loss, and repeater loss. The offeror shall address system redundancy to minimize single-point failures in their system design. Any required or recommended spares for emergency recovery of system capability shall be provided as separately priced line-items.

### Mutual Aid Radios

The proposed system shall support all existing, currently integrated, mutual aid radios. The offeror shall propose the equipment necessary to integrate additional mutual aid and basic radios. Where impractical to use GFE provided mutual aid radios, the offeror shall address the necessary hardware to replace these radios with ones supported by the proposed system.

## Task Areas

This Statement of Work is in support of the [Agency] Land Mobile Radio (LMR) solution to enable Agency users and customers to connect, collaborate, and exchange information via portable radios enterprise-wide. The offeror shall propose a complete LMR solution to provide the channels for real-time interaction across radio frequencies.

The offeror shall propose an end-to-end solution as described in the requirements in providing design and engineering services, frequency allocation and licensing, software, user licensing, and all hardware components (e.g. radio band equipment, backhaul implementation equipment, point-to-point radios) associated with a fully operational enterprise LMR infrastructure. Any partial solution must integrate with the existing LMR infrastructure.

The following sections describe the full range of offeror support services, equipment, and equipment services that may be needed, including the performance measures to be used to assess the quality and timely delivery of the following required tasks:

* **Task 1** (Radio Frequency (RF) Infrastructure)
  + Coverage Requirements
  + Physical Design and Configuration
  + Implementation and Deployment Roll out Plan
  + Acceptance Testing
* **Task 2** (Handheld/Mobile Devices)
  + Numbers and Types of devices
  + Device features, both mandatory and optional
  + Price for additional devices
* **Task 3** (Testing and Deployment)
  + System Staging
  + System Installation and Deployment
  + System Optimization
  + Acceptance Testing
* **Task 4** (Support)
  + Hardware/Software/Licensing Maintenance
  + Performance and Service Level Requirements
  + LMR Technical Support
  + Instructional training
* **Task 5** (Information Security Certification and Accreditation Task)
  + C&A
* **Task 6** (Project Management Task)
  + Status Reporting
  + Project Status Review Meetings
* **Task 7** (Ad Hoc Support Services Task)

## Task 1: Radio Frequency (RF) Infrastructure

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| This is where the Agency provides coverage requirements for the offeror to implement an infrastructure to deploy the Land Mobile Radio platform including the physical design and configuration, conducting site surveys as necessary, deployment roll out plan, testing and acceptance.  ***Section 2.3 – Task 1*** describes different possible coverage requirements based on the agency’s needs and any infrastructure already in place, for the implementation and deployment of a land mobile radio solution and application suite across the enterprise or at select Agency locations.  At a minimum, this section should address the following elements for implementation and deployment :   * The level of coverage specification the agency is able to provide * Physical Design and Configuration * Implementation Checklist and Deployment Roll out Plan by Location or Site Category * Testing and Acceptance |

The RF Infrastructure Task may include one or more of the following activities or sub-tasks:

* **Sub-task 1:** Coverage specification
* **Sub-task 2:** Physical Design and Configuration
* **Sub-task 3:** Implementation and Deployment Roll out Plan
* **Sub-task 4:** Testing and Acceptance

### Sub-task 1: Coverage Specification

**Coverage Scenario 1:** The agency has firm specifications of their existing requirements for coverage. These are in the form of percentage availability of coverage across the affected territory.

In the proposal package, offerors shall provide coverage predictions that show that the system will provide—

* 99.5% mobile, talk-in and talk-out (radio unit to repeater)
* 98% portable in-street, talk-in and talk-out
* 90% portable in-building, talk-in and talk-out (where a medium sized building with an average 16 dB loss shall be considered)

The offeror shall provide talk-in/talk-out maps showing the predicted coverage for the system. The coverage computation shall use a method that allows data points to be evenly spaced throughout the coverage area. The offeror shall assume that the portable radio antenna height is at waist level (3’) when receiving and at shoulder level (5’) when transmitting. These coverage maps will be used for the coverage acceptance testing which in turn will be used for final system acceptance testing. The offeror shall take into account system balancing to address site overlap.

The offeror shall specify how the coverage will be monitored, measured, and reported to the Government.

**Coverage Scenario 2:** The agency has an existing infrastructure, and desires to maintain their current levels of coverage while updating infrastructure or spectrum allocation.

Unless the new or updated system will use the same frequency bands as the existing infrastructure, re-engineering will need to be done to assess and assure coverage. Coverages are stated in the form of percentage availability across the territory, including a plus or minus allowable tolerance. The system shall provide no less RF coverage than is currently provided to users operating mobile and portable radio units throughout the area.

*Statement of current achieved coverages…*

The offeror shall specify how the coverage will be monitored, measured, and reported to the Government.

**Coverage Scenario 3:** The agency has an existing infrastructure, and desires to keep their current infrastructure and add new coverage.

New coverage will be specified with a description of the physical area where coverage is required, as a geographic territory, a neighborhood, a political district, shopping mall, or other identifiable location.

The offeror shall specify how the coverage will be monitored, measured, and reported to the Government.

### Sub-task 2: Physical Design and Configuration

The physical design and LMR configuration shall address the core and critical elements that need to be taken into account, including security and information assurance, when designing or modifying a network to support and sustain an LMR solution.

A Reference Architecture shall be provided to show the different components, equipment, and a mapping of all critical network elements. The design and configuration shall meet the requirements for network performance, quality of user experience, LMR network security, and other design components.

The offeror shall provide a comprehensive end-to-end infrastructure solution which provides high levels of reliability, availability, and security in the Agency's enterprise environments.

***For Coverage scenario 3***

The offeror shall install RF equipment at the required sites and integrate the RF equipment with the core system over [Agency] provided communication links. The offeror shall fully configure and optimize RF sites and verify that the sites are not causing any intermodulation or RF interference that could impact [Agency] interests. The offeror shall assist [Agency] in the initial configuration of talk-groups and channels, and perform any activities required for RF sites to interoperate with external LMR systems.

The offeror shall propose a complete end-to-end solution in providing design and engineering services, frequency allocation and licensing, software, user licensing, and all hardware components (e.g., communications sites, towers, enclosures, utilities, radio band equipment, backhaul implementation equipment, associated with a fully operational enterprise LMR infrastructure).

The offeror shall be responsible for the monitoring, fault detection, and corrective maintenance for the core LMR system and all RF sites; subject to Service Level Agreements defined in the SOW. The offeror shall also be responsible for preventative maintenance for the LMR system, including patches and updates to applications and Operating Systems (OS). The offeror shall service, maintain and repair all fixed and portable LMR system equipment for as long as stipulated in this task order; as well as existing coverage enhancing equipment and any additional coverage enhancing equipment provided by the offeror to meet coverage requirements.

### Sub-task 3: Implementation and Deployment Roll out Plan

#### Implementation Schedule

The offeror shall provide an implementation schedule for completing the transition from the existing platform to the new or modified LMR platform. The offeror shall develop milestones for all facets of the engineering, implementation, and testing activities required to implement and deploy LMR services to each end-user site location. The offeror's implementation schedule shall conform to the priorities established by the Government for cutover.

The implementation of an LMR system shall require a comprehensive, well-structured strategy that considers the government requirements, infrastructure and goals while minimizing service disruption and cost.

1. The offeror shall provide both an Implementation Checklist and Deployment Roll-out Plan within 30 calendar days after award, subject to government approval.
2. The offeror’s implementation approach shall leverage existing resources while laying out a realistic roadmap and deployment schedule.
3. The offeror shall develop [or recommend] an Implementation Checklist to deploy and implement LMR with minimal disruption. A sample Implementation Checklist is provided in **Attachment D – Implementation Checklist.**

#### Customer Notification

The offeror shall identify its approach for notifying site communications personnel of pending service cutovers and of pending offeror-conducted testing thirty (30) calendar days in advance of the date cutover and/or testing activities will begin.

The offeror shall describe its approach for notifying site communications personnel of procedures for using LMR services during initial cutover, and the procedures for using new services as they are deployed over the life of the contract. The offeror shall also describe its approach for supporting site communications personnel in the resolution of end user troubles during the transition period.

### Sub-task 4: Testing and Acceptance

Upon installation or when ordered by the Government, the offeror shall execute acceptance testing in accordance with the Acceptance Test Plan approved by the Government. The offeror shall create an Acceptance Test Plan for Government approval prior to performing LMR testing.

Upon completion of the requested test the offeror shall submit an update to the Testing and Acceptance Report for the site location under test documenting all results of the execution of the test(s).

#### Testing and Acceptance Plan

The offeror shall develop [or recommend] an LMR Testing and Acceptance plan and describes how an upgrade to LMR will be made operational.

* The offeror shall provide a draft Test and Acceptance Plan post-award which outlines the testing to be performed at all locations within the Agency’s geographic scope. The Test and Acceptance Plan will be provided for Agency to validate the LMR solution based upon a set of acceptance criteria and specifications.
* The Testing and Acceptance Plan shall detail the site locations to be included in the test being conducted, as well as the procedures, applications and equipment for simultaneous operation of all end-user points under test.
* The offeror shall develop clearly defined Agency Acceptance Criteria.
* The offeror shall utilize its own resources for testing at no additional cost to the government.
* The Government will have the right to access to all offeror-provided LMR equipment for independent testing and evaluation activities with 24 hours advance notice to the offeror.

## Task 2: Handheld and Mobile Devices

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| This is where the Agency provides requirements for the devices used by the end users of the system. These will include handhelds and mobile devices, and the accessories used to support them.  ***Section 2.4 – Task 2*** describes the requirements for handheld and vehicular devices. It also specifies requirements for antennas, batteries, headsets, car charges, cases, Push-to-Talk (PTT) lapel buttons, etc. The Government can specify the quantities of devices required. These include replacement devices, upgrades, and new devices.  At a minimum, this section should address the following elements for implementation and deployment :   * Equipment needed initially * Any anticipated expansion or growth in subsequent periods of performance (optional) |

The LMR Handheld and Mobile Devices Task includes the following or sub-tasks:

* **Sub-task 1:** Devices and Accessories
* **Sub-task 2:** Future equipment (optional, a separate table?)

The offeror shall supply equipment described in this task. Provisioning activities shall be performed in accordance with government standards and best practices established by the Government, and will focus on meeting the goals of the project while obtaining the best value for the Government.

Provisioning involves supplying, receiving and inventorying subscriber devices (mobile and portable units).

The offeror shall assist [Agency] in the initial configuration of talk-groups and channels, and perform any activities required for RF sites to interoperate with external LMR systems. The offeror shall also assist with the initial programming of Subscribers for comprehensive acceptance testing.

In accordance with P25 best practices, the equipment shall conform to the following mandatory user needs requirements indicated as “M” (“Mandatory”) or “SO” (“Standard Option”) service, feature, or capability. Information only (“i”) is used for description, and are not requirements. The complete list is available at the APCO Project 25 website, <http://www.project25.org/images/stories/ptig/docs/Technical_Documents/12131211_Approved_P25_SoR_12-11-13.pdf>

“M” and “SO” indicate applicability of the specific P25 requirement. Mandatory requirements must be supported by all P25 systems, and comply with all P25 standards defined by TIA. Standard Options indicate a requirement supported by the suite of P25 standards which users may optionally deploy; if deployed in a particular system, they shall comply with standards defined by TIA.

Frequency Division Multiple Access (FDMA) and Time Division Multiple Access (TDMA) are channel access methods used in multiple-access protocols as a channelization protocol. FDMA (used in P25 Phase I) gives users an individual talk path allocation of one or several frequency channels, while TDMA (used in P25 Phase II) divides a channel signal into time slots so the users can transmit in rapid succession.

Below are the Subscriber Equipment Mandatory and Standard Option requirements for APCO Project 25. [Note these are included here for informational purposes to allow discussion and awareness, and would likely end up in an appendix]

| **5.0 Subscriber Equipment** | | |
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| 5.1 Mobile/Portable Subscriber Unit (SU) Requirements | Phase I, 12.5 kHz, FDMA | Phase II, 12.5 kHz TDMA |
| 5.1.1.2 Electronic Serial Number  The existence of an ESN (Electronic Serial Number) in a radio (subscriber unit) is to be mandatory. The validation response to an ESN inquiry is to be mandatory. | M | M |
| 5.1.1.3 Support of Analog Communications  Support analog communications within this SU when involved in a call from an analog unit. | M | SO |
| 5.1.1.5 Equivalent Product Size  Equipment size shall be comparable to existing analog systems. Portable subscriber units shall be offered for covert and uniformed users (covert portable being smaller) with batteries that shall power these portables for at least 8 hours (5,5,90 duty cycle) with minimal size and weight. | M | M |
| 5.1.1.7 Not Home Talk Group Scan  This feature is supplementary to group services. It allows the radio users to identify a priority scan group (the “selected” group) and up to 8 non-priority scan groups. When the priority group is not active, the user will be able to monitor audio from non-priority groups on a resource available basis. | M | M |
| 5.1.2 Phase 1-Specific Requirements  5.1.2.1 Support a 12.5 or 25 kHz analog mode  Support a 12.5 kHz analog (11K0F3E) mode and a 25 kHz analog (20K03FE/16K0F3E) mode where permitted by applicable regulatory authority for Phase 1 equipment. | M | SO |
| 5.1.3.2 Direct Mode in TDMA Implementations  SUs equipment shall be capable of direct mode communication using Phase 1 FDMA. | i | M |
| 5.1.4.4 Support Audible Signaling  Support audible signaling to and from subscriber units for functions as defined in 3.3.2. | M | M |
| 5.1.4.6 Capability to Digitally Store Functional Characteristics  A Project 25 radio shall have the capability to digitally store functional characteristics, including, but not limited to, channel frequencies, minimum volume settings, and channel scanning patterns. The stored functional characteristics must be issued from an authorized field-programming device. | M | M |
| 5.1.4.9 Emergency Alert Without Registration  The Emergency Alert Without Registration feature enables the FNE to accept an emergency alarm from a user in distress prior to registration and/or authentication with the target system. The SU then proceeds with the normal registration and/or authentication procedure. The System operator has the ability to disable this service if emergency alerts by unregistered or unauthorized SUs are not desired.  5.1.4.9.1 Emergency Alert Without Registration Characteristics shall be supported in conventional mode | M | M |
| 5.3.1 Phase 1 Subscriber Units  5.3.1.1 Phase 1 Subscriber Equipment  Phase 1 equipment, irrespective of the manufacturer, must have at least the capability to operate both as analog where permitted by applicable regulatory authority, employing standard signaling (TIA-603), and the standardized digital mode defined in the TIA 102 series. Manufacturers who presently provide analog or digital equipment with non-standard or proprietary capability must provide Phase 1 equipment that will operate in the analog mode and, as a standard option, in their own proprietary mode on a functional channel basis. | M | i |
| 5.3.2 Phase 2 Subscriber Units  5.3.2.1 Phase I Subscriber Equipment in a Conventional Phase 1 System  Phase 2 equipment intended to replace conventional Phase 1 equipment must have the capability to operate in both conventional Phase 1 and Phase 2 modes on a functional channel basis. | M | M |
| 5.1.1.4 Data Port  5.1.1.4.1 Support a data port to an attached MDT (mobile data terminal), portable computer, or other peripheral device.  5.1.1.4.2 The data port will enable text messages to be sent from one unit to another. Text messages may be up to 256 characters in length and may be sent via SU keyboard entry or from a data terminal device connected to a SU, exclusive of overhead. | SO  SO | SO  SO |
| 5.1.1.6 Subscriber Unit Channel Scan  Mobile and portable equipment, both trunking and conventional, shall be able to sequentially scan both conventional channels (at least 8) and a trunked system’s control channel in both clear and encrypted mode. While on the trunked system’s control channel, the mobile and portable equipment shall be able to sequentially scan trunked talkgroups (at least 8) in both clear and encrypted mode. All scans are to be completed in minimum time. The conventional and/or trunked talkgroups to be scanned shall have selectable priority. | SO | SO |
| 5.1.1.8 Continuity of Scanning while Scanned Talk Groups are Patched  Mobile and portable equipment shall be able to continue scanning both conventional channels and trunked talkgroups in both clear and encrypted voice when the channels or talkgroups are patched at the dispatch center or gateway location. The new scanning priority shall be the highest of the members of the patched talkgroups. Subscriber scanning shall return to the original scan talkgroup lists and priorities when the talkgroup patches are disabled at the dispatch center or gateway location. | SO | SO |
| 5.1.2.1 Support a 12.5 or 25 kHz analog mode  Support a 12.5 kHz analog mode and a 25 kHz analog mode where permitted by applicable regulatory authority for Phase I equipment | M | SO |
| 5.1.2.2 Dual Mode Receive Operation  Phase 1 subscriber (mobile and portable) units must have, without user intervention, the ability to receive a properly coded analog (11K0F3E/16K0F3E) or digital signal on the same programmed channel. | SO | I |
| 5.1.2.3 Dual Mode Receive Operation  The ability to transmit in the mode received (analog or digital), without operator intervention, should be available as a customer specified feature. | SO | i |
| 5.1.3.1 Phase 2 Subscriber Analog Modes  Support a 12.5kHz Analog (11KOF3E) Mode and a 25kHz Analog (20K0F3E / 16K0F3E Mode | i | SO |
| 5.1.4 Other General Requirements  5.1.4.1 Minimum Keypad Configuration  To adopt 4 rows by 3 columns matrix as the minimum key pad configuration with the first level and shifted functions to be software programmable and assignable. Label Configuration to conform to the North American telephone keypad standard numerical and symbol layout.  5.1.4.2 Support a multi-point data port to multiple external peripherals.  5.1.4.3 Subscriber Unit Transmitter Inhibit Mode  Support a Subscriber Unit Transmitter Inhibit Mode. This is a mode on portable and mobile equipment which when selected by the user would inhibit the transmitter under all conditions until the mode is deselected by the user. While in the transmitter inhibited mode, the receiver would still be capable of receive operation.  5.1.4.5 Connection of an External Audio and Push-to-Talk System  Mobile radio equipment shall include an interface to allow connection of an external audio and push-to-talk system. Audio appearing at this interface will be unencrypted.  5.1.4.7 Duplex Individual Calls  Duplex call is available only to individual calls. This feature enables a properly equipped SU to listen to outbound audio while transmitting inbound audio.  5.1.4.8 Full Duplex SU Power Control  The Full Duplex SU Power control feature uses the received power value from the base station to adjust a full duplex equipped subscriber unit’s transmit power. This feature is intended to minimize adjacent channel interference for FNE receivers and conserve battery life in portable SUs. The signaling to the SU is done during the SU transmission and therefore requires full duplex radios.  5.1.4.9.2 Emergency Alert Without Registration should be supported in trunked mode  5.1.4.10.1 Emergency Alert Clear by SU should be supported in conventional mode  5.1.4.10.2 Emergency Alert Clear by SU should be supported in trunked mode  5.1.4.11 DTMF Signaling  The subscriber units shall be capable of generating digital DTMF signals from the keypad. | SO  SO  SO  SO  i  i  SO  SO  SO  SO | SO  SO  SO  SO  SO  SO  SO  SO  SO  SO |
| 5.2 Provide a Vehicular Repeater (VR) Capability  Provide a vehicular repeater capability  5.2.1 General Vehicular Repeater (VR) Capabilities  5.2.1.1 FDMA or TDMA Implementations  Vehicular repeater system requirements shall be met in frequency division (FDMA) or time division (TDMA) channel access methods, according to infrastructure system requirements. | SO  SO | SO  SO |
| 5.2.1.2 Full Duplex Operation  The vehicular repeater link channel shall provide two-way, full duplex operation to permit system control and handshake and to permit multiple associated subscriber units to operate on the same single link channel. A FDMA or two-slot TDMA vehicular repeater link will require two frequencies, one for each direction of communication. A four-slot TDMA vehicular repeater link will require a single frequency and employ alternate time slots, one for each direction of communication. | SO | SO |
| 5.2.1.3 Direct Mode Operation  Direct mode operation shall support at least the following three modes:   1. Unit-to-unit direct. 2. Unit-to-unit repeated. 3. Unit-to-unit repeated and linked to the infrastructure. | SO  SO  SO | SO  SO  SO |
| 5.2.1.4 In-Band Operation  Repeater link channel operation is desired in the same frequency band as the infrastructure channels, so that subscriber units can be used either direct to the infrastructure or through the vehicular repeater. A single antenna and a duplexer that incorporates appropriate filtering is desired for the vehicular repeater control link, with a separate antenna for the system mobile. | SO | SO |
| 5.2.1.5 Manual or Automatic Channel Selection  Where a vehicular repeater system has multiple link channels available, the link channel to be used by a particular repeater may be selected manually or, as a standard option, may be selected automatically. Means shall be provided to “mark” an active repeater link channel as “in-use” on a first come, first served basis, so that other repeater units, within radio signal range, will not select that same channel. | SO | SO |
| 5.2.1.6 Extended Range  The vehicular repeater unit shall provide the ability for a subscriber unit (typically a portable hand held unit) to operate with full feature capability in order to achieve extended signal coverage from/to the infrastructure or from/to other subscriber units. It shall be possible to repeat scanned channels of the system mobile receiver subject to personality programming. | SO | SO |
| 5.2.1.7 In Vehicle or Stand Alone Implementation  The vehicular repeater unit may be a vehicle mounted mobile system or it could be a totally self-contained portable system. As a vehicle mounted mobile system, it is desired that it be an integrated vehicular repeater/mobile radio package. | SO | SO |
| 5.2.1.8 Operational Control  The vehicular repeater unit shall be controlled by appropriate control words transmitted by the controlling subscriber unit. Such control words may include Network Access Codes, and source and destination IDs. System control functions may be operated manually from within the vehicle. | SO | SO |
| 5.2.1.9 One-To-One Operation  A single subscriber unit shall be able to operate exclusively through its companion vehicular repeater unit (“repeat unit”) and be able to remotely control the mobile operating channel in a conventional infrastructure, or the mobile system and talk group in a trunking infrastructure. Within the limitations of system implementation, all other subscriber unit functions shall operate transparently through the vehicular repeater system. Using digital signaling with handshaking for a positive acknowledgement, control functions shall be communicated over the link channel. | SO | SO |
| 5.2.1.10 More Than One Operation  One or more portable radio units shall be able to operate through a single vehicular repeater unit. Subscriber unit access may be permitted by the use of Network Access Codes, including the receiver NAC F7F for multiple subscribers from different groups. Additional subscriber units arriving within range of this single vehicular repeater shall be capable of manually selecting the “in-use” link channel for this repeater (“repeat group”). | SO | SO |
| 5.2.1.11 Any Emergency In One-To-One Operation  It shall be possible to pair a vehicular repeater unit and its associated subscriber unit so that only control commands and functions from that subscriber unit are recognized by the associated vehicular repeater control system, except that any unit operating through this vehicular repeater in “repeat group” mode may transmit an emergency status. It shall be possible to pair a subscriber unit and a vehicular repeater in the field without special programming equipment. The command set for this option shall include the capability for the controlling subscriber unit to place the vehicular repeater unit into the “repeat unit” or “repeat group” modes. | SO | SO |
| 5.2.1.12 Vehicle Repeater Activation  Activation of vehicular repeater mode operation shall be provided by both front panel control and by remote activation (e.g. seat switch, vehicular charger socket insertion switch, etc.). Remote activation shall be accomplished by contact closure, voltage sensing or current sensing, and be isolated from vehicle power and ground to permit implementation flexibility. | SO | SO |
| 5.2.1.13 Single Control Capability  Vehicle control systems shall use a single control head, loudspeaker and microphone for all functions of the vehicular repeater/mobile radio system when they are an integrated unit. | SO | SO |
| 5.2.1.14 Ease of Operation  Control systems of portable and vehicular equipment shall provide simple, easy to understand and operate functions. Legends and status displays shall be easy to view in all lighting conditions likely to be encountered in public safety applications. Displays shall provide operational information (e.g. talk group/channel currently being received or selected for scan priority/transmit). When display of control functions is required, the display shall temporarily display necessary information and then after a programmable time delay revert back to normal operational information. | SO | SO |
| 5.2.1.15 Full Control or Covert Installation  A full-function control and display can be offered in a remote speaker/microphone assembly that can be used with mobile units where a concealed installation is required. | SO | SO |
| 5.3.2 Phase 2 Subscriber Units  5.3.2.2 Phase 2 Subscriber Equipment in a Trunked Phase 1 System  Phase 2 equipment intended to replace trunked Phase 1 equipment must have the capability to operate in both trunked Phase 1 and Phase 2 modes on a functional channel basis. | SO | SO |
| 5.3.2.3 Phase 2 Subscriber Equipment in an Analog System  Analog capability (e.g., 11K25F3E and 20K0F3E/16K0F3E where permitted by applicable regulatory authority) for Phase 2 equipment shall be available. | i | SO |

**M** indicates that the specified requirement (service, feature, or capability) represents a Mandatory service, feature, or capability supported by the suite of P25 standards and is to be supported by all P25 systems. Implementation of so-designated services, features, or capabilities shall comply with the P25 standards defined by TIA. It should be noted that there might be ergonomic differences among individual manufacturers’ implementations of P25-related user interfaces.

**SO** indicates that the specified requirement (service, feature, or capability) represents a Standard Option service, feature, or capability supported by the suite of P25 standards. The user has the option of deploying so designated services, features or capabilities. Likewise, manufacturers have the option of offering so designated services, features, or capabilities. If deployed in a particular P25 system, implementation of a Standard Option shall comply with the P25 standards defined by TIA. It should be noted that there might be ergonomic differences among individual manufacturers’ implementations of P25-related user interfaces.

The offeror shall provide the following quantities of Hand-held, Desktop, and Vehicular units, and accessories, and assist with the initial programming of Subscribers.

| **Equipment List** | | | |
| --- | --- | --- | --- |
| **Equipment Type** | **Description** | **Manufacturer/Model** | **Quantity** |
| Handheld devices |  |  |  |
| Vehicular devices |  |  |  |
| Antennas |  |  |  |
| Batteries |  |  |  |
| Headsets |  |  |  |
| Car chargers |  |  |  |
| Cases |  |  |  |
| PTT lapel buttons |  |  |  |
| Etc. |  |  |  |

## Task 3: Testing and Deployment

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| This is where the Agency provides requirements for the offeror to assemble, program, test and deploy the final system; supplying cabling and connectors, and shipping equipment to final locations.  ***Section 2.5 – Task 3*** describes the requirements for allowing a complete LMR system to be assembled, programmed, tested, and inspected before it is shipped and deployed to the field.  At a minimum, this section should address the following elements for test and system deployment support:   * System Assembly as it will appear in the final location, or simulated such that it will integrate into the final location * Initial equipment programming and level setting * Development of a system installation manual including equipment layout drawings, system interconnect documentation, and all programming information * Custom-fabrication of cables and connectors based on equipment layout drawings * Packaging and shipment form the staging facility to the final installation location. |

The Maintenance and Ongoing Support Task includes the following activities or sub-tasks:

* **Sub-task 1:** System Staging
* **Sub-task 2:** System Installation and Deployment
* **Sub-task 3:** System Optimization
* **Sub-task 4:** Acceptance Testing
* **Sub-task 5:** Communications Equipment Provisioning

### Sub-task 1: System Staging

The offeror shall perform system staging at offeror facilities.

The offeror shall build the system from approved engineering drawings, and stage the equipment as it will be installed at the final destination. Cables are customized to the appropriate lengths and are labeled with “to / from” designations. Major components shall be configured and programmed abased on the system’s specific engineering design features.

The Government reserves the right to visit the offeror’s staging facilities and work with the offeror’s staging and quality personnel to verify system upgrade configuration, operations, and functionality before in-plant acceptance testing begins.

System staging allows a complete system to be assembled, programmed, tested, and inspected before it is shipped to the field and includes the following processes:

* System assembly as it will appear in the final location, using appropriate simulation when final conditions cannot be provided
* Initial equipment programming and level setting
* Complete system feature and functionality testing
* Development of a system installation manual including equipment layout drawings, system interconnect documentation, and all programming information
* Custom-fabrication of cables and connectors based on equipment layout drawing
* Packaging and shipment from the staging facility to the final installation location.

### Sub-task 2: System Installation and Deployment

Upon completion of system staging, the offeror shall transport system equipment to the final installation locations. The offeror PM shall coordinate with local Government personnel for the installation at each site.

After the equipment is delivered to the installation location by the offeror, the offeror shall install the equipment, connect cabling, and power it up in preparation for optimization and testing.

### Sub-task 3: System Optimization

System optimization occurs when the offeror completes the final adjustment of equipment for optimal operation and functionality. The offerors’ optimization team shall provide the technical support necessary to tune and adjust system equipment to its peak operational capability.

Upon completion of equipment installation, an audit for compliance with the SOW requirements for coverage and quality standards shall be performed by the offeror. Deficiencies shall be documented and reported by the offeror to the Government. The offeror shall then take the necessary corrective actions. Following this audit, the offeror shall:

1. Make final adjustments to the [Agency] system, as required
2. Set required audio levels
3. Test system readiness prior to the acceptance test including antenna and network optimization
4. Take steps related to optimization at sites to minimize effect of frequency reuse
5. Communicate with the Government regarding technical issues, as required

### Sub-task 4: Acceptance Testing

All testing will be performed as described in the Acceptance Test Plan and Acceptance Test Procedures mutually approved during the Design Review. During acceptance testing, the system will be tested and the results documented as defined in the Acceptance Test Plan. This phase is considered complete when the Government acknowledges successful completion of the procedures.

System tests shall include operational testing of any system management terminal subsystem, selected subscriber units, and coverage testing of the RF site(s). System acceptance is considered complete when the COR acknowledges successful completion of the procedures by signing a System Acceptance Certificate.

#### Acceptance Test Plan

The Acceptance Test Plan (ATP) details the procedures to be run to confirm that the solution provided by the offeror is complete and meets the acceptance test criteria.

#### Acceptance Test

The offeror will conduct acceptance testing based upon the test documents approved during the Design Review. Both the offeror and COR-designated [Agency] representatives must witness the performance of the acceptance test to approve the tests(s).

Resolutions of any deficiencies found during testing will be agreed upon between the offeror and the COR-designated [Agency] representatives, and documented. If the documented deficiencies do not prevent productive operational use of the system, then the test will be deemed completed. The offeror shall remain responsible for the resolution of any documented deficiencies.

Upon successful completion of the field acceptance test, the COR-designated [Agency] representative and the offeror will sign a System Acceptance Certificate.

#### RF Coverage Test

The Coverage Test Plan (CTP) defines the coverage testing methods and procedures, the test documentation, and the responsibilities of both the offeror and the COR-designated [Agency] representative. Coverage testing is based upon a coverage prediction that represents the implemented infrastructure consistent with the system design.

#### Coverage Test Methodology

One repeater at each transmit site will be tested for correlation with predicted coverage contours. Updated coverage maps, based on installation sites at the time of testing will determine the areas that will be tested for coverage.

The offeror shall generate reports detailing the test results for each transmit site. These reports shall include signed documentation (by both the offeror and the COR-designated [Agency] representative) indicating the test was performed in accordance with the CTP. The results of the test indicated the acceptance or non-acceptance of the coverage portion of the system. The CTP results are not associated with the Acceptance Test Plan. They are provided to verify proposer site operation and to identify requirements for coverage improvement in future phases.

### Sub-task 5: Communications Equipment Provisioning

The offeror shall supply equipment and materials necessary to perform the system implementation described in this task. Provisioning activities shall be performed in accordance with government standards and best practices established by the Government during the kickoff meeting, and will focus on meeting the goals of the project while obtaining the best value for the Government.

Provisioning involves supplying, receiving and inventorying LMR equipment to support the offeror provided, Government approved list of materials for the system design. LMR equipment includes all electronic and other supplies and material for RF site infrastructure, subscriber (i.e. mobile and portable) units and console equipment.

The offeror shall develop a list of materials based on the equipment needs identified in the design activities performed, and will include all necessary specifications to successfully perform the procurement. The offeror shall submit the list of materials for approval by the COR in accordance with (IAW) the design review milestone associated with the kick off activities in this task.

The offeror shall submit a proposed list of materials for system implementation in response to this SOW.

All solutions and equipment shall meet [Agency] Enterprise Architecture policies, standards, and procedures as it relates to this SOW and associated subtasks. Specifically, the offeror shall comply with the following [Agency] Enterprise Architecture requirements:

1. All developed solutions and requirements shall be compliant with the [Agency] EA
2. All IT hardware or software shall be compliant with the [Agency] Standards and Products Profile
3. All data assets, information exchanges and data standards, whether adopted or developed, shall be submitted to the [Agency] Enterprise Data Management Office for review and insertion into the [Agency] Reference Model.

The encryption functions for all equipment shall be Federal Information Standard (FIPS) 140-2 and FIPS 197 compliant.

The offeror shall record a Government Point of Contract, as identified by the COR, with all equipment, material and service procurements, such that the Government is the owner of record for present and future warranty, help desk and maintenance agreement actions.

## Task 4: Support

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| This is where the Agency provides requirements for the offeror to provide maintenance, technical support, and ongoing training.  ***Section 2.6 – Task 4*** describes the requirements for providing maintenance, operations and management support as well as technical support. The Agency may also require ongoing instructional training as needed.  At a minimum, this section should address the following elements for maintenance and technical support:   * Hardware/Software/Licensing Maintenance * Software upgrades * Performance and SLA (Availability) Monitoring and Reporting * Technical Support (Help Desk support) * Instructional Training |

The Maintenance and Ongoing Support Task includes the following activities or sub-tasks:

* **Sub-task 1:** Hardware/Software/Licensing Maintenance
* **Sub-task 2:** Performance and Service Level Agreements (SLA)
* **Sub-task 3:** Technical Support
* **Sub-task 4:** Instructional Training

### Sub-task 1: Hardware/Software/Licensing Maintenance

The Agency has adopted the Information Technology Infrastructure Library [(ITIL) v3] framework for IT Service Management and operates a multi-level service support structure. The Agency currently performs initial reporting and troubleshooting for its land mobile radio systems. Upon initial incident identification, trouble shooting, and resolution attempt, the Agency may contact the offeror for incident response and resolution.

Standard maintenance and support offerings for all hardware, software and licensing, including software upgrades when applicable, shall be provided including a description on how its maintenance and support services adhere to [ITIL v3] standards and practices.

### Sub-task 2: Performance and Service Level Agreements (SLAs)

The offeror shall meet and comply with the SLA requirements in terms of performance objective, risk mitigation method, acceptable quality levels, and ability to resolve the issues in a timely manner.

#### SLA for Voice Traffic, Availability and Time-To-Restore

The offeror shall provide visibility into the performance of traffic on the LMR and shall deliver the required end user experience. The LMR solution shall meet the quality service level requirements. A Matrix of Service Level Agreements (SLA) for LMR is provided in **Attachment E – Service Level Agreement.**

* **System Availability** – measured by the system availability of the LMR platform. This includes both the point-to-point system and the backhaul system. To provide continuous availability of bandwidth, the offeror shall correctly plan and implement a solution that meets the Availability requirement of the LMR platform that provides these services.
* **System Time-To-Restore (TTR) or Hardware Replacement** – The offeror shall meet the TTR requirements measured by the hours taken to repair or replace a hardware device.

### Sub-task 3: LMR Technical Support

**The offeror shall** support all aspects of the Client's LMR infrastructure components and applications suite. The offeror shall:

* Provide data communications support for LMR technology upgrade and implementation project activities.
* Provide daily operational and troubleshooting support to resolve voice infrastructure technical issues.
* Conduct testing of LMR infrastructure components.
* Monitor network performance utilizing advanced tools.
* Respond to automated alerts, trouble tickets, service requests and severity outages in line with program Service Level Agreement parameters which shall include on-call responsibility.

### Sub-task 4: Instructional Training

The offeror shall deliver an ongoing instructional training for the life of the task order. The land mobile radio training shall be provided online and via a web-based method.

The [Agency’s] effective use of the LMR system is directly related to the technical and operational efficiency of the new solution. These efficiencies are realized when each member within the [Agency] is fully trained to properly operate, administer, and maintain the solution.

The offeror shall present a robust and in-depth training plan defined by [Agency] requirements and input form the offeror’s training organization.

Training curricula and the execution of end user training shall include [Agency] end users and dispatch console operators as appropriate. Training activities include, but are not limited to, the following:

* Providing training materials relating to subscriber equipment feature sets and functionality
* Providing training materials relating to system functionality, including OTAR, vote scan, and other critical system features, as well as console functionality
* Facilitating “train the trainer” sessions for designated [Agency] personnel
* Facilitating training sessions for dispatch operators as appropriate.

To the extent required, the offeror shall also support [Agency] Field Training Representatives in the development of user training plans and schedules in accordance with project plans, including subscriber rollout, equipment installation, acceptance testing, and system cutover plans.

The offeror shall provide training for the first year of operations, with additional support for parts and labor extending for X years.

## Task 5: Information Security Certification and Accreditation

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| This is where the Agency provides requirements for the offeror to provide certification and accreditation prior to the system becoming operational.  ***Section 2.7 – Task 5*** describes the requirements for providing a system that is certified and accredited for use.  At a minimum, this section should address the following elements for certification and accreditation support:   * All Certification and Accreditation (C&A) activities required * Preparation of Certification and Accreditation (C&A) packages |

The offeror will assist the [Agency] in the preparation of any associated license applications or extensions.

The offeror provided system must be certified and accredited prior to the system becoming operational. Certification and Accreditation (C&A) of the designed system will be directed by the Certification Authority (CA) designated by the [Agency] Designated Accreditation Authority (DAA), and in accordance with [Agency] directives and policies. C&A activities will center on development of an accreditation package and culminate with the DAA granting an Approval to Operate (ATO). The offeror shall provide direct support to the CA as an authority to operate (ATO) is sought for the system. This support shall include the following:

1. All information assurance (IA) activities necessary to meet [Agency] IA requirements and comply with [Agency] security C&A processes as part of the LMR system implementation
2. Provide support the initial ‘type accreditation’ to be used as a basis for C&A on each re-design
3. Provide system information and security assistance to the CA and certification agents during certification recommendation and accreditation decisions
4. Prepare C&A packages in support of the CA recommendation to the DAA for ATO. If an ATO is not immediately granted because of outstanding security requirements when the system is otherwise ready for customer acceptance, the acceptance will be contingent upon a written interim authority to operate (IATO) form the DAA supported by efforts to address outstanding requirements within the allotted IATO period.

#### LMR Security Requirements

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| The Agency must be diligent to protect its communications systems as they are vital to the government’s business operations and critical mission.  As the technology has become more complex and more accessible, the security threat has increased. In many ways it is easier than ever to attack an Agency’s enterprise communications. The concept of unauthorized access to restricted communications has raised many concerns about audio quality and communication security.  This sub-section provides security requirements for the offeror to implement the appropriate configuration and user authentication for a secured land mobile radio solution. |

The offeror shall ensure security practices and safeguards are provided to minimize susceptibility to security issues and prevent unauthorized access. This includes unauthorized access to Radio Frequency infrastructure and backhaul infrastructure, where applicable. The offeror shall ensure security practices and policies are updated and audited regularly.

1. The offeror shall meet and comply with Agency security policies, regulations and procedures. The offeror shall certify land mobile radio equipment meets Agency’s security requirements and provide evidence of compliance.
2. The offeror shall periodically review LMR equipment configurations and address any deficiencies or inconsistencies, and provide Agencies with results with detailed recommendations to remediating security issues that are found
3. The offeror shall deploy a properly configured infrastructure such that the LMR system is properly sequestered and secured within the Agency's control.
4. The offeror shall keep LMR software up to date. The offeror shall document what has been changed and how the software update could impact the system. Backing up the system first and performing the update during a scheduled maintenance window shall be followed to help to ensure users will have access to the LMR system when they need it.
5. The offeror shall regularly review system logs and establish risk mitigation procedures to deter and catch any vulnerabilities and threats and taking action early on. Running regular call log reports shall be made by the LMR system to help create a baseline for normal activity.

## Task 6: Project Management

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| This is where the Agency provides requirements for the offeror to design, plan, and develop a roadmap of the “To be” Land Mobile Radio platform including program management planning, roadmap, and logical design.  ***Section 2.8 – Task 6*** describes the requirements for developing a project management plan, creating a roadmap, and designing a deployment strategy to implement the land mobile radio solution at all required Agency locations.  .  At a minimum, this section should address the following elements for project management support:   * Project Management Plan * Project Status Review Meetings |

The Maintenance and Ongoing Support Task includes the following activities or sub-tasks:

* **Sub-task 1:** Project Management Plan
* **Sub-task 2:** Project Status Review Meetings

The offeror shall provide Project Management; which shall include overall project reporting to the COR, and detailed management and reporting of the progress and activities in each task. Project Management services should include government and industry best practices such as work breakdown structure (WBS) creation, cost/performance tracking and reporting, risk management planning, tracking and mitigation, configuration management of hardware, software, and documentation that comprise the system baseline, and regular, frequent project status reporting.

### Sub-task 1: Project Management Plan

The offeror shall establish and execute [or recommend] an LMR Project Management Plan (PMP) to ensure that all activities from the kick-off meeting to the final LMR infrastructure deployment are executed properly as planned and on schedule.

* + - 1. The offeror shall establish a Project Management (PM) function to provide management and operations support to the Agency and serve as a single point of contact for the Agency to manage and administer the LMR Deployment order.
      2. The offeror shall provide project management support that includes management and oversight of all activities performed by offeror personnel, including subofferors, to satisfy the requirements identified in this Statement of Work. The offeror shall identify a Project Manager (PM) by name, to provide management, direction, administration, quality assurance, and leadership for the execution of this task order. The PM will be the primary point of contact for all program activities
      3. The offeror shall describe in the PMP proposed Labor Types for professional and technical expertise that fully meet the requirements in required Tasks to support LMR Deployment solutions, including as applicable: life cycle management, analysis, planning, design, specification, implementation, integration and management of land mobile radio and related equipment before and after deployment.
      4. The LMR Deployment Strategy shall be documented to ensure that the RF-based voice-centric system, backhaul, application, and service components are enabled in a sequence that maximizes the benefit to the Agency’s business mission. The LMR Deployment Strategy document shall address the following:
  1. Identification of Deployment activities (i.e. LMR capabilities for RF Communications, Point-to-Point backhaul, LMR system implementation, Information security certification and accreditation)
  2. Identification of Deployment priorities and possible phases
  3. Deployment milestones, to include the enterprise LMR configurations/architecture and risk mitigation (Roadmap and Milestones shall be reviewed and finalized upon award)
  4. Deployment criteria for legacy, upgraded, and new capabilities
  5. Dependencies (for example, among the enterprise architecture, network management, and network and operation security)
  6. Risks and mitigation strategies
  7. Strategies for ensuring interoperability and security during deployment
  8. Deployment governance that includes but is not limited to: policy, roles and responsibilities, management structure, management controls, management actions, performance measurement, and reporting
  9. Testing
     + 1. The PMP shall delineate the activities required to prepare and support the LMR Deployment. The deployment timeline can be scheduled and prioritized in phases by site location population and LMR capabilities. The PMP shall capture and establish the SOW goals, identify a critical path, create general timelines to provision required hardware and software, and implement appropriate operational procedures. The PMP shall contain at a minimum:
  10. Project management approach for Tasks 1, 2, 3, 4, 5, 6 and 7.
  11. Project Team Organization (Roles & Responsibilities)
  12. Program Tracking and Communication Plan
  13. Project Schedules & Milestones
      + 1. The PMP shall describe how the Deployment activities will be integrated with third-party services provided by other Government Agencies or by commercial offerors.
        2. The PMP shall provide a timeline with appropriate review and approval cycles for all each phase of the project
        3. The PMP shall serve as a repository documenting the processes and methodology for meeting the requirements of each task described in this Statement of Work.
        4. The PMP shall be updated periodically for any changes to the program plans, activities, schedules, and any other related issues that may potentially impact the timely completion of the LMR Deployment.
        5. An initial draft PMP shall be provided to the Government with the proposal, (see Attachment X). Upon award the Government will provide comments, which shall be incorporated into the final PMP. The offeror shall provide to the Agency both the draft and final document deliverables in MS Word format, and any required briefings/presentations in MS PowerPoint format.

### Sub-Task 2: Review Meetings

The offeror shall participate in regular, periodic PSR meetings and conference calls throughout the project. These PSR meetings will be held on a monthly or as needed basis as determined by the Government. The offeror shall provide a detailed meeting agenda recommendation to the COR, who in turn will finalize the agenda and forward to the required participants. The offeror shall include any existing action items for both the Government and the offeror. The offeror shall provide electronic minutes to all attendees within 3 business days after the conclusion of each meeting for all phone conferences and meetings.

The offeror shall provide timely and relevant status for all milestones, including any schedule slippage, and advise the Government on risk mitigation for any schedule deviations.

## Task 7: Ad Hoc Support Services

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| This is where the Agency provides requirements for the offeror to perform additional services in conjunction with special events, operations and exercises.  ***Section 2.9 – Task 7*** describes the requirements where the offeror may be asked to provide services, equipment and materials as described throughout this SOW, on an individual cost basis (ICB) or ‘ad hoc’, to support special events, operations and exercises as directed by the COR. Examples of the types of events that might require additional support are:   * Providing [Agency] support during a major event such as a political convention, sporting event, or in response to a disaster (natural or manmade) |

These ad hoc tasks will require skills and resources associated with some or all of the other service areas stated in this SOW.

Upon request, under the direction of the COR, and based on a Government-provided task request, the offeror shall submit an estimated WBS, schedule, staff plan and not-to-exceed cost estimate to the Government for a particular ad hoc request. Once the Government approves the proposed work package, the offeror shall provide support to the Government for the ad hoc task. These ad hoc tasks shall be tracked, reported on, and documented within the already established project management, and invoicing methods of this SOW. The offeror shall also notify the Government when 75% of costs have been incurred for a particular task, and provide information as to whether or not the tasking will be completed within the estimate cost and schedule.

For each identified ad hoc task, the offeror shall coordinate and integrate these separate projects into the master schedule for the project and the specific area affected.

# Staffing and Personnel Requirements

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| This is where the Agency provides staffing requirements and labor types needed in support of the implementation and full life cycle management of Land Mobile Radio solution. If security clearances or screening beyond what is included here are required, specifics of those requirements should be added to this section. |

The requirement under this solicitation seeks the support and expertise from Connections II offerors to carry out the Agency’s LMR improvement or implementation projects from start to finish. Offeror shall propose adequate staffing to meet the requirements for LMR specialists and engineering support to guide the Agency through the initial analysis of current systems, planning, designing and developing roadmaps and timelines for LMR implementation. The proposed personnel shall assist the Agency throughout the end-to-end implementation of a land mobile radio solution, as well as provide ongoing maintenance, training and technical support.

## Labor Types

The offeror shall provide Labor Types for both professional and technical expertise that fully meet the requirements of all tasks in support of the solutions specified in this SOW, including full life cycle management as applicable, and the analysis, planning, design, specification, implementation, integration and management of required services and equipment.

The offeror shall provide:

* Installation support to Government-Site(s), as identified in *Attachment A – Current Configuration Diagrams and Support Locations*.
* Proposed Labor Types for each Task as specified in *Attachment G – Pricing Template*.

## Personnel Requirements

The offeror has ultimate responsibility for managing the tasks, for achieving the performance results in each of the task areas, and for determining the appropriate staffing pattern in support of its technical approach.

* + - 1. The offeror shall provide experienced personnel to perform the required services. The Government and the offeror understand and agree that the services to be delivered are non-personal services.
      2. Offeror personnel shall conform to standards of conduct and code of ethics, which are consistent with those applicable to Government employees. Offeror personnel shall obtain authorization to have access to Agency support sites and Government facilities, and shall obtain Common Access Cards (CAC) for computer access.
      3. All offeror employees must be fluent in spoken and written English.
      4. Background Checks: All LMR offeror employees must submit a Questionnaire for National Security Positions (SF-86) to the [Agency] Personnel Security Manager. A favorable SF-86 is required before gaining access to a U.S. Government LAN. The offeror, when notified of an unfavorable determination by the Government, shall withdraw the employee from consideration from working under the order.
      5. The contracting officer may require the offeror to remove from the job site any offeror employee who is identified as a potential threat to the health, safety, security, general well-being or operational mission of the installation and its population.
      6. In order to ensure a smooth and orderly startup of work, it is essential that the key personnel specified in the offeror's proposal be available on the effective date of the order. If these personnel are not made available at that time, the offeror must notify the contracting officer and show cause. If the offeror does not show cause, the offeror may be subject to default action.
      7. The offeror-supplied personnel are employees of the offeror and under the administrative control and supervision of the offeror. The offeror, through its personnel, shall perform the tasks prescribed herein. The offeror must select, supervise, and exercise control and direction over its employees (including subcontractors) under this order. The Government shall not exercise any supervision or control over the offeror in its performance of contractual services under this order. The offeror is accountable to the Government for the action of its personnel.

### Personnel Security Requirements

1. The Government may require security clearances for performance of this contract. The offeror must obtain these clearances before beginning work on the contract (Agency will not allow contract employees without clearance in any of its facilities). The offeror must obtain these clearances by using the eQIP system. If satisfactory security arrangements cannot be made with the offeror, the required services must be obtained from other sources.
2. The level of classified access required will be indicated on **DD-254** or other appropriate form incorporated into each request requiring access to classified information. Offeror personnel are required to have background investigations for suitability if they occupy positions of trust (e.g., systems administration) even if they do NOT have access to classified information.
3. Necessary facility and/or staff clearances must be in place prior to start of work on the contract
4. Offerors are responsible for the security, integrity and appropriate authorized use of their systems interfacing with the Government and or used for the transaction of any and all Government business. The Government, through the Government's Contracting Officer, may require the use or modification of security and/or secure communications technologies related to Government systems access and use.
5. The Government, at its discretion, may suspend or terminate the access and/or use of any or all Government access and systems for conducting business with any/or all offerors when a security or other electronic access, use or misuse issue gives cause for such action. The suspension or termination may last until such time as the Government determines that the situation has been corrected or no longer exists.

A description of qualifications, skills, and education level for the proposed staffing and personnel requirements is provided in **Attachment F – Labor Types** for a List of Technical and Professional support services.

### Special Qualifications and Certifications

The offeror shall ensure that its employees have all required professional certifications and licenses (current and valid) for each applicable task and labor type category before commencement of work.

The offeror’s personnel shall meet the minimum qualifications and certifications and education level as summarized and identified in the **Attachment F – Labor Types.**

[Agency may add Agency-specific requirements here]

## Proposed Personnel

The offeror shall assemble a [Project Name] project team with the required knowledge and experience to perform the work described under this task order, and if applicable, any additional qualifications described in Section 3.2.2 ‑ Special Qualifications and Certifications.

The core project team shall be composed of qualified professionals with strong technical backgrounds. The offeror shall propose appropriate Connections II Labor Type(s) and personnel experience levels (a mix of senior, mid, and entry levels) that meet the minimum required qualifications, based on the complexity and scale of the Agency’s specific [Project Name] tasking. [If additional labor types are necessary, the offeror may request a modification to add them to the contract.]

The offeror shall identify, by name, the proposed Key Personnel (e.g., the key management and technical personnel who will work under this order, such as the PM).

The proposed [Project Name] project team structure and an organizational chart shall be included in the proposal, with the names, positions and resumes of any proposed key personnel.

# Travel and Other Direct Costs (ODC) / (Un-priced Items)

## Travel

The offeror shall comply with the Travel and Per Diem requirements as described in Section G.5.1.2 of the Connections II contract including conditions and limitations applying to travel associated with work performed under this SOW.

**Local Vicinity**: If travel within the local vicinity is required, travel reimbursements for local travel are not authorized; neither is the use of a Government vehicle.

**Distance Travel**: If travel outside the local vicinity is required, costs incurred by offeror personnel for travel, including costs of lodging, other subsistence, and incidental expenses, shall be considered reasonable and allowable only to the extent that they do not exceed the rates and amounts set by the Federal Travel Regulations. See **FAR 31.205-46 (a)(2)(i)**.

As part of the Price Proposal, the offeror shall provide any anticipated travel costs, to include origination, destination, and the number of trips, number of persons, and a breakdown of lodging, meals, transportation and related costs.

Prior written approval by the [Agency] contracting officer is required for all travel directly and identifiably funded by the [Agency] under this order. The offeror shall therefore present to the contracting officer an itinerary for each planned trip, showing the name of the traveler, purpose of the trip, origin/destination (and intervening stops), and dates of travel, as far in advance of the proposed travel as possible, but in no event less than three weeks before travel is planned to commence.

For cost effectiveness, economy class travel must be used on all official travel funded under this Task Order. Business class travel should only be used under exceptional circumstances, and in compliance with the Federal Travel Regulations (**FAR 31.205.46**). Use of a Government vehicle for distance travel is not authorized.

## Other Direct Cost (ODC)/ Un-priced Items

Other direct costs proposed (e.g. travel, per diem, etc.), which are considered necessary for the completion of the work, shall provide sufficient information to establish the basis for the estimate of such cost.

The offeror shall provide a breakdown for un-priced items and/or Other Direct Costs (ODCs) in the Price Proposal. The breakdown shall identify any “open market” items.

# Materials, Equipment and Facilities

The offeror shall meet and comply with the baseline general requirements for the management, maintenance, and handling of equipment and equipment services as described in **Section C.2.1 General Requirements** of the Connections II contract.

## Equipment Warranty and Inventory

Agency-specific requirements for equipment and facilities may be provided for each individual task. In addition, the offeror shall:

* Comply with **Section C.2.1.9: Warranty Service** of the Connections II contract to provide, at no additional cost to the Government, a minimum one-year system warranty, or the warranty provided by the Original Equipment Manufacturer (OEM) whichever is longer, for all hardware and software purchased under this order.
* Comply with **Section C.3.6: Inventory Management** of the Connections II contract to establish and maintain an Inventory File of equipment, equipment warranty, and maintenance services purchased under each of the Tasks. Each record of this file shall include the OEM’s name and contact number, the maintenance offeror’s name and local repair number, the date of acceptance, the date maintenance was performed (if available), a description of the maintenance action (if available), and the date that the warranty ends.

***Attachment H – Equipment Support, Warranty and Inventory*** is provided for the offeror to store and track equipment records by the task order number. The [Agency] may also task the offeror to store additional information in this file.

## Government-Furnished

Government Furnished Property (GFP) which includes Government Furnished Material (GFM), Government Furnished Information (GFI), and Government Furnished Equipment (GFE) may be provided and shall be identified in the individual task order. The offeror shall be responsible for conducting all necessary examinations, inspections, maintenance, and tests upon receipt.

#### Government Furnished Equipment (GFE)

Upon the award and placement of each task order, Government Furnished Equipment (GFE) may be made available by the [Agency] for use by the offeror to support the tasks. The offeror shall use GFE to provide support services as mutually agreed upon by the offeror and Agency. The offeror shall evaluate all equipment as the Agency directs.

[Agency may add Agency-specific requirements here]

#### Government Furnished Information (GFI)

Site floor plans, specifications, and references will be provided by the COR. Site drawings, cable run sheets and complete technical documentation generated by the offeror, as well as documentation that was provided to the offeror by the COR or TPOC shall be delivered NLT thirty (30) work days to [Agency]’s POC following the completion of the project.

[Agency may add Agency-specific requirements here]

## Contractor-Furnished

#### Contractor- Furnished Equipment (CFE)

All material and equipment identified on the network design package to accomplish this task will be furnished by the offeror. The offeror will purchase, ship, move, store, inventory, and handle installation material that is identified as CFE. Excess materials and prescribed spares shall be turned over to the COR at the completion of the project. Material turned over at the completion of the project shall be thoroughly documented including description, part numbers, and quantities.

[Agency may add Agency-specific requirements here]

#### Contractor- Furnished Items (CFI)

The offeror shall identify in their proposal any items to be furnished during the performance of this task order.

The offeror shall provide all equipment and labor necessary to deploy the LMR solution into operational status and ready to provide mobile radio service to end users. The offeror shall provide documentation for design, detailed design drawings, softswitch and gateway configuration(s), network topology, training materials including web-based training, support hotline telephone number and e-mail/website, and completion of task letter signed off on by Agency COR.

## Facilities

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| This section may be removed if the requirements under this sub-section do not apply to this SOW. |

#### Contractor Facilities

Except for those items and services specifically stated above in Section 5.3.1.2 as Government-Furnished, the offeror shall furnish everything needed to perform and meet the requirements according to all the terms and conditions of the task order. Such property includes, but is not limited to, facilities, equipment, material, supplies, repair parts, vehicles, data processing equipment, safety clothing, identification system camera and badges, and timekeeping system and facilities.

[Agency may add Agency-specific requirements here]

#### Government Facilities

To the extent it is available and is technically adequate, government facilities shall be used within the Government buildings and in support locations identified by the Agency in ***Appendix C – Support Locations***.

Where contractor equipment is required at the site, the Government will provide space, power, heating, ventilation and air conditioning (HVAC). To the extent that uninterrupted AC power is available and required, it shall be provided to the offeror by the Government. Government furnished equipment (GFE) may be used to satisfy this requirement if it is available.

[Agency may add Agency-specific requirements here]

#### Incidental Construction

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| Requirements for incidental and non-severable construction may be removed if it does not apply to this SOW.  The modification of a facility or space, raised flooring, alteration, addition or any construction work performed must not be a standalone task but rather it is incidental to the task order under this SOW and not a major task on its own.  Agency may add incidental and non-severable construction requirements here specific to their needs to support the solution. |

[Agency may add Agency-specific requirements here]

# Invoice Requirements

The offeror shall meet and comply with the Billing and Invoice requirements as described in **Sections C.3.4 Billing, G.5.1 General Billing Requirements, and G.6 Payment of Bills** of the Connections II contract. The baseline requirements for Connections II contract for Invoicing and Billing including the handling of Associated Government Fee, approval for payment of supplies/services, resolution of billing disputes, and the option for Agency to pay by electronic funds transfer shall apply.

## Detail Billing Requirements

The offeror shall comply with the detail billing requirements defined in **Section C.3.4** and the general billing requirements in **Section G.5** of the Connections II contract when submitting a proper bill for each order.

## Invoice Address, Data Format and Delivery Method

The offeror shall be capable of directly billing each customer at the address given by the Agency in the order and shall also have the capability to centrally bill designated customers through GSA. The baseline requirements for direct and centralized billing as defined **Section C.3.4** of the Connections II contract shall apply.

### Invoice Address

The offeror shall send invoices directly to the address (electronic mail or postal/physical address) designated by the Agency’s authorized Ordering Entity. This address will be determined at the time the order is placed.

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| An Agency can receive invoices by electronic (email method), hard copy, or both. Suggested Requirements:  The offeror shall provide the signed original invoice via email:  [Agency provide email address here]  The offeror shall also provide via postal/physical address an additional copy of the invoice to the Contracting Officer and COR or provide [n] copies of the signed original to:  Name of Agency Department  POC Name/Position and Title  Email  Mailing Address  Street, City, Zip  Inquiries regarding payment of invoices should be directed to [Agency provide email address here] |

### Invoice Submission

The offeror shall comply with the detail billing requirements defined in Section C.3.4 and the general billing requirements in Section G.5 of the Connections II contract when submitting a proper bill for each order.

A proper invoice must include the following items:

1. Offeror name and address

2. Offeror representative

3. Contract number

4. Order number(s)

5. Accounting Control Transaction (ACT) number (assigned by the OCO on the order)

6. Period of performance (month services performed for work request orders, month

deliverable completed for fixed price orders)

7. Bill number

8. Customer’s name and address

9. For Fixed Price Orders, products delivered and accepted, listed by deliverable number

for Time and Materials orders, labor charges accepted during the period of performance

10. Travel and per diem charges

11. Total billed amount

12. Prompt payment discount offered (if applicable)

### Billing Cycle and Data Elements

The offeror shall invoice on a monthly basis. The invoice shall include the period of performance covered by the invoice. All labor, equipment, equipment services and unpriced items (other direct costs) shall be reported, and shall be provided for the current billing month and in total from project inception to date. If subcontracting is proposed, one consolidated invoice from the prime offeror shall be submitted in accordance with other terms and conditions of the RFQ.

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| The Agency has option to specify the format and agency-specific data elements for invoice content.  Suggested Requirements:  The offeror shall provide the invoice data in spreadsheet form with the following detailed information.  The listing shall include separate columns and totals for the current invoice period and the project to date. The following data elements shall be provided on the Invoice, at a minimum:   1. Labor Type (Employee) 2. CONNECTIONS II labor category 3. Monthly and total cumulative hours worked 4. Burdened hourly labor rate 5. Cost incurred not billed |

### Electronic Funds Transfer (EFT)

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| Agency has option to specify the method of delivery for invoice and payments.  Insert additional agency-specific requirements here.    Below is a standard ‘boilerplate” requirements for EFT. |

The offeror shall cooperate with the government to allow payment of bills via Electronic Funds Transfer (EFT) to the extent feasible in accordance with **Section G.6.3 Use of Electronic Funds Transfer** of the Connections II contract.

## Billing for Other Direct Costs (ODCs) or Unpriced Item

The offeror may invoice monthly on the basis of costs incurred for ODC(s) or unpriced item.  The invoice shall include the period of performance covered by the invoice and the item number and title.

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| Agency has option to specify the format and agency-specific data elements for ODC and unpriced items.  Suggested Requirements:  The offeror shall provide the following detailed information for each invoice submitted, as applicable.  Spreadsheet submissions, in MS Excel format, are required.   1. ODCs or unpriced items purchased 2. Date delivery accepted by the Government 3. ODC or unpriced item number 4. Project to date totals 5. Cost incurred not billed 6. Remaining balance of each item |

### Invoice for Travel Expenses

The offeror may invoice monthly on the basis of cost incurred for cost of travel comparable with the Joint Travel Regulations/Federal Travel Regulation (JTR/FTR).  Long distance travel is defined as travel over 50 miles.  The invoice shall include the period of performance covered by the invoice, and the CLIN number and title.  Separate worksheets, in MS Excel format, shall be submitted for travel.

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| Agency has option to specify the format and agency-specific data elements for submitting Travel charges. Suggested Requirements:  The offeror shall provide the following detailed information for each invoice submitted for travel expenses. The Total Cost for Travel shall identify all current travel on the project and their total CLIN/Task costs billed.  The listing shall include separate columns and totals for the current invoice period and the project to date:   1. Travel Authorization Request identifier, approver name, and approval date 2. Current invoice period 3. Names of persons traveling 4. Number of travel days 5. Dates of travel 6. Number of days per diem charged 7. Per diem rate used 8. Total per diem charged 9. Transportation costs (rental car, air fare, etc.) 10. Total charges 11. Explanation of variances exceeding 10% of the approved versus actual costs 12. Indirect Handling Rate. |

[Agency may add Agency-specific billing and invoice payment processing requirements here]

# Electronic and Information Technology Accessibility Standards (Section 508)

All Electronic and Information Technology (EIT) procured through this task order must meet the applicable accessibility standards at 36 CFR 1194, unless an Agency exception to this requirement exists. The Section 508 Standards Summary is viewable at: <https://www.section508.gov/index.cfm?fuseAction=stdsSum#technical>.

The offeror shall indicate for each line item in the schedule whether each product or service is compliant or noncompliant with the accessibility standards at 36 CFR 1194. Further, the proposal must indicate where full details of compliance can be found (e.g., the offeror's website or other exact location).

# Proposal Instructions

Connections II offerors are expected to review, understand, and comply with all aspects of this Statement of Work. All proposals received by the closing date and time will be evaluated in accordance with the Evaluation Criteria in **Section 6.0: Evaluation Factors for Award**.

Questions and clarifications concerning this solicitation shall be submitted in writing via email to: [name and email address], no later than [Q&A Closing Date (MM/DD/YYYY)].

## Solicitation Closing Date and Time

All proposals received by the deadline will be reviewed for responsiveness to the specifications outlined in these guidelines and the proposal format. Proposals which are submitted late or are incomplete run the risk of not being considered in the review process.

The proposals should be prepared according to the structural format set forth below. Proposals must be received at the place designated and by the due date specified herein, and must be considered valid for a period of [120] calendar days from the solicitation closing date.

PROPOSALS MUST BE RECEIVED ON OR BEFORE [3:00 PM EDT] ON [RFP\_Closing\_Date].

Any proposal received by the [Agency] after the due date and time will not be considered.

## Preparation and Delivery Instructions

The Proposal shall be delivered to:

[POC Name/Title]

[Email]

[Phone]

[Additional instructions how proposals are to be submitted or delivered]

The offeror’s proposal shall consist of individually titled separate volumes. Proposals shall be submitted in three separate volumes as shown below:

| **VOLUME** | **VOLUME TITLE** | **FORMAT** | **PAGE LIMITATIONS** |
| --- | --- | --- | --- |
| **Vol. I** | **PRICE PROPOSAL** | **EXCEL** | **No page limit** |
| **Vol. II** | **TECHNICAL/MANAGEMENT PROPOSAL**   * **Technical approach** * **Management approach** | **PDF** | **[n] maximum number of pages** |
| **Vol. III** | **APPENDICES**   * **Project Management Plan (PMP)** * **Past Performance** * **Resume of Proposed Personnel** | **PDF** | **[n] maximum number of pages**  **[n] maximum number of pages**  **[n] maximum number of pages per Resume** |

The following requirements apply to volumes 2 and 3. Volume 1 (Price) must comply with the instructions found within the attached MS Excel workbook.

1. **FORMAT.** All materials shall be in typeface Times New Roman 11 point (or Arial 11 point), on 8-1/2 x 11” formatted pages with one inch margins all around. Tables and illustrations may use reduced font style but not less than 8-point. All material submitted may be single-spaced. **Each page must provide identification of the submitting offeror in the heading or footer.**
2. **MATERIALS SUBMITTED.** The offeror is advised that all submissions and related material become the property of the U.S. Government and will not be returned. The technical and price proposals, if accepted by the Government, will form binding parts of the task orders that results from this solicitation. Therefore, care must be taken to properly address the requirements set forth in this solicitation.
3. **PROPRIETARY DATA.** Each and every page of the offeror’s proposals must be reviewed and marked as to proprietary data content by the offeror in strict compliance with **FAR 52.215-1**. Also see **FAR 3.104-4**. A single blanket statement at the front of the proposal is not acceptable. Failure to mark every page will subject your proposal to public release through Freedom of Information Act (FOIA) requests.

## Price Proposal

The offeror shall submit its Price Proposal in the form of an MS Excel Workbook included as ***Attachment D – Pricing Template***. The Price Model is used to facilitate the delivery of prices in the required format. In populating all Excel worksheets, the offeror shall present the data (e.g., item number, unit prices, quantities, and summarized prices) in a manner where all computations can be traced to the maximum extent possible. The offeror may add rows, columns, or worksheets to accommodate the required pricing information.

The offeror must assemble a project team with the required knowledge and experience as described in **Attachment C – Labor Types**. Pricing for each type of labor shall be proposed in all 4 price types. Proposed Labor Types for each Task shall include the Labor Type description, work location type, business day type, clearance status, and minimum educational qualifications and years of work experience. The Proposed Labor Types for each Task shall be provided in ***Attachment D – Pricing Template.***

For each Labor Types proposed, the offeror shall provide fully loaded hourly labor pricing based on the following price types:

1. Hourly Onsite (on government premises), Normal Business Day
2. Hourly Offsite (on offeror premises), Normal Business Day
3. Hourly Top Secret - TS/SCI, Onsite, Normal Business Day
4. Hourly Top Secret - TS/SCI, Offsite, Normal Business Day

The technical support services required at the government-site are described and identified in ***Attachment B – Support Locations.*** Work locations are defined as Government or offeror sites:

* + - 1. **Government site**: The offeror shall provide technical support and equipment when required to the locations identified in ***Attachment B – Support Locations***.
      2. **Contractor site:** The offeror shall provide network and security operations support and monitoring when required, and this work may be performed at the offeror’s NOC and SOC, respectively.

Failure by the offeror to use the prescribed pricing template may result in non-compliance. The Price Proposal must be submitted under separate cover from the Technical Proposal. While there is no page limit for the Price Proposal, the offeror must provide the necessary detail and supporting information to address the solicitation requirements and to allow a complete analysis of each line item price.

## Technical/Management Proposal

The **Volume II Technical/Management Proposal** shall include the technical approach and management approach as described below. Technical/Management Proposals are limited to [n] pages in length and shall be written in English. Each page must be numbered consecutively. Pages that exceed the page number limitation will not be evaluated.

Any page in the Technical/Management Proposal that contains a table, chart, graph, etc., not otherwise specifically excluded below, is included within the above page limitation for the Technical Proposal. Not included in the page limitation are the following:

* Cover/title page
* Table of contents

The offeror must organize its response in the Technical/Management Proposal to contain the following.

**Executive Summary** (5-page size limit)

The Executive Summary shall summarize the key elements of the offeror’s strategy, approach, methodologies, personnel and implementation plan. The Executive Summary must not exceed 5 pages in length.

**Technical Approach**

The Technical Approach must demonstrate a clear understanding of the requirements and include a description of the overall approach and strategy (i.e., implementation plan, testing methodology and risk mitigation strategy) being proposed. The Technical Approach shall include a detailed description of the offeror’s technical solution for each task including the associated equipment, equipment services, labor, and installation, and addressing each paragraph and subparagraph of Section 2.0: Statement of Work. If the offeror simply restates the requirements in Section 2.0 of this solicitation, the offeror’s proposal will be removed from consideration for award.

The Technical Approach shall be organized by the technical evaluation criteria for “Factor 1 – Technical Approach” listed in **Section 9.3** and shall meet and comply with all requirements in this SOW. Marketing literature is not acceptable. The offeror must stipulate that it has read, understands and will meet the Government’s requirements.

**Management Approach**

The offeror’s Management Approach shall provide a summary of the draft Project Management Plan (see instructions for Appendices) and the rationale behind the selected organization and staff chosen. The plan shall also demonstrate that the offeror has the corporate capabilities to execute the submitted PMP.

## Appendices

# Project Management Plan (no size limit)

The offeror shall submit a draft Project Management Plan (PMP) based on its proposed technical approach using ***Attachment X - PMP Template***. The offeror’s draft PMP will be evaluated as part of Technical/Management. The PMP shall be submitted as an Attachment with no size limit.

The offeror shall identify in the Project Management Plan, by name and by roles and responsibilities, the proposed key personnel (i.e., the key management and technical personnel who will work under this order). The core project team should be composed of qualified professionals with strong technical backgrounds and experience in designing large, complex LMR configurations.

# Past Performance

offerors shall submit the following information as part of their proposal:

1. The offeror shall describe its past performance directly related to contracts it has held within the last [5 years] that are similar in scope, magnitude and complexity. offerors shall provide a minimum of three (3) relevant examples. There is no maximum number of examples that can be provided.
2. The offeror shall provide relevant past performance documentation and references for services comparable to those described in the SOW. Past performances listed may include those entered into by the Federal Government, state and local government agencies, and commercial customers.
3. The offerors shall notify each of their private-sector (commercial) references that they may be contacted by the [Agency] and authorize them to provide the past performance information requested. References other than those identified by the offeror may be contacted by the Government, and the information received from them may be used in the evaluation of the offeror’s past performance.

The offeror shall provide with the proposal a summary of the required past performance information. The offeror shall provide the information using the worksheet provided in **Attachment Y – Past Performance Worksheet**.

**Proposed Personnel**

The offeror shall describe the skills, qualities and capacities of its proposed Project Manager and other key personnel to meet both the minimal qualifications described in **Section 2.0** as well as their ability to meet the technical and implementation challenges of the proposed implementation approach.

The offeror shall include the resumes for all the proposed key personnel candidates and other long-term technical experts, up to a total number of [n]. Key personnel resumes may not exceed [n] pages in length and shall be in chronological order starting with most recent experience.

Each resume shall be accompanied by a signed letter of commitment from each candidate indicating his/her: (a) availability to work in the stated position, in terms of months; after award; and (b) intention to support and work for a stated term of the service. The offeror's proposed personnel shall also submit a minimum of three (3) references of professional contacts within the last three years. The offeror should provide a current phone, fax address, and email address for each reference contact.

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| If the Agency has additional proposal instructions above and beyond the instructions stated in this SOW, they may be provided in this section. An Agency is not required to use any of the instructions contained herein. |

# Evaluation Factors and Basis for Award

The Government will evaluateeach of the offeror’s proposals to determine if the support services offerings satisfy the specific requirements under each task. The evaluations will be based on the evaluation factors defined in this section.

## Evaluation Methodology and Basis for Award

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| **SUGGESTED EVALUATION LANGUAGE**  **(Agency may remove or modify the narratives below)**   1. The Government may award a contract based on the initial proposal without discussions or negotiations with offerors, in accordance with **FAR 52.215-1**. Therefore, it is important that each proposal be fully compliant, without exception to any requirement, clause or provision. Offerors should submit initial proposals which respond most favorably to the SOW’s requirements. 2. The Government intends to evaluate offerors proposals in accordance with **Section 7.0** of this SOW and make a contract award to the responsible offeror whose proposal represents the best value to the U.S. Government. 3. The Technical Proposal will be evaluated by a technical evaluation committee using the technical criteria shown below. 4. Price has not been assigned a numerical weight. Offerors are reminded that the Government is not obligated to award a negotiated contract on the basis of lowest proposed price, or to the offeror with the highest technical evaluation score. Agencies must state the following when using tradeoff process: ‘The solicitation shall state whether all evaluation factors other than cost or price, when combined, are significantly more important than, approximately equal to, or significantly less important than cost or price.’ 5. As technical scores converge, price may become a deciding factor in the award. Therefore, after the final evaluation of proposals, the contracting officer will make the award to the offeror whose proposal offers the best value to the Government considering both technical and price factors. |

## Evaluation Approach – Trade Off or LPTA

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| Note: The Agency is required to select either Trade off or LPTA Approach. Once a method has been selected, delete all information in this SOW relevant to the method that was NOT selected. |

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| **SUGGESTED EVALUATION LANGUAGE**  **IF TRADE OFF APPROACH**  **IS SELECTED BY THE AGENCY**  **(Agency may remove or modify the narratives below)**  The Government anticipates awarding a task order to the offeror whose quote represents the best value, price and other factors considered.   1. The Government intends to evaluate proposals and may award a contract without discussions. However, the Government reserves the right to conduct discussions if determined by the contracting officer to be necessary. Therefore, each initial offer should contain the offeror’s best proposal from both a price and a technical standpoint. 2. Proposals received in response to this solicitation will be evaluated by the [Agency] pursuant to the Federal Acquisition Regulations (FAR) and in accordance with **FAR 52.215-1**, and as set forth in **Section 8.0: Proposal Instructions**, one award will be made by the contracting officer to the responsible offeror whose proposal, conforming to the solicitation, is determined most advantageous to the Government, all technical and price factors considered. 3. The formula set forth herein will be used by the contracting officer as a guide in determining which proposals will be most advantageous to the Government. |

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| **SUGGESTED EVALUATION LANGUAGE**  **IF LOWEST PRICE TECHNICALLY ACCEPTABLE (LPTA) APPROACH**  **IS SELECTED BY THE AGENCY**  **(Agency may remove or modify the narratives below)**  Award will be made to the offeror whose proposal represents the lowest price technically acceptable as defined in **FAR 15, Subpart 15.101-1**. The offeror’s proposal will be evaluated with regard to its ability to meet the tasks set forth in the SOW. To result in an award, the offeror’s proposal must demonstrate the ability to satisfy all technical requirements as set forth in the attached Statement of Work, and must conform to all required terms and conditions.  Lowest price technically-acceptable source selection process.   * + 1. The lowest price technically-acceptable source selection process is appropriate when best value is expected to result from selection of the technically-acceptable proposal with the lowest evaluated price.     2. When using the lowest price technically-acceptable process, the following apply:        1. The evaluation factors and significant sub-factors that establish the requirements of acceptability shall be set forth in the solicitation.        2. Solicitations shall specify that the award will be made on the basis of the lowest-evaluated price of proposals meeting or exceeding the acceptability standards for non-price factors.        3. If the contracting officer documents the file pursuant to 15.304(c) (3) (iii), past performance need not be an evaluation factor in lowest price technically-acceptable source selections.        4. If the contracting officer elects to consider past performance as an evaluation factor, it shall be evaluated in accordance with 15.305. However, the comparative assessment in 15.305(a) (2) (i) does not apply.        5. If the contracting officer determines that the past performance of a small business is not acceptable, the matter shall be referred to the Small Business Administration for a Certificate of Competency determination, in accordance with the procedures contained in subpart and U.S.C. 637(b)(7).     3. Proposals are evaluated for acceptability but not ranked using non-price factors. |

## Technical Evaluation Criteria

The Government will review the responses to this solicitation to ensure that offerors have addressed the requirements for Tasks 1-4 and are sufficient in detail and clarity to allow the Government to determine whether the proposed support services, equipment, and equipment services are acceptable, or if the Government desires to enable the Agency contracting officer to identify items for discussions.

The Government will evaluate the [offerors] offeror’s proposal based upon the following four factors: technical approach, project management, proposed personnel, and past performance*.* Within these factors, the Government will evaluate the sub-factors identified below. To achieve an acceptable rating, the offeror’s Technical Proposal must achieve a pass rating on all sub-factors.

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| The Agency is required to develop a source selection / technical evaluation plan to describe how each of these factors will be rated. Depending on the approach used, the Source Selection Plan/Technical Evaluation Plan (SSP/TEP) may select an adjectival rating system, a points system, or any other approved system. |

The Government will evaluate offerors’ Technical Proposals as described below:

| **TECHNICAL EVALUATION CRITERIA** |
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| **Factor 1: Technical Approach** |
| Sub-factor 1: Task 1 – RF Infrastructure |
| Sub-factor 2: Task 2 – Handheld and Mobile Devices |
| Sub-factor 3: Task 3 – Testing and Deployment |
| Sub-factor 4: Task 4 – Support |
| Sub-factor 5: Task 5 – Information Security Certification and Accreditation |
| Sub-factor 6: Task 7 – Ad Hoc Support Services |
| **Factor 2: Proposed Personnel Qualifications/Certifications** |
| Sub-factor 1: Program/Project Manager |
| Sub-factor 2: Key Technical Personnel |
| **Factor 3: Past Performance** |
| Sub-factor 1: Past Performance History/Track Record |

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| **SUGGESTED EVALUATION LANGUAGE**  **FOR TECHNICAL EVALUATION OF TECHNICAL CRITERIA**  **(Agency may remove or modify the narratives below)**  The following evaluation criteria will serve as the standard against which all proposals will be evaluated and will serve to identify the significant discussion items that offerors should address in their proposals.  The factors and sub-factors are presented below. Sub-factors are listed in descending order of importance, showing the evaluation weighting for each.   1. **Factor 1: Technical Approach and Project Management**   The extent to which the proposal demonstrates a clear understanding of the statement of work and the degree to which the proposed implementation approach is technically and managerially sound and likely to meet the objectives of the LMR Deployment project as described in this solicitation. The technical approach must be realistic, directly relevant to the achievement of results and must seek to maximize results within budget resources.   * **Sub-Factor 1: Task 1 – RF Infrastructure** and Planning - The proposed solution shall demonstrate the offeror’s clear understanding of the Agency's requirements for a seamless LMR deployment throughout the site locations, including risk mitigation procedures that the offeror must adhere to for all the infrastructure changes to ensure minimal disruption during deployment of LMR and to ascertain that the production environment is ready for full LMR deployment. A draft PMP and timeline roadmap diagram submitted with the proposal will be evaluated. * **Sub-Factor 2: Task 2 – Handheld and Mobile Devices** - * **Sub-Factor 3: Task 3 – Testing and Deployment** - The proposed solution shall demonstrate the offeror’s clear understanding of the Agency's requirements for a seamless LMR deployment throughout the site locations, including risk mitigation procedures that the offeror must adhere to for all the infrastructure changes to ensure minimal disruption during deployment of LMR and to ascertain that the production environment is ready for full LMR deployment. * **Sub-Factor 4: Task 4 – Support** - The proposed solution shall demonstrate the offeror’s clear understanding of the Agency's requirements to develop Operational Procedures for Administration of LMR in operational environment. The proposal will be evaluated regarding the extent to which it demonstrates understanding of the requirements and the administration procedures to be performed after the LMR deployment is completed. The offeror lifecycle management approach in managing and maintaining the LMR platform, the ongoing training as well the technical support to be provided to end users and system administrators will be evaluated against this criteria. |

## Price Evaluation Criteria

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| **SUGGESTED EVALUATION LANGUAGE**  **FOR PRICE EVALUATION CRITERIA**  **(Agency may remove or modify the narratives below)**   1. No points are assigned to the price proposal evaluation. While the technical evaluation criteria are significantly more important than price, price remains important. 2. Price will primarily be evaluated for realism, allow-ability, and reasonableness. 3. This evaluation will consist of a review of the price portion of an offeror’s proposal to determine if the overall price proposed is realistic for the work to be performed, if the price reflects an accurate understanding of the requirements, and if the price is consistent with the Technical Proposal. 4. Evaluation of the price proposal will consider but not be limited to the following:  * Price reasonableness, price realism and completeness of the price proposal and supporting documentation * Overall price control/price savings evidenced in the proposal (avoidance of prices that exceed reasonable requirements) * The amount of the proposed fee, if any  1. Price realism is an assessment of the accuracy with which proposed prices represent the most probable cost of performance, within each offeror’s technical and management approach. A price realism evaluation shall be performed as part of the evaluation process as follows:  * Verify the offeror’s understanding of the requirements * Assess the degree to which the price proposal accurately reflects the technical approach * Assess the degree to which the prices included in the Price Proposals accurately represent the work effort included in the respective Technical Proposals  1. The results of the price realism analysis will be used as part of the Agency’s best value/tradeoff analysis. 2. Although technical evaluation criteria are significantly more important than price, the closer the technical evaluation scores of the various proposals are to one another, the more important price considerations will become. The evaluation of proposed prices may therefore become a determining factor in the award as technical scores converge. |

# Task Order Award

The Task Order Award will be made to the responsible offeror whose proposal represents the best value for the [Agency], given the outcome of the [Agency]’s evaluation of each offeror’s technical excellence, management and business risk factors, and proposed price. In selecting the Task Order Award, the [Agency] will consider the quality offered for the evaluated price. The relative quality of offers will be based upon the [Agency]’s assessment of the tradeoffs between the technical excellence offered in the offeror’s proposal and whether it provides added value, added capability, and/or reduced management and business risk.

# Organizational Conflicts of Interest

The guidelines and procedures of **FAR Subpart 9.5** will be used in identifying and resolving any issues of organizational conflicts of interest at the task order level. (*Refer to* ***Section H.8 Organizational Conflicts of Interest*** *of the Connections II contract*).

In the event that a task order requires activity that would create or has created an actual or potential conflict of interest, the offeror shall:

* Notify the task order contracting officer (CO) of the actual or potential conflict, and not commence or continue work on any task order that involves a potential or actual conflict of interest until specifically notified by the task order CO to proceed.
* Identify the conflict and recommend to the task order CO an alternate tasking approach which would avoid the conflict.

If the task order CO determines that it is in the best interest of the Government to issue or continue the task order, notwithstanding a conflict of interest, a request for waiver shall be submitted in accordance with **FAR 9.503**.  In the event that the offeror was aware of facts required to be disclosed or the existence of an actual or potential organizational conflict of interest and did not disclose, when known, such facts or such conflict of interest to the task order CO, the Government may terminate this contract for default.

In the event that a task order issued under this contract requires the offeror to gain access to proprietary information of other companies, the offeror shall be required to execute agreements with those companies to protect the information from unauthorized use and to refrain from using it for any purpose other than for which it was furnished.

# Acronyms and Glossary of Terms

## Acronyms and Definition

| **Acronym** | **Definition** |
| --- | --- |
| **AES** | Advanced Encryption Standard |
| **APCO** | Association of Public-Safety Officials-International |
| **BGP** | Border Gateway Protocol |
| **CAI** | Common Air Interface |
| **CDR** | Critical Design Review |
| **dB** | Decibel |
| **DISN** | Defense Information Systems Network |
| **DMR** | Digital Mobile Radio |
| **EIA** | Electronic Industries Alliance |
| **FAR** | Federal Acquisition Regulation |
| **FCC** | Federal Communications Commission |
| **FDMA** | Frequency Division Multiple Access |
| **FIPS** | Federal Information Processing Standard |
| **GIG** | Global Information Grid |
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| **Hz** | Hertz |
| **IPSec** | Internet Protocol Security |
| **ITIL** | Information Technology Infrastructure Library |
| **JTR/FTR** | Joint Travel Regulations/Federal Travel Regulation |
| **KFD** | Key Filled Device |
| **LAN** | Local Area Network |
| **LMR** | Land Mobile Radio |
| **MPT 1327** | Industry Standard for trunked radio communications networks |
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| **NTIA** | National Telecommunications and Information Administration |
| **NXDN** | A Common Air Interface (CAI) technical protocol for mobile communications |
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| **OTAR** | Over the Air Re-key |
| **P25** | Project 25 |
| **POP25** | Programming Over Project 25 |
| **QoS** | Quality of Service |
| **RF** | Radio Frequency |
| **SOW** | Statement of Work |
| **SSP** | Source Selection Plan |
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| **TEP** | Technical Evaluation Plan |
| **TETRA** | Terrestrial Trunked Radio |
| **TIA** | Telecommunications Industry Association |
| **TSB** | Telecommunications Systems Bulletin |
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| **UHF** | Ultra-High Frequency |
| **VHF** | Very High Frequency |
| **VoIP** | Voice over Internet Protocol |
| **WAN** | Wide Area Network |

## Glossary of Terms

| **Glossary of Terms** | **Description** |
| --- | --- |
| **Frequency Division Multiple Access (FDMA)** | The division of the frequency band allocated for communication into talk paths (channels), each of which can carry a voice conversation or, with digital service, carry digital data. With FDMA, each channel can be assigned to only one user at a time. P25 utilizes this in Phase 1 requirements and standards. |
| **Information Technology Infrastructure Library (ITIL)** | The Information Technology Infrastructure Library (ITIL) is a set of practices for IT service management (ITSM) that focuses on aligning IT services with the needs of business. ITIL describes processes, procedures, tasks and checklists that are not organization-specific, but rather used by an organization for establishing integration with the organization's strategy, delivering value and maintaining a minimum level of competency. It allows the organization to establish a baseline from which it can plan, implement and measure. It is used to demonstrate compliance and to measure improvement. |
| **Project 25 (P25)** | An initiative by public safety agencies and manufacturers to address the issue with emergency communication systems. P25 is a collaborative project to ensure that two-way radios are interoperable. The goal of P25 is to enable public safety responders to communicate with each other and, thus, achieve enhanced coordination, timely response, and efficient and effective use of communications equipment. P25 addresses the need for common digital public safety radio communications standards for first-responders and homeland security/emergency response professionals. |
| **Time Division Multiple Access (TDMA)** | A technology used in communications that divides each channel into time slots for talk paths in order to increase the amount of data that can be carried. P25 utilizes this in Phase 2 requirements and standards. |
| **TETRA** | TETRA is a European Telecommunications Standards Institute (ETSI) standard, first version published 1995, for Terrestrial Trunked Radio. |
| **Ultra-High Frequency** | The range of radio frequency electromagnetic waves (radio waves) from 30 MHz to 300 MHz, with corresponding wavelengths of ten to one meters. |
| **Very High Frequency** | The range of radio frequency electromagnetic waves (radio waves) from 300 MHz to 3 GHz, with corresponding wavelengths of one meters to one decimeter. |

# Attachments

## Attachment A – Current Configuration Diagrams, Figures and Tables



## Attachment B – Numbers of Users at Locations

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## Attachment C – Additional Support Locations

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## Attachment D – Pricing Template



## Attachment E – Pricing Requirements



## Attachment F – Equipment Support, Warranty and Inventory



## Attachment G – Project Management Plan

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## Attachment H – Past Performance Worksheet



## Attachment I – Project 25 Statement of Requirements

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