Two-Way Radio Contract

Solicitation No.: ADSPO13-036880

Description: Two-Way Radios

State of Arizona
State Procurement Office
100 N.15th Ave., Suite 201
Phoenix, AZ 85007

INTRODUCTION

The State of Arizona comprised of 107 Agencies, Boards, Commissions (the State); including members of the State of Arizona Purchasing Cooperative, have an ongoing requirement for Land Mobile Radio (LMR) two-way radios subscriber equipment, peripherals, accessories, and repairs, and base station infrastructure components; including but not limited to conventional, digital, and trunked radio equipment, component parts; and repair parts and factory service.

The solicitation shall describe the State’s requirements and minimum technical specifications for the equipment the State wishes to purchase under the resultant contract(s). The following types of equipment are required by the State:

- **Analog & Digital Vehicular Mounted Mobile Radio Equipment**: Various types of vehicular-mounted mobile radio equipment for VHF, UHF, and 700/800 MHz trunked and conventional, analog and digital radio equipment.
- **Mobile Data Radio Vehicular Mounted Equipment**: UHF or 700/800 MHz mobile digital data link radios
- **Desk-top Analog & Digital Base Station Radio Equipment**: High-quality VHF, UHF, and 700 MHz, 806-869 MHz, conventional, and 700/800 MHz trunked, multi-channel base/control stations using phase/frequency or digital modulation.
- **Analog & Digital Personal/Portable Radio Equipment**: Various types VHF, UHF, and 700/800 MHz, conventional and trunked personal/portable radio transceivers.
- **Analog & Digital Motorcycle Rear-mount Radios**: A 160 channel, two-piece, VHF High-band (150-170 MHz), 450-470 MHz UHF, and 806-869 MHz, all solid-state motorcycle radio for use in Arizona’s radio communications systems.
- **Low power Vehicular Repeater**: VHF, UHF, and 700/800 MHz in-vehicle mounted repeater, for attachment to the vehicle’s mobile radio and extending the range of the user’s portable radio.
- **Multi Band Radios**: Mobile and portables capable of operating on more than one public safety band.
- **Base/Mobile Relay Station Fixed Radio Equipment**: VHF High-band (150-174 MHz), UHF 450-470 MHz, 700 MHz (746-806 MHz), and 800 MHz (806-824/851-869 MHz) continuous duty, mobile relay/base station equipment using phase, frequency, or digital modulation.
- **Fixed Link Base Radios**: VHF, UHF, and 700/800 fixed radios for site to site linking.
- **Communications Service Monitors**: Communications Service Monitors for use in the maintenance of Arizona’s radio communications systems.

The following are definitions of terminology as they apply to the State’s requirements as stated in this solicitation:

- **VHF (High-band)**: means 150-174 MHz, additional coverage desirable but not required
- **UHF**: means 450-470 MHz, additional coverage desirable but not required.
- **700/800**: means radios capable of operation across the complete 700 and 800 MHz public safety band (769-869)
- **800**: means radios capable of operating on FCC designated Public Safety LMR channels above 806 MHz
- **Narrowband**: radios meeting FCC 12.5 KHz channel widths and meeting the mask requirements of FCC Part 90.210d..
- **TDMA**: Time Division Multiple Access as applies to P25 Phase II, or Open Sky.
- **P25**: Project 25 per TIA standards AA102 etal
- **High Tier Subscriber Equipment**: means radios designed for Public Safety applications with the highest transmitter and receiver performance specifications: Frequency Stability, Hum and Noise, Spurious Emissions, High Power; Receive Adjacent Channel Selectivity, Spurious and Intermodulation Rejection. Available features like: P25 conventional and trunking operations FDMA – TDMA, high channel / talk group count (1000+), AES / DES encryption, MultiKey, OTAR, OTAP, multiple display options, including multi–line alpha-numeric, keypad; Meets Mil Spec 810 C/D/E/F.
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- **Mid-Tier Subscriber Equipment**: means radios designed for Public Safety applications with good transmitter and receiver performance specifications: Frequency Stability, Hum and Noise, Spurious Emissions, Mid Power; Receive Adjacent Channel Selectivity, Spurious and Intermodulation Rejection. May include features like: P25 trunk and conventional operations, reduced channel/talk group count (100+), Encryption; Meets Mil Spec 810 C/D/E/F. High-Tier performance specifications apply unless otherwise listed.

- **Low Tier Subscriber Equipment**: means radios designed for Business & Industry applications with good transmitter and receiver performance specifications for: Hum and Noise, Spurious Emissions; Receive Adjacent Channel Selectivity, Spurious and Intermodulation Rejection, Mid Power & reduced channel count; Meets Mil Spec 810 C/D/E/F.

1. GENERAL TECHNICAL SPECIFICATIONS

1.1 Radio Standards.

The radio equipment provided by the contractor shall meet or exceed EIA, TIA, FCC, IEEE and NEMA requirements, standards, specifications, practices and/or procedures current at the time of contract award. All equipment will be FCC Type Approved for class of service specified. The measurement procedures and performance standards for land mobile radio equipment specified herein shall comply with the TIA/EIA-603 standards. Standards for equipment employing digital C4FM or CQPSK modulation shall comply with the TIA/EIA-102 standards.

1.2 Transmitter Characteristics.

Transmitter shall use only solid-state active components. Synthesizing techniques of frequency generation are required for all but the Low-Tier models. Each Low-Tier unit will have a solid state sub-audible tone encoder.

1.2.1 Operating Frequency: The transmitter shall be factory supplied and aligned to the specific RF frequencies given in the purchase order.

1.2.2 Transmitter Standards: The transmitter shall meet or exceed the minimum standards as set forth in EIA/TIA Standard RS-152B. Where the requirements of the State's specifications are more stringent than those of the EIA, the State's specifications shall apply. The transmitter shall comply with all FCC Rules and Regulations in effect on the date of issuance of the purchase order.

1.2.3 System Modulation, Narrowband:

1.2.3.1 High-Tier: VHF/UHF/700/800: Analog - 11K2F3E / (800 -16K0F3E); Digital - 8K11F1E, and others in compliance with FCC efficiency standards.

1.2.3.2 Low Tier: VHF or UHF 450 MHz: +/-2.5 KHz (11K2F3E)

1.2.4 Audio Frequency Harmonic Distortion:

1.2.4.1 High-Tier: All Bands: Less than 3% at 1000 Hz and 60% maximum deviation

1.2.4.2 Low Tier: All Bands: Less than 5% at 1000 Hz and 60% maximum deviation.

1.2.5 Carrier Frequency Stability: Radios offered under this contract shall meet or exceed the FCC stability requirements listed under 47CFR90.213 and 47CFR90.539. High-Tier radios are expected to exceed these specifications as applicable. All units will be priced and sold meeting these specifications.

1.2.6 Frequency Spread: Per Band definition; with no degradation in power output

1.2.7 RF Output Impedance: 50 ohms

1.2.8 Time-out Timer Circuit: The transmitter shall be equipped with an adjustable time-out timer circuit that will turn off the transmitter after continuous transmitting. An audio tone shall be provided that will alert the operator that the transmitter has been timed out. Releasing the microphone push-to-talk button shall instantly reset the timer.
1.2.9 Continuous Tone Encoder: The conventional (non-trunked) transmitter shall be supplied with the capability to generate up to 32 sub-audible tones to modulate the transmitter for the full duration of all transmissions. The tone generators shall be designed for continuous operation with total harmonic distortion less than 10%. The tone encoder shall conform to all standards of EIA/TIA Standard RS-220A. There shall be available twenty (20) narrow band tone channels between 100.0 and 192.8 Hz inclusive (of Groups A and B) in accordance with EIA/TIA Standard RS-220A for continuous tone-controlled squelch systems.

The frequency of the sub-audible tone generator shall be controlled by a solid-state tone network or be software based and shall be maintained within +/- 0.5% of its specified frequency over the temperature range of -30 degrees C to +60 degrees C.

The transmitter unit shall transmit a special sub-audible tone burst upon release of the push-to-talk switch. This burst shall last 160 +/- 40 msec. and be the same frequency as the regular tone supplied for a particular channel but out of phase by 180 +/- 60 degrees from the previously transmitted tone. This circuitry shall be explicitly designed for the elimination of receiver "squelch tail."

1.2.10 Final Amplifier Protection: The transmitter output stage shall be protected from burnout due to excessive antenna VSWR. No damage shall result when the transmitter is subjected to a short or open circuit antenna output during continuous keying for a one minute period.

1.3 Receiver Characteristics.

The receiver shall be completely solid-state, utilizing only high-quality transistors, integrated circuits, diodes, and other solid-state devices. The receiver shall be rated for continuous operation. A channel scanning feature with selectable priority may be listed as a separate option.

1.3.1 Operating Frequency: Per the band definitions.

1.3.2 Receiver Standards: The receiver shall meet or exceed the "minimum standards" as set forth in EIA/TIA Standard RS-204C. Where the requirements of the State's specification are more stringent than those of the EIA/TIA, the State's specifications shall apply. Definitions, standards, and methods of measurements shall conform to EIA/TIA Standard RS-204C, unless specifically described otherwise.

1.3.2.1 EIA 12 dB SINAD Sensitivity:

- High-Tier: All Bands: 0.25 microvolt or better, Analog
- Mid-Tier: All Bands: 0.3 microvolt or better, Analog
- Low-Tier: All Bands: 0.35 microvolt or better, Analog

1.3.2.2 RF Input Impedance: 50 ohms

1.3.3 Squelch Circuitry:

The conventional analog (non-trunked) receiver shall be supplied with carrier squelch and tone-coded squelch capability for a minimum of 32 CTCSS tone frequencies. The tone frequencies will be specified in the State purchase order.

Tone decode circuitry shall be the sub-audible CTCSS type as described in EIA/TIA Standard RS-220A and shall meet all specifications of RS-220A.

There shall be two modes of operation, to be selected at the will of the operator. These are:

- **Carrier squelch operation**-- The receiver squelch opens for any sufficiently strong on-frequency RF carrier; and
- **Tone-coded squelch and carrier squelch operation**-- The receiver is muted until the incoming on-frequency RF carrier is modulated by the proper continuous sub-audible tone and the on frequency RF carrier is sufficiently strong to break squelch as determined by the carrier squelch adjustment control. This "and" squelch condition shall remain...
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Continuous for the duration of carrier reception. Selection of the mode of operation shall be made by manual switch control.

1.3.3.1 Carrier Actuated Squelch Circuit: The carrier actuated squelch shall be of the adjustable sensitivity type with a continuously variable control. The squelch circuit shall be designed to not respond to noise bursts.

1.3.3.2 Tone Actuated Squelch Circuits: The tone actuated squelch circuit shall conform to all standards of EIA/TIA Standard RS-220A. Continuous presence of the proper modulating tone shall be required to keep the squelch open when in the carrier squelch and tone-coded squelch mode of operation.

1.3.3.3 Tone Squelch Characteristics

- Tone deviation shall not exceed 10% of the peak system deviation. A tone signal 3% removed from the frequency of the proper tone shall not operate the squelch circuit, regardless of the level recovered at the discriminator.
- The tone modulation shall be filtered from the voice signal such that with tone deviation set at 20% of the peak system deviation, the tone fundamental frequency shall be at least 30 dB below the level of a 1000 Hz tone transmitted at 2/3 rated system deviation with the receiver adjusted for maximum rated audio output.
- The tone squelch circuit shall respond by squelching the receiver within 160 +/-40 msec. of a tone burst 180 +/-60 degrees out of phase with the previous tone. This circuitry shall be explicitly designed to eliminate receiver "squelch tail."

1.4 Transceiver Unit Specifications:

1.4.1 Antenna Switching. Antenna switching must be accomplished by a hermetically sealed relay switch or some other reliable mechanical or electrical means.

1.4.2 Environmental Standards. All equipment provided under this specification shall be tested to, and conform to, the requirements of Mil Std 810C/D/E for shock, vibration, humidity, dust, salt, fog, and other weather conditions.

1.5 Trunking Operation Option

1.5.1 High-Tier. Trunked radio options will be considered. Any such analog trunked radio shall meet the same technical RF specifications as the conventional model. Analog trunked radios shall conform to APCO 16 protocols. Digitally trunked radios should be of the same model line as the conventional radio, and shall be fully compatible with the P25 TIA/EIA Phase I Standard for FDMA, or the TDMA P25 Phase II or Open Sky Public Safety Trunking.

1.5.2 Low-Tier Trunked radio options will be considered. Any such trunked radio shall meet the same technical RF specifications as the conventional model.

1.5.3 Auxiliary Test Equipment. Associated test equipment such as plug-in service meters, computer interface cables/boxes, and test bench control set-ups may be offered. Any designated service meter should be compatible with the transceiver metering socket(s) and have scale calibrations consistent with the readings called for in the service manual.

The test-bench control set-up shall include the proper style control heads, speaker, microphone, metering panel, and interconnecting cabling at least 6 feet in length. A price shall be included for an optional frequency programmer and software.

2. ANALOG & DIGITAL VEHICULAR MOUNTED MOBILE RADIO EQUIPMENT:

2.1 Model Specifications
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2.1 High-Tier, Mid-Tier The following specification describes various types of vehicular-mounted mobile radio equipment. These radios may be either one-piece (dash mount) or two-piece (remote mount). These radios are: VHF High-band, UHF and 700/800 MHz radios capable of analog conventional and trunked; and digital conventional and trunked radio operation.

2.1.2 Low-Tier The following specification describes various types of vehicular-mounted mobile radio equipment; High-band VHF, UHF, and 800 MHz. These radios may be either one-piece (dash mount) or two-piece (remote mount).

2.2 Electrical Specifications:
The equipment shall be designed to operate from a nominal 12 volt negative ground vehicle electrical system. Adequate overload and reverse polarity protection shall be provided. Control circuits shall be arranged so that the vehicle ignition switch will disable both the transmitter and receiver when in the OFF position, but allow operation when in the ACCESSORY position.

2.3 Transmitter Characteristics:
The transmitter shall be of modern solid state design.

2.3.1 Carrier Power Output Rating: (all minimum intermittent power at 20% duty cycle)

2.3.1.1 High-Tier VHF: 40 watts or, 50-110 watts, adjustable
     UHF: 40 watts or 50-100 watts, adjustable
     700-800 MHz Trunked: 10-30 Watts

2.3.1.2 Low-Tier VHF: 25 Watts minimum, adjustable
     UHF: 25 Watts minimum, adjustable
     700-800 MHz: 15 Watts minimum, adjustable

2.3.1.3 Conducted and Radiated Spurious Emission Attenuation:

2.3.1.4 High-Tier -75 dB or greater

2.3.1.5 Mid-Tier -70 dB or greater

2.3.1.6 Low Tier -55 dB or greater

2.3.2 Audio Frequency Harmonic Distortion:

2.3.2.1 High-Tier - All Bands: Less than 3% at 1000 Hz and 60% maximum deviation

2.3.2.2 Low Tier - All Bands: Less than 5% at 1000 Hz and 60% maximum deviation

2.3.3 FM Hum and Noise Attenuation:

2.3.3.1 High-Tier -40 dB (12.5 KHz)

2.3.3.2 Low Tier -35 dB (12.5 KHz)

2.4 Receiver Standards.
The receiver shall meet or exceed the "minimum standards" as set forth in EIA/TIA Standard RS-204C. Where the requirements of the State's specification are more stringent than those of the EIA/TIA, the State's specifications shall apply. Definitions, standards, and methods of measurements shall conform to EIA/TIA Standard RS-204C, unless specifically described otherwise.

2.4.1 Adjacent Channel Selectivity Desensitization

2.4.1.1 High-Tier -70 dB or better (12.5 KHz)

2.4.1.2 Mid-Tier -65dB or better (12.5 KHz)
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2.4.1.3 **Low-Tier** -60 dB or better (12.5 KHz)

2.4.2 **Spurious Response Attenuation:**

2.4.2.1 **High-Tier** -80 dB, or better (12.5 kHz)

2.4.2.2 **Low-Tier** -70 dB, or better (12.5 kHz)

2.4.3 **Intermodulation Spurious Attenuation:**

2.4.3.1 **High-Tier** -80 dB, or better (12.5 kHz)

2.4.3.2 **Low-Tier** -70 dB, or better (12.5 kHz)

2.4.4 **Audio Power Output:**

2.4.4.1 **High-Tier** 10 watts minimum, 3% maximum distortion

2.4.4.2 **Low-Tier** 7.5 watts minimum, 5% max. dist., external speaker

2.5 **Transceiver Unit Specifications:**

2.5.1 **Power Requirements.** The unit shall draw less than 1.0 amp of current with the receiver and transmitter in a quiescent "ON" condition. The transmitter/receiver shall be a complete integral unit with all previously specified items, including AF or RF power amplifier built internally into the transceiver unit.

3.5.2 **Physical Construction**

- The complete transmitter and receiver combination shall be mounted in a single housing.
- The housing shall be furnished in enamel or lacquer over a non-ferrous plating of A-N standard chrome type metal primer or equal.
- The housing shall be of steel or equivalent construction and not louvered, to inhibit the entrance of dust and other foreign matter. A locking device shall be used to prevent the unit from being removed from its mounting by unauthorized personnel.
- All interconnection cabling between the transmitter, receiver, and power supply shall be accomplished internally in the equipment housing. With exception of the power, control, and antenna cabling, there shall be no external connections or cabling on the equipment housing.
- All frequency determining elements in the transmitter and receiver shall have a locking or clamping device to ensure permanent connection during operation.
- The maximum transmitter/receiver dimensions shall not exceed 2.5" x H x 7.0" W x 13.0" L. All but the High-Tier Model must weigh less than 8.5 lbs. The complete mobile unit shall be capable of normal operation when mounted in any physical position.

2.5.2 **Interconnecting Cables.** All cables and wires shall be furnished to interconnect the radio set with its accessories and the vehicle's electrical system. Cables shall be insulated, waterproofed and equipped with appropriate connectors. All plug-in connectors shall be of the heavy-duty type and shall be provided with threaded coupling rings or other substantial fool proof locking devices to prevent accidental disconnect.

2.6 **Supplied Components:** The vendor shall supply all necessary components such as cased permanent magnet type loud speaker, combination transmitter/receiver, separate control head, a palm-type microphone, all ROMS, necessary control, power and cables, and all required mounting hardware as part of the Low-Tier transceiver package.

2.6.1 **Microphone and Control Head**

- A palm-type dynamic low impedance microphone with preamplifier and spring clip shall be supplied with each mobile unit. The microphone shall be ruggedly constructed to withstand the severe usage of mobile operations and shall have a push-to-talk switch mounted on the microphone housing. The microphone shall be provided with a
nominal 4 ft. length self-retracting coil type cord. A separate matching control head (not part of the microphone) including all controls required for operation of the transmitter/receiver equipment shall be furnished as part of the equipment.

- The control head for a 2 piece control unit shall be capable of mounting on the vehicle dash or floorboard and a suitable inter-cabling kit shall be provided to interconnect the control head and the transmitter/receiver equipment. The control cable to be supplied shall be at least 20 feet in length and shall not have any intermediate junction boxes or barrier strips.
- The control head shall incorporate as a minimum:
  1. An ON and OFF switch.
  2. An indicator lamp to indicate that the radio is on.
  3. A squelch sensitivity control.
  4. Tone squelch disable switch, which may be located on the microphone hang-up brackets.
  5. A volume control button or knob. (Clockwise Volume increase)
  6. A red light that illuminates when the transmitter push-to-talk switch is activated.
  7. Channel (Talk Group) selection control switch or knob.
  8. Scan switch with channel priority select.
  9. (High-Tier/ Mid-Tier Requirement only) A LCD alphanumeric readout display for channel information.

- All indicator lights shall be LED or LCD, or some other proven long-life illumination device (30,000 hour average life or better for High-Tier, 10,000 hour average life or better for all other models). All background lighting shall be diffused and non-glaring, with intensity sufficient for high ambient daytime lighting.
- The alphanumeric display control head shall be factory preprogrammed to the customer’s channel labeling requirements. Radio frequency channeling shall also be preprogrammed at the factory.

2.6.2 Loud Speaker.
A heavy-duty permanent magnet loud speaker rated for a minimum of 10 watts and mounted in a heavy metal or high impact plastic case with mounting brackets shall be provided.

2.6.3 Power Cable. One battery cable (hot) of at least 22 feet in length shall be supplied with each unit.

2.7 Optional Accessories:
The following accessories to the mobile unit are desired:

- (High-Tier, Mid-Tier,) Digital voice encryption, including AES, DES, DVP, VGE, Provoice & AEGIS.
- (High-Tier, Mid-Tier, Low-Tier) Digitally controlled remote control head with alpha/numeric readout.
- (High-Tier, Mid-Tier, or Low-Tier) Analog or digital voice encryption, DTMF tone generator from microphone.

2.8 Servicing: Transmitter/receiver equipment shall be readily removable from the mount for routine servicing. There shall be provisions for convenient metering of all essential transmitter and receiver circuits from multi-pin metering socket(s). All metering points shall be properly decoupled and connected to the metering socket(s). Provision for automated test set radio analysis is acceptable. All circuit modules shall be easily accessible plug-in printed circuit type fiberglass boards. Easy access shall be provided to all other portions of the unit.

3. MOBILE, DATA RADIO, VEHICULAR MOUNTED EQUIPMENT
This specification describes the minimum requirements for a UHF or 700/800 MHz mobile digital data link radio. The radio shall operate on a 25 KHz bandwidth channel at various data speeds from 19.2 Kb/sec to 44.3 Kb/sec, or 9.6 Kb/sec to 22 Kb/sec on a 12.5
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Two-way channel, or greater, depending upon signal conditions and BER conditions. Diversity receiver technology is encouraged, but not mandatory. Specifications shall meet voice radio specification unless otherwise listed.

The Data Radio Gemini is pre-qualified to meet the intent of these specifications at UHF and 800 MHz.

3.1 Transmitter Characteristics:

3.1.1 Operating Frequency. The transmitter shall be capable of operating on at least 16 separate conventional frequencies. The transmitter shall be factory supplied and aligned to the specific RF frequencies given in the purchase order.

- Carrier Power Output Rating: (all minimum intermittent power at 20% duty cycle)
  UHF: 10-40 Watts
  800 MHz: 10-35 Watts
  900 MHz: 10-25 Watts

- System Modulation:
  UHF/800 MHz: Digital (8K6DF1D, 15K3F1D, 15K0F1D, 15K6F1D

- Conducted and Radiated Spurious Emission Attenuation:
  UHF/800 MHz: -75 dBc

- Harmonic Emission Attenuation:
  UHF/800 MHz: -80 dB

- FM Hum and Noise Attenuation:
  UHF/800 MHz: -40 dB below 60% max deviation

3.2 Receiver Characteristics:

3.2.1 Operating Frequency
The receivers shall be capable of receiving on a minimum of 16 channels at UHF 450 MHz, and at 800 MHz.

3.2.2 Receiver Standards

- EIA 12 dB SINAD Sensitivity:
  All Bands: 0.35 microvolts

- Adjacent Channel Selectivity Desensitization:
  UHF/800/900 MHz: 65 dB (12.5 KHz narrowband digital)
  UHF/800 MHz: 75 dB (wideband 25 KHz)

- Spurious Response Attenuation:
  UHF: -80 dB
  800/900 MHz: -80 dB

- Intermodulation Spurious Attenuation:
  UHF/800 MHz: -75 dB

- Frequency Stability:
  UHF/800/900 MHz: 1.5 ppm

4. Desk-Top Analog & Digital Base Station Radio Equipment:
This specification describes low and mid power radios, for desk top or wall mount, for use either as a local base or as a control station for a repeater or trunked network.

4.1 This device has an integrated housing with the AC power supply and the radio.
4.2 An option for this class, is a remote line interface.

4.3 Offerings shall meet the corresponding mobile radio applications.

5. ANALOG & DIGITAL PERSONAL /PORTABLE RADIO EQUIPMENT

5.1 Model Specifications

5.1.1 High-Tier
This specification describes various types VHF, UHF, and 700-800 MHz, narrow band, conventional and trunked personal/portable radio transceivers.

Specifications for battery charging units and jerk-and-run mobile radio converter consoles are also included.

5.1.2 Mid-Tier
This specification describes various types VHF, UHF, and 700/800 MHz analog, digital, conventional and trunked personal/portable radio transceivers.

5.1.3 Low-Tier
This specification describes various types VHF, UHF, and 800 MHz analog conventional and trunked personal/portable radio transceivers.

5.2 Transmitter Standards
Definitions, standards, and methods of measurement shall conform to EIA Standard RS-316B, unless otherwise noted.

5.2.1 Carrier Power Output
- High-Tier
  VHF: 5 watts minimum
  800 MHz: 3 watts minimum
- Low-Tier
  2 watts minimum

5.2.2 Spurious and Harmonic Emission
- High-Tier -75 dBC
- Low-Tier -60 dBC

5.2.3 FM Hum and Noise
- High-Tier -40 dB or better (12.5 kHz)
- Low-Tier -35 dB or better (12.5 kHz)

5.2.4 Transmit Audio Distortion
- High-Tier Less than 3%
- Low-Tier Less than 5%

5.3 Receiver Characteristics:

5.3.1 Adjacent Channel Selectivity
- High-Tier -61 dB or better (12.5 kHz)
- Low-Tier -50 dB or better (12.5 kHz)

5.3.2 Intermodulation
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- High-Tier -75 dB or better (12.5 kHz)
- Low-Tier -60 dB or better (12.5 kHz)

5.3.3 Spurious and Image Rejection
- High-Tier -75 dB or better (12.5 kHz)
- Low-Tier -60 dB or better (12.5 kHz)

5.3.4 Audio Power Output
- High-Tier 500 mw at less than 3% distortion
- Low-Tier 500 mw at less than 5% distortion

5.4 General Electric and Mechanical Characteristics:

5.4.1 Components Included:
The vendor shall supply all necessary components, such as transceiver, battery, and flexible antenna.

The radio shall effectively have the following exterior controls: Power on/off, volume, channel selector, and push-to-talk switch. The radio shall be supplied with an integral microphone and loud-speaker. The push-to-talk switch shall be located on the side of the transceiver so it may be conveniently depressed while speaking into the microphone.

5.4.2 Programming
- Each unit under this section except for the Low-Tier model shall be completely Field programmable. All channel information such as transmit and receive RF frequencies; CTCSS tone frequencies, and anything else which would be functionally tied to the channel selector of the radio, shall be fully field programmable and reprogrammable utilizing a single programming unit.

- Field Programmer - Each Vendor shall provide as an option, a field programming unit which is designed to fully program the channel personality of each radio under this section. The programmer may either be a self-contained programming unit, or the programmer may consist of an interface unit and software to convert an personal computer to a field programmer.

5.5 Battery Cycle:
The rechargeable battery supplied with each radio shall have the capacity to provide at least 8 hours of service when used in a 5% transmit, 5% receive, 90% standby duty cycle.

5.6 Battery Chargers:

5.6.1 High-Tier Single and multiple (minimum 5 unit) battery chargers shall be available and priced separately on the price pages. The chargers shall recharge a completely discharged battery within 3 hours; thereafter a low (trickle) charge rate shall be available.

The chargers shall be UL approved and operate from a 120-volt A.C., 60 Hz power source. Protection shall be provided to prevent battery damage by over-charging or over-heating.

5.6.2 Low-Tier A single unit battery charger shall be available and priced separately on the price pages. The charger shall recharge a completely discharged battery within 14 hours; thereafter a low (trickle) charge rate shall be available. The charger shall be UL approved and operate from a 120-volt A.C., 60 Hz power source. Protection shall be provided to prevent battery damage by over-charging or over-heating.

5.7 Mobile Radio Converter Console and Charger (High-Tier Model Only):

5.7.1 Availability. There should be available, as an extra option, a mobile charger/converter console. The charger/converter console shall conform to the following criteria:
1. The vehicular chargers shall accept both VHF, UHF, 700/800 portables.

2. Circuitry shall be incorporated in the charger which will prevent over charging the battery if it is left on charge indefinitely.

3. The unit shall completely recharge either low or high capacity batteries in three hours or less.

4. A temperature sensing logic circuit shall be provided that prevents charging a battery that is too hot or cold for reliable safe charging.

5. When the portable is in the vehicular charger, the battery shall be electrically disconnected and the portable shall be powered from the vehicle battery. Operation of the portable in the charger shall not drain or prevent the portable battery from charging. It shall be possible to use the portable in the charger even if its battery is dead.

6. Audio power amplifier and charger circuitry shall be turned on by insertion of the portable in the charger and turned off by removal of the portable from the charger.

7. The charger/converter shall provide the vehicle enclosure for the radio and shall provide for the following items:
   - Connects the radio to the external antenna.
   - Connects the radio to the vehicle microphone.
   - Connects the radio to the vehicle audio amplifier and speaker.
   - Connects the radio to the charging circuit.

5.7.2 A key locking assembly shall be furnished to provide for locking the radio in the charger unit. The charger/converter mounting shall meet applicable federal safety standards for automotive accessories. A red LED "Transmit" indicator.

5.7.3 Accessories - Each charger/converter shall include the following accessories:
   - Microphone with coiled cord and connector.
   - A 12 watt amplifier and speaker.
   - Mounting brackets and hardware to mount the charger and its accessories.
   - If a special calibrator is required to adjust the chargers, one shall be furnished.
   - Special 12 watt speaker volume control or pad. Each 12 watt speaker amplifier, or the vehicle charger, shall incorporate a variable pad or volume control to allow for presetting the portable volume control to a normal listening level, and then when the portable is inserted into the vehicular charger, the volume level will be correct for vehicular use without further adjustment.

5.7.4 Power Requirements. The charger/converter shall be designed to operate from a normal 12 volt negative ground automotive electrical system. The reference voltage shall be established at 13.6 volts DC.

5.7.5 Mechanical Adjustment
The vehicular charger shall be mechanically adjusted by the factory before delivery and shall not require further adjustment by the buyer prior to being placed into service. All mechanical adjustments shall have locking devices to ensure their continued alignment during operation. Proper operation of the vehicular charger includes the unit's ability to lock in and release the portable radio in a smooth and easy manner without binding. All electrical functions of the unit shall be operational with the portable radio properly locked in. The pins contacting the portable radio shall be a heavy-duty type, capable of withstanding multitudinous insertions and removals of the radio from the charger.

6. ANALOG & DIGITAL MOTORCYCLE REAR-MOUNT RADIO
This specification describes low and mid power radios, for motorcycle use. Offerings shall meet the corresponding mobile radio applications.
6.1 **Installation:**
The radio unit shall be designed for two-piece rear fender/handlebar control head mounting on Kawasaki, Honda, BMW, or Harley Davidson motorcycles, and shall meet Federal safety requirements.

7.2 **Interconnecting Cables:**
6.1.1 All cables and wires shall be furnished to connect the unit to its associated control head and to interconnect the mobile unit with its accessories and the vehicle electrical system. Cables shall be well insulated, waterproofed and equipped with appropriate connectors.

6.1.2 Connectors shall have a screw fastener to mechanically secure the connectors.

6.2 **Control Panel:**
The control panel shall be functional, attractive and include all facilities for operating the radio. Controls shall include on-off switch, volume control and squelch disable switch, a red light indicator for transmitter operating, a frequency selection switch for multi-frequency requirements, an alpha/numeric channel indicator display, and a Priority Scan enable switch. The control panel shall be weather proof.

6.3 **Microphone:**
6.3.1 A military palm-type, noise-canceling microphone shall be supplied as part of the equipment. The microphone shall be a dynamic or magnetic type, and shall include a convenient push-to-talk button for transmitter control. Option helmet (head set) microphones are encouraged.

6.3.2 The microphone cord shall be a retractable type, with conductors of tinned metallic stranded wire not smaller than AWG size 30. The microphone cord shall be terminated with a separate screw-on male connector or telephone type modular connector, for mating with the receptacle supplied on the radio.

6.4 **Optional Weatherproof Housing:**
6.4.1 Housing shall provide a weatherproof seal to the elements and shall be capable of preventing unauthorized access to the radio by some type of key lock mechanism. Housing should also be capable of supporting an antenna mount.

6.4.2 Weatherproof Housing shall be included as a purchase option of the radio.

6.5 **Power Supply:**
6.5.1 The power supply shall be designed to operate from a normal 12 volt negative ground motorcycle electrical system. The reference voltage shall be established at 13.6 VDC. DC input to the radio shall be adequately filtered to exclude all alternator noise.

6.5.2 The power supply, and associated transmitter and receiver, shall be designed so that no degradation shall result (except for a 3 dB loss in transmitter power) in the receiver audio output, squelch sensitivity and SINAD sensitivity if the power supply voltage is varied +/-10% from 13.6 VDC.

6.5.3 The power supply, transmitter, and receiver shall be adequately protected by replaceable type fuses or circuit breakers.

7. **FIXED LINK BASE RADIOS**
The following items are system specifications and shall be determined on a per channel basis, as appropriate, for two link transceivers and associated equipment.

7.1 **Power Requirements**
Each low power transceiver shall operate from a negative ground +12.6 volt supply. The transmitter current drain shall be adjustable to less than 1.0 amps when transmitting (at reduced power). The complete transceiver shall operate in an idle condition with a current draw of:

7.1.1 Category 1- Less than 150 ma
7.1.2 Category 2- Greater than 150 ma., but less than 800 ma

7.2 Environmental
The transceivers shall operate and meet the specifications herein set forth over an ambient temperature range of 0 to +50 degrees Celsius, with a maximum humidity of 95% at altitudes from sea level to 10,000 feet. The equipment shall remain operational over an ambient temperature range of -20 to +55 degrees Celsius.

7.3 Duty Cycle
All equipment supplied under these specifications shall be designed for continuous duty operation.

7.4 Duplexer, BP & BP/BR
The vendor shall list an optional duplexer. A duplexer, pre-tuned to the frequencies specified in the purchase order, shall be available with each link transceiver. It shall be included as a separate priced unit for each transceiver package. Both Pass and Band Pass / Band Reject duplexers should be offered.
- Insertion Loss shall be 1.5 dB maximum
- Connectors - Type N Female

7.4.1 Option A- UHF Option shall satisfy the following requirements
- Transmitter Noise Suppression an Receive Frequency / 75 dB
- Receiver isolation at Transmitter Frequency / 75 dB

7.4.2 Option B - 700-800 MHz Option shall satisfy the following requirements
- Transmitter Noise Suppression an Receive Frequency / 65 dB
- Receiver isolation at Transmitter Frequency / 65 dB

7.5 Re-Radiation Loss
The vendor shall list an optional isolator with no more than 0.5 dB total insertion loss and shall be capable of dissipating at least 10 watt of reflected power. Re-radiation of intermodulation products shall be no greater than -50 dBm from the duplexer antenna port when a spurious signal within the duplexer’s pass band arrives at that port at 0 dBm (EMR model numbers 7540/2 / 7640/2 or equal). It shall be included as part of each transceiver package as a separate unit.

7.6 Common Circuitry
The transceiver shall be made with removable modular card construction and fit in a standard 19-inch rack mount. The transceiver shall have interfacing circuitry that provides a common point for external control (PTT, COR, power, and 600 Ohm audio connections) to the transmitter and receiver.

7.7 Audio Requirements
The transceiver shall have a 600 ohm balanced 4-wire audio interface. Transmitter and Receiver audio levels shall be adjustable from -16 to +1 dBm. The overall frequency response of the link (end to end) shall exceed a 3002 grade line with type C2 conditioning and be capable of passing industry standard function tones.

7.8 Physical Size/Form Factor
The physical size of the transceiver shall be such that it will fit in a 19-inch equipment rack (width) while not occupying more than 4 rack units (7 inches) vertically. The unit's depth shall not exceed 15 inches. The transceiver should be modular with individual modules plugging into the backplane via a card edge connector.

7.9 Transmitter Characteristics
The transmitter shall meet or exceed the following minimum specifications:

7.9.1 Carrier Power Output
- Category 1 / 6 watt minimum VHF, UHF, 3W minimum 700/800 MHz.
- Category 2 / 12 watt minimum VHF, UHF, 700/800 MHz
7.9.2 Spurious and Harmonic Emission Attenuation / 70 dB below carrier

7.9.3 Audio Frequency Total Harmonic Distortion / 5% maximum

7.9.4 Key-Up Time to Full Output / 40 milliseconds, maximum

7.10 Receiver Characteristics

7.10.1 Spurious Response Rejection (Attenuation) / 90 dB Minimum

7.10.2 Intermodulation Spurious Rejection (Attenuation) / 75 dB Minimum

7.10.3 Adjacent Channel Selectivity / - 45dB (12.5KHz)

7.10.4 Audio Output / -16 dBm to +1 dBm (600 Ohms).

7.10.5 Buffered discriminator output

7.10.6 External Mute - The receiver shall have an external mute input which while actively prevent any audio signal from passing through the 600 Ohm receive output port.

8. LOW POWER VEHICULAR REPEATERS EQUIPMENT

This specification describes VHF, UHF, and 700/800 MHz in-vehicle mounted repeater, for attachment to the vehicle’s mobile radio and used to extending the range of the user’s portable radio.

9. MULTI-BAND RADIOS

This section describes radios capable of operating in multiple public safety radio bands. For the purposes of this contract the 700 MHz and 800 MHz bands are considered a single band. Specifically, these radios are capable of operating in any two or more of the VHF, UHF, or the 700/800 MHz bands. Otherwise specifications are controlled by the class and tier of the offered product.

10. ANALOG & DIGITAL BASE/MOBILE RELAY STATION FIXED RADIO EQUIPMENT

10.1 Model Specifications

10.1.1 Basic Operations

The following specification describes, VHF High-band, UHF, 700 MHz, and 800 MHz continuous duty, mobile relay/base station equipment using phase, frequency, or digital modulation. Must be FCC type accepted to meet the modulation mask described in FCC Part 90.210.d. Trunked stations must meet the APCO 16, P25, or Open Sky system requirements. All 700 MHz stations shall be capable of P25 operation. Stations shall be capable of the following three modes of operation:

- Mode 1 - The station operates as a mobile relay only
- Mode 2 - The station operates as a tone and/or E&M remote controlled base station and mobile relay
- Mode 3 - The station operates as a tone and/or E&M remote controlled simplex or duplex base station

Digitally trunked base/repeaters shall be of the same model line as the conventional radios.

10.2 Electrical Specifications:
The equipment shall be designed to operate from a primary power source of 117 volts AC, 60 Hz. Adequate overload protection shall be provided. All power supplies shall use only high-quality, long-life, solid-state components as active devices. The equipment shall also be capable of operating from an external DC power source.

10.3 Transmitter Characteristics:

10.3.1 The transmitter shall use solid-state components throughout. The use of vacuum tubes in any stage is not acceptable.

10.3.2 Each station offered shall be capable of normal, continuous duty operation.

10.3.3 The transmitter shall be supplied for single frequency operation at any frequency within the VHF, UHF, 700 MHz (745-805 MHz) or 806-869 MHz bands. An alternate option for two or more frequency stations shall also be an option. The transmitter shall be factory aligned to the frequency specified in the purchase order.

10.3.4 Transmitter Standards:

- Carrier Power Output Rating:
  High-Tier 40-100 watts, continuous duty.

- Conducted and Radiated Spurious Emissions:
  High-Tier / -85 dB (12.5 kHz)
  Mid-Tier / -70 dB (12.5 kHz)

- Audio Frequency Harmonic Distortion:
  High-Tier / All Bands: 2% Max.
  Mid-Tier / 3% maximum

- FM Hum and Noise Level:
  High-Tier / -45 dB (12.5 kHz)
  Mid-Tier / -34 dB (12.5 kHz)

10.3.5 Reradiated Loss:
Re-radiation of intermodulation products shall be at least -50 dBm VHF (-30dBm) all other bands) from the transmitter antenna port or at the external isolator output port (if provided) when a spurious signal arrives at the port at 0 dBm. Any isolators used to accomplish this, shall be capable of dissipating at least 50 watts of reflected power.

10.4 Receiver Characteristics:
The receiver shall be completely solid-state, utilizing only high-quality, long-life, solid-state components as active devices. The receiver shall be rated for continuous operation.

10.4.1 Receiver General Characteristics:

- Adjacent Channel Selectivity:
  High-Tier / -75 dB at 12.5 KHz
  Mid-Tier / -60 dB at 12.5 KHz

- Spurious Response Attenuation:
  High-Tier / -95 dB at 12.5 KHz
  Mid-Tier / -70 dB at 12.5 KHz

- Intermodulation Spurious Attenuation:
  High-Tier / -80 dB at 12.5 KHz
  Mid-Tier / -70 dB at 12.5 KHz
10.4.2 Carrier Operated Relay:
A carrier operated relay (COR) shall be provided. Upon receipt of an on-frequency RF carrier signal and the required squelch activating sub-audible tone, this relay shall provide closure of a pair of normally open dry relay contacts.

10.4.3 Mobile Relay Operation:
The receiver repeat audio shall be connected to the transmitter modulator input through a gain control to permit independent adjustment of transmitter modulation level. The repeat level shall be independent of line input/output levels. A carrier control timer shall be provided. This will limit the duration of any continuous mobile relay transmission to a pre-selected interval of from 30 seconds to 5 minutes.

10.5 Station Control and Operation:

10.5.1 Station Audio Control:
The station shall be designed to accept two-line, 4-wire audio; 0 dB in/0 dB out.

10.5.2 Tone Control Scheme:
The base station shall be controlled by in-band tones for the remote controlled transmit function and the repeater enable/disable function.

10.5.2.1 Transmit Tone Control:
- Transmit tone control shall be by tone intervals of the following sequence:
  A = Guard Tone (2175 Hz) for 125 msec. nominal
  B = Transmit Tone (1950 Hz; 10 dB down from (A) for 40 msec. nominal
  C = Low Level Guard Tone (2175 Hz for the duration of the message; 30 dB down from A)
- The "B" function tone shall activate the transmit function of a single frequency base station with the "C" tone continuing throughout the message.
- The station decoders shall not respond (false) to voice peaks up to test tone levels or noise up to -10 dBm.
- The tone decoder overload (talk-down level for voice peaks shall be greater than the test tone level; the overload level for noise shall be such that overload does not occur with levels as high as 10 dB below test tone.

10.5.2.2 Tone Squelch Disable:
The receiver sub-audible tone squelch unit shall be disabled by the short tone sequence indicated below:
  A = Guard Tone (2175 Hz) for 125 msec. nominal
  B = CTCSS Disable Tone (2050 Hz); 10 dB down from (A) for 40 msec. nominal

10.5.2.3 Repeater Enable/Disable Function:
The mobile relay function of the station shall be enabled and disabled by the tone sequence indicated below:
  A = Guard Tone (2175 Hz) for 125 msec. nominal
  B = Function Tones (10 dB down from A, 1550 Hz for enable, 1440 Hz for disable) for 40 msec. nominal

10.5.3 E&M / DC Control
The station shall provide a contact point, which when grounded, will key the station and allow the transmission of line audio. When the station is keyed by grounding the contact point, the remote control function shall have priority over the repeater function. Also, tone remote keying shall have priority over DC contact keying.

10.5.4 Microphone and Speaker
A palm-type microphone with push-to-talk switch and hang-up bracket shall be supplied with each unit for local control. A permanent magnet loud speaker with volume control shall also be supplied. The volume to the monitoring speaker shall be independent of the transmitter repeat and line output levels. The local PTT and microphone audio functions shall override repeater or line PTT and audio.

10.6 Optional Duplexer:
For the UHF & 800 MHz stations only, an optional duplexer, pre-tuned to the frequencies specified in the purchase order, shall be considered separately. It shall be capable of being mounted horizontally in a standard 19" rack. Models determined to meet the
requirements of this section include the EMR 65534/ENC, SBC-2 for UHF, and the Celwave PD898 for 800 MHz, or approved equivalents. Because of random Tx/Rx frequency splits, VHF duplexing equipment is not a requirement of this RFP.

10.6.1 Frequency Separation:
- UHF MHz: 5 MHz minimum
- 700 MHz: 30 MHz minimum
- 800 MHz: 45 MHz minimum

10.6.2 Maximum Power Input: (Continuous duty) / 100 Watts

10.6.3 Insertion Loss:
- UHF: at 5.0 MHz Separation: 1.0 dB Max.
- 700 MHz: at 30 MHz Separation: 1.0 dB Max.
- 800 MHz: at 45 MHz Separation: 1.0 dB Max.

10.6.4 Transmitter Noise Suppression at Receive Frequency:
- UHF: 75 dB minimum
- 700/800 MHz: 65 dB minimum

10.6.5 Receiver Isolation at Transmit Frequency:
- UHF: 75 dB minimum
- 700/800 MHz: 65 dB minimum

10.6.6 Maximum VSWR: 1.5:1 or less; both bands

10.6.7 Connectors: Type N Female or 7/16 DIN

10.7 General Electrical and Mechanical Characteristics:

10.7.1 Basic Components:
- The radio equipment shall be installed in a standard, indoor cabinet enclosure, or an optional heavy-duty, aluminum, 19-inch, open relay rack of a nominal 90-inch height, meeting EIA Standard RS310C (Harris -Dracon 46055-005 or approved equivalent). All station chassis shall be mounted near the middle of the rack. The maximum height of the mobile relay/base station equipment shall be 37 inches.

- All RF input/output connectors on major station assemblies shall be Type N, BNC, or TNC, or some other approved locking RF connector.

10.7.2 Special Tools:
One complete set of any specialized hand tools shall be provided with each base/mobile relay station ordered. Tools shall include all necessary tuning tools, cables, card and/or module extenders, etc., to locate defective parts, trace equipment malfunctions, and perform routine maintenance.

10.7.3 Service Meters:
Panel mounted meters with associated selector switches or similar means may be optional with all units to measure all transmitter and receiver circuits essential to tuning and servicing. Such meters or fixtures shall be separately priced. If a computer interface is required for routine maintenance, the software shall be provided.

10.7.4 Wiring:
Wiring shall be color coded or marked in an acceptable manner for ease of maintenance. All inter-chassis wiring shall be clamped, laced or tied to prevent undue mechanical strain on connectors and terminals. When subjected to an open flame, hot soldering iron, or short circuit, the wire used in this equipment shall not support combustion for more than five seconds after the heat source is removed.
11. COMMUNICATION SERVICE MONITORS
These specifications describe a Communications Service Monitors for use in the maintenance of public safety land mobile radio communications system. These systems will be primarily conventional narrowband FM, conventional P25, trunked P25 or Astro 25 systems.

11.1 Physical Construction:
The complete monitor, including any and all modules, shall be contained in the mainframe. All switches, controls, inputs and outputs normally used during operation should be accessible from the front of the instrument. The mainframe cabinet shall be provided with a cover to protect the controls and oscilloscope from damage. The monitor shall operate over a temperature range of 0 to 40 degrees Celsius and weigh less than 35 pounds, including all plug-in modules and batteries.

11.2 Electrical Specifications:
The monitor shall be all solid-state. The monitor shall be capable of accepting operating power from one of two sources. No internal modifications or adjustments shall be required by the operator to change from one power source to another.

11.2.1 A.C. Power / 120 VAC, 60 Hz; the unit shall be supplied with a 6-foot grounding power cord.

11.2.2 D.C. Power / 12 VDC to 15 VDC; the unit shall be supplied with the required connector to supply D.C. power to the monitor for specific classifications.

11.3 Service Monitor Operating Sections:
- The following functions shall be provided by the monitor, as defined by instrument class:
  - R.F. Signal Generator
  - R.F. Receiver
  - Duplex R.F. Signal Generator
  - General Purpose Oscilloscope
  - R.F. Spectrum Analyzer
  - Tracking Generator
  - High Stability Oscillator (0.01 ppm - 0.1 ppm)
  - Frequency Counter
  - Power Meter
  - Audio Generator
  - Distortion Meter
  - General Purpose Oscilloscope

11.3.1 Signal Generator - Signal output(s) shall be provided to allow servicing and alignment of FM communications receivers.

11.3.2 Frequency Generation - Continuous from 1 MHz to 1000 MHz.

11.3.3 Output Level - 0.1 microvolt to 20 millivolts

11.3.4 Output Level Accuracy: <+/- 2Db

11.3.5 Time Base Aging and Stability: 1.0 PPM/year after the first month

11.3.6 Frequency Step Resolution: 10 Hz or better

11.3.7 Modulation: AM & FM

11.3.8 Audio Generator: 1 KHz fixed, & variable frequency tone

11.4 Receiver Monitor/Display:
The receiver/monitor shall display demodulated signals on the LCD display/meter and allow audible monitoring via a self-contained speaker.

11.4.1 Frequency Range & Accuracy: Same as for Signal Generator

11.4.2 Input Sensitivity: 2 microvolt maximum for 10 dB SINAD

11.4.3 Input Impedance: 50 ohm, nominal

11.4.4 Deviation Measurement Range: \(<+/- 2.0 \text{ KHz to } >+/- 10 \text{ KHz peak for full scale display}\)

11.4.5 Deviation Measurement Accuracy: \(+/- 5\%

11.4.6 Demodulated Output Distortion: < 10%

11.4.7 Frequency Meter Error Resolution: 1 Hz/10 sec. gate time

11.5 Oscilloscope

The receiver LCD display should be made available for use as a general purpose oscilloscope to 50 KHz or 500 KHz, depending upon classification/model.

11.6 Spectrum Analyzer

11.6.1 Frequency Range: 400 KHz to 1000 MHz

11.6.2 Dynamic Range: -90 dBm to -30 dBm

11.6.3 Display Range: >70 dB calibrated in dBm

11.6.4 Horizontal Display Calibration: Shall have selectable per-division sweep calibration.

11.6.5 Calibration: A reference signal should be available from the instrument to be used for level calibration.

11.7 Duplex RF Signal Generator

11.7.1 Offset Frequency Range: +/- 10 KHz to +/- 45 MHz

11.7.2 Output Level: >100 microvolt

11.8 Accessories

The monitor shall be provided with a whip antenna designed to make off-the-air measurements, an output cable assembly, and a service manual.

11.9 Operational Considerations

It is the intent of these specifications to buy a dependable communications service monitor to service government-owned communications equipment. The monitor must be ruggedly constructed to withstand severe vibration and shock encountered during travel to remote transmitter sites.

The instrument will be used daily and must be a reliable standard under the specified extremes of temperature and other conditions experienced during routine service procedures. The monitor shall be portable and completely self-contained.

The service monitor shall be so constructed and labeled for easy use. Protection should be provided to minimize damage to the instrument by an inadvertent keying of a transmitter into the generator output(s). The generator’s output(s) shall withstand a minimum of 100 watts for up to 30 seconds.
11.10 Configurations
Three configurations of monitors shall be proposed separately, depending upon option level and vendor product line. These shall include the following:

11.10.1 Maximum Feature Test Set with Extended Range Duplex Signal Generator (no offset limit within 1-1000 MHz range), Spectrum Analyzer with full span (1-1000 MHz) sweep, Tracking Generator, High Stability Oscillator, & Computer control interface. Must list options required to meet specifications. It requires P25 digital trunking, Smartnet trunking capability. Options may include extended RF range, automatic test and tuning software, additional digital modes including LTE, BER testing (List all trunking modes and other additional options as offered by vendor.)

11.10.2 Full Feature Portable Service Monitor with Duplex Signal Generator (1000 MHz), Spectrum Analyzer (1000 MHz), Tracking Generator (1000 MHz), and High Stability Oscillator (0.5 ppm), with internal Battery Power (List trunking and other additional options as offered by vendor). Units determined to meet the intent of this specification include the IFR-2944/2945, and the General Dynamics 2600.

12. GENERAL SPECIFICATIONS:

12.1 Non-Proprietary Specifications

12.1.1 These specifications describe electronic radio equipment to be used in various Arizona State, VHF High-band, UHF 450 MHz and 700-800 MHz (Conventional and Trunked) radio communications systems. This document will describe separately, the requirements for fifteen (15) different classes of electronic equipment.

12.1.2 Only the VHF (150-174 MHz) model in all radio lines will be evaluated on technical specifications. If a VHF conventional product qualifies for an award in a product line, then the vendor may add their conventional UHF Band, and qualification of a conventional 800 MHz product will allow a 700 MHz product in the same radio line to be added to the contract, providing the discount percentage is the same as for the VHF or 800 MHz model.

12.1.3 The specifications do not include any proprietary items, components, circuits, or devices which would preclude any communications equipment manufacturer from producing equipment to meet these specifications. All technical tolerances, ratings, power outputs, or any technically specified criteria contained within these specifications are considered to be within the current state of the art and are currently being met by commercially available electronic equipment. The fact that a manufacturer chooses not to produce equipment to meet these specifications is not sufficient cause to adjudge these specifications as restrictive.

12.2 CONTRACTOR SUPPORT (Installation and Maintenance):

12.2.1 Instruction Books, User Guide and Product Literature
The contractor will make available the following equipment documentation to purchasers in any quantity specified by the purchaser over and above the quantity required to be included with the unit price. Manuals will accompany the equipment at time of delivery or may be delivered prior to equipment delivery.

- OPERATORS MANUAL One (1) operators manual will be furnished with each equipment unit. This manual will provide an operational description of the equipment and all other pertinent operational details. This manual must include illustrations or photographs displaying the location and details of the various devices and controls. This manual will be a volume separate from all other manuals.

- INSTALLATION MANUAL the installation manual will consist of printed and illustrated sections that describe the mechanical, electrical and electronic details of assembly sufficient to assure proper operation at completion. This manual may be a section of the service manual. Installation manuals will be included with each lot of purchase for example: a) one (1) manual for each base/repeater unit b) one (1) manual for each of the mobile or portable radio units, up to a maximum of ten (10) manuals for each lot of mobile or portable radios. The purchaser will specify additional manuals required with each purchase.

- SERVICE MANUAL The service manual must contain circuit descriptions in verbal and illustrative form which are concise and all inclusive. Sections of the manual will include theory of operation to the component level, parts lists,
Two-Way Radio Contract

State of Arizona
State Procurement Office
100 N. 15th Ave., Suite 201
Phoenix, AZ 85007

Solicitation No.: ADSPO13-036880

Description: Two-Way Radios

Troubleshooting flow diagrams and charts, instructions for alignment programming, adjustment and/or setup, schematics with normal operating voltages, plus wiring, interface, interconnection and printed circuit layout and assembly diagrams. Also included will be a list of maintenance and test equipment required for equipment maintenance prescribing make, model, description, manufacturer and alternatives. Service manuals will be included with each lot of purchase in the same manner as described above for the installation manual. The purchaser will specify additional manuals required with each purchase.

12.2.2 Warrantee (additional requirements):
Contractors shall warrantee all equipment for one (1) year following the equipment’s Acceptance.

12.2.3 Parts Support:
All equipment covered by these specifications and any resultant contracts will have a minimum service life of seven (7) years from date of delivery to the purchaser and the contractor will guarantee replacement parts stocking by the contractor and/or authorized distributor for this service life period.

12.3 WORKMANSHIP
All the various types of equipment supplied under this Contract shall be of the latest, most improved model, past the development state and in factory production. Such equipment shall have a satisfactory production performance record as evidenced by product literature supplied by the Contractor and as determined by the State. Equipment without performance data will be subject to a technical evaluation for acceptability. If requested, Contractor shall supply a sample unit to the State within ten (10) days of the request. The sample unit will be returned within sixty (60) days. Components used in the equipment shall be only those specified in Contractor’s equipment literature. Contractor shall provide a name and telephone number list of users/agencies that have purchased and installed the proposed equipment for the State’s use during the evaluation process.

12.4 PROGRAMMING
Each model of radio shall have a Radio Programming Device available if one is required to program the radio. This software shall be for the highest level and revision of software available, including all maintenance software. The vendor shall agree that purchase of a single software package constitutes a “user” license per-site and may make necessary copies for internal use as required at a site. The vendor shall also offer at a reasonable additional cost, a “system” license for use at up to 10 agency service shops.
1. **DEFINITIONS**

   **ProcureAZ terms.** ProcureAZ (https://procure.az.gov) is the State’s online eProcurement system. Although the system was configured for the State’s needs, the application is based on a commercial product known as BuySpeed Online, made by Periscope Holdings, Inc. As a result, some of the terms used in the BuySpeed Online application may be semantically different to similar terms used by the State. The following terms are as they appear in BuySpeed Online (and ProcureAZ), along with their corresponding meanings as they apply to the solicitation.

"**Actual Cost**" means the total value of all items and their extended quantities.

"**Alternate Id / Alternate ID**" is an optional field and means any additional data in order to link a solicitation or project to a related project, activity or program.

"**Attachments**" means the section, as displayed in ProcureAZ, where the solicitation’s electronic documents may be attached. Attachments as defined in the Uniform Instructions may include Solicitation Attachments, and/or as defined in the Uniform Terms and Conditions may include Contract Attachments.

"**Buyer**" means procurement officer.

"**Catalog ID**" is an optional data field and means an identification number to signify a group of related contracts.

"**Contact Instructions**" means the contact information for the procurement officer.

"**Control Code**" is an optional field and means an identification characteristic of the contract.

"**Days ARO**" means the number of days ‘After Receipt of Order’ in which the customer will receive the ordered materials and/or services.

"**Department**" means the customer for whom the solicitation or contract was conducted for.

"**Discount %**" is an optional field and means the standard discount applied to all items.

"**Entered Date**" means the date that the contract was awarded, not necessarily the date the contract starts, e.g., Master Blanket/Contract Begin Date.

"**Fiscal Year**" means the State Fiscal Year in which the solicitation was initiated. In the event of contract(s) resulting from the solicitation, the Fiscal Year shall remain unchanged.

"**Freight Terms**" means how freight will be charged under the contract.

"**Header Information**" means the section of the solicitation or contract, as displayed in ProcureAZ, containing solicitation or contract information other than the line items.

"**Item Information**" means the section of the solicitation or contract, as displayed in ProcureAZ, containing the solicitation or contract line items.

"**Location**" means the specific customer, within the department, for whom the solicitation or contract was done.

"**Master Blanket/Contract Begin Date**" means the date that the contract starts.

"**Master Blanket/Contract End Date**" means the date that the contract ends.

"**Master Blanket/Contract End Date (Maximum)**" means the date that the contract may be extended through if all allowable term extensions are exercised.

"**Master Blanket/Contract Vendor Distributor List**" means the list of companies authorized to distribute the materials and/or services on behalf of the Contractor under the contract.
“Master Blanket Purchase Order” means the contract, indicating that the contract will be in effect over a stated period of time.

“Minor Status” is an optional data field and means a type of status indicator of the contract in ProcureAZ.

“Organization” means the state agency under whose authority the solicitation or contract was conducted.

“Payment Terms” means the period of time that payment is due after receipt of an accurate invoice.

“Pcard Enabled” is an optional data field and means that customers are allowed to use their purchasing card (P-Card or Pcard) to order from the contract within the ProcureAZ system.

“PO Acknowledgement” means the list the notifications to the Contractor and their acknowledgements of these notices.

“PO Type” means the period of time that the contract is in place, either a one-time transaction, Open Market, or for a stated period of time, Blanket.

“Print Dest Detail” is an optional data field and means a print format applicable to orders under the contract.

“Print Format” means the format of the solicitation or contract print output.

“Project No.,” is an optional field and means an identification characteristic of the contract.

“Purchase Order” means contract.

“Purchase Order Number” means the contract’s identification number.

“Purchaser” means procurement officer.

“Receipt Method” means the method by which materials and/or services under the contract are received, either by amount spent, Dollar, or by item units, Quantity.

“Release Number” means the order number of each order under the contract. The Master Blanket/Contract will always reflect a zero “0” release number.

“Release Type” means the process that orders under the contract are subject to within ProcureAZ, requiring approval on an order-by-order basis, e.g., Standard Releases or not requiring approval, e.g., Direct Release.

“Retainage %” is an optional field and means the amount of the contract’s value that is retained.

“Shipping Method” means the method of shipping to be used under the contract.

“Shipping Terms” means the point where the Contractor will ship the materials and/or services to, and if accepted, the point when responsibility and title passes from the Contractor to the State.

“Short Description” means the contract’ title.

“Status” means the availability of the contract within ProcureAZ for ordering, e.g., Sent status.

“Tax Code”, if applicable, means the amount of taxes, expressed as a percentage, to be added to all items purchased under the contract. As items may be subject to differing tax rates, this field may be blank.

“Type Code” means the category of customers that may use any resulting contract(s). E.g., Single-Agency, Multi-Agency or Statewide.

“Vendor” means Contractor.

2. CONTRACT.

2.1 The contract between the State of Arizona and the Contractor shall consist of the solicitation as amended, any requests for clarifications and/or best and final offers, the proposal submitted by the Contractor, their responses to any requests for
clarifications and/or their best and final offer. In the event of a conflict in language between the documents referenced above, the provisions and requirements set forth and/or referenced in the solicitation as amended shall govern. However, the State reserves the right to clarify any contractual requirement in writing, and such written clarification shall govern in case of conflict with the applicable requirements stated in the solicitation as amended or the Contractor's proposal. In all other matters not affected by the written clarification, if any, the solicitation shall govern.

2.2 The State's primary contact for this solicitation and result contracts shall be:

James U. Reeves, Sr. Procurement Specialist  
State of Arizona, State Procurement Office  
100 N 15th Ave, Suite 201  
Phoenix, AZ  85007  
Phone: (602) 542-9121  
Fax: (602) 542-5508  
Email: james.reeves@azdoa.gov

2.3 Contract Document. The State may clarify any Contract following award. This clarification shall not substantially alter the contents of the Contract, but shall only edit and reformat the Contract in a manner that will facilitate ease of use, contract administration, and concurrence of the Parties.

2.4 Contract Type. Hourly Rate, Firm Fixed Price. Individual Task Assignments shall be awarded on a specific project basis in accordance with the terms of this Contract.

2.5 Term of Contract. The term of the contract shall commence upon award and shall remain in effect for a period of one year, unless terminated, canceled or extended as otherwise provided herein.

2.6 Contract Extension. The initial contract term is for a one (1) year period subject to additional successive periods of a maximum twelve months per extension with a maximum aggregate including all extensions not to exceed five (5) years. A factor in contract extensions shall be the extent that the State has all current usage information and insurance documents on file.

2.7 Estimated Usage. The Contract shall be on an as needed, if needed basis. The State makes no guarantee as to the amount of usage that may occur under a resultant contract.

2.8 Non-Exclusive Contract. This contract has been awarded with the understanding and agreement that it is for the sole convenience of the State of Arizona. The State reserves the right to obtain like goods or services from another source when necessary. Off-contract purchase authorization(s) may be approved by either the agency (within an agencies delegated authority) or by the State Procurement Office. Approvals shall be at the exclusive discretion of the State and shall be final. Off-contract procurement shall be consistent with the Arizona Procurement Code.

2.9 Eligible Agencies. This contract shall be for the use of all State of Arizona departments, agencies, commissions and boards. In addition, eligible universities, political subdivisions and nonprofit educational or public health institutions may participate at their discretion. In order to participate in this contract, a university, political subdivision, or nonprofit educational or public health institution shall have entered into a Cooperative Purchasing Agreement with the Department of Administration, State Procurement Office as required by Arizona Revised Statutes 41-2632.

2.10 Cancellation. The State reserves the right to cancel the whole or any part of the contract due to failure of the Contractor to carry out any term, promise, or condition of the contract including but not limited to:

2.10.1 Providing personnel that do not meet the requirements of the contract or attempting to impose on the State, personnel of unacceptable quality,

2.10.2 Failure to perform adequately the services required in the contract or

2.10.3 Any action or inaction that is in violation of EPA, OSHA or any applicable regulation.

3. ADMINISTRATIVE FEE / USAGE.

3.1 Contractor shall assess an administrative fee in the amount of one (1%) against all contract sales to members of the State Purchasing Cooperative – including cities, counties, school districts and other qualified members. The administrative fee is calculated against all sales under this contract minus any taxes or regulatory fees, minus any returns or credits, and minus any shipping charges not already included in the unit prices. An updated list of State Purchasing
Cooperative members may be found at [http://spo.az.gov/Cooperative_Procurement/SPC/default.asp](http://spo.az.gov/Cooperative_Procurement/SPC/default.asp). At its option, the State may expand the applicability of this fee. The State shall provide thirty (30) written notice prior to exercising or changing this option.

3.2 Contractors shall submit a Quarterly Usage Report documenting all contract sales. For more information on the Quarterly Usage Report or the Administrative Fee, its calculation, submission or use, and the proper Usage Report Forms see the State Procurement Office's web site at [http://spo.az.gov/Contractor_Resources/Admin_Fee/default.asp](http://spo.az.gov/Contractor_Resources/Admin_Fee/default.asp). Any alternate Quarterly Usage Report format shall be approved by the Procurement Officer. Any usage report that is submitted to the State for the purpose of satisfying this requirement shall be deemed public record and all information contained in such report shall not be considered confidential, including any supplemental information contained in the submitted report beyond that which is requested in the Sample Forms located at the State Procurement Office Web Site.

3.3 The Administrative Fee shall be submitted, along with a Quarterly Usage Report to the State Procurement Office within thirty (30) days following the end of each calendar quarter. Administrative Fees shall be submitted to the following address:

Arizona Department of Administration
State Procurement Office
Attention: 'Statewide Contract Administrative Fee'
100 N. 15th Avenue, Suite 201
Phoenix, AZ 85007.

3.4 The submission schedule for Administrative Fees and Usage reports shall be as follows:

- July through September (FY Q1) – Due October 31
- October through December (FY Q2) – Due January 31
- January through March (FY Q3) – Due by April 30
- April through June (FY Q4) – Due by July 31

3.5 The Administrative Fee shall be a part of the Contractor’s unit prices and is not to be charged directly to the customer in the form of a separate line item. Statewide contracts shall not have separate prices for State Agency customers and State Purchasing Cooperative customers.

3.6 Contractor's failure to remit administrative fees in a timely manner consistent with the contract's requirements may result in the State exercising any recourse available under the contract or as provided for by law.

4. **KEY PERSONNEL**

4.1 It is essential that the Contractor provide an adequate staff of experienced personnel, capable of and devoted to the successful accomplishment of work to be performed under this contract. The Contractor agrees and understands that the State’s agreement to the Contract is predicated, in part and among other considerations, on the utilization of the specific individual(s) and/or personnel qualification(s) as identified and/or described in the Contractor’s proposal. Therefore, the Contractor agrees that no substitution of such specified individuals and/or personnel qualifications shall be made without the prior written approval of the State. The State shall not unreasonably exercise the rights reserved under this paragraph.

4.2 During the course of the contract, the State reserves the right to require the contractor to reassign or otherwise remove from the project any contractor employees found unacceptable by the State.

4.3 The Contractor further agrees that any substitution made pursuant to this paragraph shall be equal or better than originally proposed and that the State’s approval of a substitution shall not be construed as an acceptance of the substitution's performance potential. The State agrees that an approval of a substitution shall not be unreasonably withheld.

4.4 The Contractor shall bear all transitional expenses incurred for any costs associated with removing or replacing Key Personnel who are performing work under the Contract. This shall include becoming familiar with the specific characteristics and special requirements of the project area. If the Contractor replaces Key Personnel, it shall not affect their commitment to meet all schedules and deliverables. The Contractor agrees to reveal its staffing levels by function, including resumes, upon request by the State at any time during the performance of this Contract.

4.5 Out-Of-State Personnel. Written approval of the Using Agency shall be obtained by the Contractor prior to importing the services of out-of-State personnel in conjunction with a Task Assignment Statement/Scope of Work (TASOW) for any billable expense other than the hourly rate.
5. **REMOVAL OF PERSONNEL**

5.1 The State reserves the right to require the Contractor to reassign or otherwise remove any Contractor or Subcontractor personnel from providing Task Assignment services. The State shall not unreasonably exercise the rights reserved under this paragraph.

5.2 The State may require that the Contractor remove from the Contract employees who endanger persons or property or whose continued employment under this Contract is inconsistent with the interests of the State.

5.3 The State shall not be charged for Contractor time needed to bring new Contractor or Subcontractor personnel to the level of knowledge of previous Contractor or Subcontractor personnel. This shall include becoming familiar with the specific characteristics and special requirements of a Task Assignment.

6. **ARIZONA CONTACT**. The Contractor shall maintain and utilize an Arizona office contact, which facilitates responding to and administering the Contract and any resulting Task Assignment(s). The Contractor shall maintain and provide to the ADOA/Enterprise Procurement Division and Using Agency Project Manager the current names, phone numbers, facsimile numbers, etc. of the critical points of contact for contract administration purposes.

7. **SUBCONTRACTORS.**

The contractor may, with the consent of the State, enter into written subcontract(s) for performance of certain of its functions under the contract. The Commerce Procurement Office prior to the effective date of any subcontract must approve subcontractors in writing.

7.1 No subcontract that the contractor enters into with respect to performance under the contract shall in any way relieve the contractor of any responsibility for performance of its duties.

7.2 The contractor shall give the Commerce Procurement Office immediate notice in writing by certified mail of any action or suit filed and prompt notice of any claim made against the contractor by any subcontractor or vendor which in the opinion of the contractor may result in litigation related in any way to the contract with the State.


The resultant contract(s) shall be based on individual catalog. For the purpose of this solicitation, an established catalog price means the price included in a catalog, price list, schedule or other form that: is regularly maintained by a manufacturer, distributor or contractor; is either published or otherwise available for inspection by customers; states prices at which sales are currently or were last made to a significant number of any category of buyers or buyers constituting the general buying public for the materials or services involved.

Offeror(s) are to submit with the bid, electronic versions of the catalog/price lists being offered in any of the formats allowed under Special Terms and Conditions section for additional electronic catalog/price list requirements OR may be available through a Universal Resource Locator (URL) link indicated by the Bidder. If using a URL, please BE VERY CLEAR which item from the URL linked catalog you are offering.

Such catalog/price lists shall:

- Contain a comprehensive selection of products from an individual manufacturer within an established price sheet group
- Be those that contain prices that are the basis for those discount (percents %) from list price (DLP) offered by the bidder(s) and accepted by the state
- Although not required with the bid, hard copy catalog/price lists shall be made available upon request. Failure to submit electronic copies of catalog being offered with the bid may result in the bid being deemed nonresponsive

9. **LICENSES.** Contractor shall maintain in current status all Federal, State and Local licenses and permits required for the operation of a business conducted by the contractor and make them available as required by this contract.

10. **Billing**
All billing notices shall include delivery time, and contractual payment terms. Items are to be identified by the name, model number, contract number, line item number, and serial number if applicable. Any contract release order issued by the requesting agency shall refer to the contract number and line item number(s).

11. **PRICING**

No conditional quotations will be acceptable. All pricing shall be fixed, and include all applicable freight, insurance, etc. Pricing should be submitted as a percentage discount off catalog pricing for each category requested. In addition pricing when asked for should be listed as a per hour, or per year rate when requested.

11.1 Percent off categories:

- Analog & Digital Vehicular Mounted Mobile Radio Equipment
- Mobile, Data Radio, Vehicular Mounted Equipment
- Desk-Top Analog & Digital Base Station Radio Equipment
- Analog & Digital Personal/Portable Radio Equipment
- Analog & Digital Motorcycle Rear – Mount Radio
- Analog & Digital Base/Mobile Relay Station Fixed Radio Equipment
- Communication Service Monitors
- Fixed Link Base Radios

11.2 Percent off Accessories & Options:

Each category listed above shall have a line item in ProcureAZ for all accessories and options. Offeror shall bid a percentage discount for all accessories or options associated with that category.

11.3 Per Hour Pricing:

Each category listed above shall have a line item in ProcureAZ for Maintenance and Support. Offeror shall summit pricing as a per hour rate. Pricing shall be a fixed per hour rate.

11.4 Licenses both User and System:

Each category listed above shall have one line item in ProcureAZ for User (per site) License, and one for System (multiple sites) License.

12. **PRICE INCREASE (AFTER ONE YEAR)**

12.1 The State Procurement Office may review a fully documented request for a price increase only after the contract has been in effect for one (1) year.

12.2 A price increase shall only be considered at the time of a contract extension. The request shall be submitted from 30 to 60 days prior to the anniversary or the contract renewal date and shall be a factor in the extension review process. The request shall be for factors the Contractor was unaware at the time of offer submission. Failure to submit the request within the stated timeframe or failure to supply adequate information with the request may result in the state not considering the request.

12.3 The State, at its sole option, shall determine whether the requested price adjustment or an alternate option is in the best interest of the State. Approval shall be in the form of a contract amendment, and shall become effective on the date specified in the amendment.

13. **PRICE REDUCTION.** A price reduction adjustment may be offered at any time during the term of the Contract and shall become effective upon notice.

14. **APPROPRIATION OF FUNDS.** Every payment obligation of the Agency under this Contract is conditioned upon the availability of funds appropriated or allocated for the payment of such obligation. If funds are not allocated and available for the continuance of this Contract, this Contract may be terminated by the Agency at the end of the period for which funds are available. No liability shall accrue to the Agency or the State of Arizona in the event this provision is exercised, and
neither the Agency nor the State shall be obligated or liable for any future payments or for any damages as a result of termination under this paragraph.

15. **PANDEMIC CONTRACTUAL PERFORMANCE.**

15.1 The State shall require a written plan that illustrates how the Contractor shall perform up to contractual standards in the event of a pandemic. The State may require a copy of the plan at anytime prior or post award of a contract. At a minimum, the pandemic performance plan shall include: (i) Key succession and performance planning if there is a sudden significant decrease in Contractor's workforce; (ii) Alternative methods to ensure there are products in the supply chain; and (iii) An up to date list of company contacts and organizational chart.

15.2 In the event of a pandemic, as declared by the Governor of Arizona, U.S. Government or the World Health Organization, which makes performance of any term under this contract impossible or impracticable, the State shall have the following rights: (i) After the official declaration of a pandemic, the State may temporarily void the contract(s) in whole or specific sections if the Contractor cannot perform to the standards agreed upon in the initial terms; (ii) The State shall not incur any liability if a pandemic is declared and emergency procurements are authorized by the director as per § 41-2537 of the Arizona Procurement Code; and (iii) Once the pandemic is officially declared over and/or the Contractor can demonstrate the ability to perform, the State, at its sole discretion may reinstate the temporarily voided contract(s).

15.3 The State, at any time, may request to see a copy of the written plan from the Contractor. The contractor shall produce the written plan within 72 hours of the request.

16. **ELECTRONIC OR INFORMATION TECHNOLOGY.** Products, services and maintenance shall comply with A.R.S. § 41-3531, which requires conformance with the requirements of Section 508 of the Rehabilitation Act of 1973. Failure to comply shall be considered a breach of the Contract.

**FINANCIAL SOUNDNESS.**

17.1 The Agency shall be notified in writing of any substantial change in the Offeror's financial condition during the term of the Contract. Failure to notify the Agency of such a substantial change in financial condition shall be sufficient grounds for terminating the Contract.

17.2 The State may request the Contractor and any of the Contractor's Subcontractors to provide a certified Statement of Financial Capability or the company's most current financial statement which has been audited by their outside auditing firm.

18. **PROTECTION OF FACILITIES AND GROUNDS.**

18.1 The contractor shall provide the services contained herein in such a manner that does not result in damage to State and eligible using agency facilities, grounds, landscaping, utilities, or structures. In the event that damage does occur during the performance of this contract, the contractor shall repair or replace the damage at no cost to the State or eligible using agency as specified.

18.2 Should the contractor fail or refuse to make proper repairs or replacements, the contractor shall be liable for the cost thereof which may be deducted from unpaid invoices or by any other means provided by law. Any and all equipment (containers) supplied by the contractor(s) for use by an eligible using agency shall remain the property of the contractor.

19. **BILLING.** All billing notices or invoices shall be sent to the eligible using agency whose address appears on the contract release order/purchase order as the 'bill to address' and should contain, at a minimum, the following information.

- Name and address of the contractor;
- Both the contract number and contract release/purchase order number;
- The contractors federal tax identification number;
- The contractor's remittance address;
- A description of the goods or services provided;
- Quantity and delivery/service timeframe;
- Itemized (if applicable) and total invoice pricing.

21. **INSURANCE -**

21.1 **INDEMNIFICATION:** Contractor agrees to indemnify, defend, save and hold harmless the State of Arizona, any jurisdiction or agency issuing
permits for any work included in the project, and their respective directors, officers, officials, agents and employees (hereinafter referred to as "Indemnitee") from and against any and all claims, actions, liabilities, costs, losses, or expenses, (including reasonable attorney's fees), (hereinafter collectively referred to as "Claims") arising out of actual or alleged bodily injury or personal injury of any person (including death) or loss or damage to tangible or intangible property caused, or alleged to be caused, in whole or in part, by the negligent or willful acts or omissions of Contractor or any of Contractor's directors, officers, agents, employees, volunteers or subcontractors. This indemnity includes any claim or amount arising or recovered under the Workers' Compensation Law or arising out of the failure of Contractor to conform to any federal, state or local law, statute, ordinance, rule, regulation or court decree. It is the specific intention of the parties that the Indemnitee shall, in all instances, except for Claims arising solely from the negligent or willful acts or omissions of the Indemnitee, be indemnified by Contractor from and against any and all Claims. It is agreed that Contractor will be responsible for primary loss investigation, defense and judgment costs where this indemnification is applicable.

This indemnity shall not apply if the contractor or sub-contractor(s) is/are an agency, board, commission or university of the State of Arizona.

21.2 INSURANCE REQUIREMENTS:
Contractor and subcontractors shall procure and maintain, until all of their obligations, including any warranty periods under this Contract, are satisfied, insurance against claims for injury to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or subcontractors.

The insurance requirements herein are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract. The State of Arizona in no way warrants that the minimum limits contained herein are sufficient to protect the Contractor from liabilities that might arise out of the performance of the work under this Contract by the Contractor, its agents, representatives, employees or subcontractors, and Contractor is free to purchase such additional insurance as may be determined necessary.

A. MINIMUM SCOPE AND LIMITS OF INSURANCE - Contractor shall provide coverage with limits of liability not less than those stated below:

1. Commercial General Liability – Occurrence Form
Policy shall include bodily injury, property damage, personal injury and broad form contractual liability and XCU coverage.
   - General Aggregate $2,000,000
   - Products – Completed Operations Aggregate $1,000,000
   - Personal and Advertising Injury $1,000,000
   - Blanket Contractual Liability – Written and Oral $1,000,000
   - Damage to Rented Premises $50,000
   - Each Occurrence $1,000,000

   a. The policy shall be endorsed to include the following additional insured language: “The State of Arizona, its departments, agencies, boards, commissions, universities and its officers, officials, agents, and employees shall be named as additional insureds with respect to liability arising out of the activities performed by or on behalf of the Contractor”. Such additional insured shall be covered to the full limits of liability purchased by the Contractor, even if those limits of liability are in excess of those required by this Contract.

   b. Policy shall contain a waiver of subrogation Endorsement in favor of the State of Arizona, its departments, agencies, boards, commissions, universities and its officers, officials, agents, and employees for losses arising from work performed by or on behalf of the Contractor.

2. Business Automobile Liability
Bodily Injury and Property Damage for any owned, hired, and/or non-owned vehicles used in the performance of this Contract.

   Combined Single Limit (CSL) $1,000,000

   a. The policy shall be endorsed to include the following additional insured language: “The State of Arizona, its departments, agencies, boards, commissions, universities and its officers, officials, agents, and employees shall be named as additional insureds with respect to liability arising out of the activities performed by or on behalf of the Contractor”. Such additional insured shall be covered to the full limits of liability purchased by the Contractor, even if those limits of liability are in excess of those required by this Contract.
Two-Way Radio Contract

State of Arizona
State Procurement Office
100 N.15th Ave., Suite 201
Phoenix, AZ 85007

Description: Two-Way Radios

performed by or on behalf of the Contractor, involving automobiles owned, leased, hired or borrowed by the Contractor”. Such additional insured shall be covered to the full limits of liability purchased by the Contractor, even if those limits of liability are in excess of those required by this Contract.

b. Policy shall contain a waiver of subrogation endorsement in favor of the State of Arizona, its departments, agencies, boards, commissions, universities and its officers, officials, agents, and employees for losses arising from work performed by or on behalf of the Contractor.

c. Policy shall contain a severability of interests provision.

3. Worker's Compensation and Employers' Liability

Workers' Compensation

Employers' Liability

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a. Policy shall contain a waiver of subrogation endorsement in favor of the State of Arizona, its departments, agencies, boards, commissions, universities and its officers, officials, agents, and employees for losses arising from work performed by or on behalf of the Contractor.

b. This requirement shall not apply to: Separately, EACH contractor or subcontractor exempt under A.R.S. 23-901, AND when such contractor or subcontractor executes the appropriate waiver (Sole Proprietor/Independent Contractor) form.

B. ADDITIONAL INSURANCE REQUIREMENTS: The policies are to contain, or be endorsed to contain, the following provisions:

1. The Contractor's policies shall stipulate that the insurance afforded the contractor shall be primary insurance and that any insurance carried by the Department, its agents, officials, employees or the State of Arizona shall be excess and not contributory insurance, as provided by Arizona Revised Statutes Section 41-621 (C).

2. Coverage provided by the Contractor shall not be limited to the liability assumed under the indemnification provisions of this Contract.

C. NOTICE OF CANCELLATION: With the exception of (10) day notice of cancellation for non-payment of premium, any changes material to compliance with this contract in the insurance policies above shall require (30) days written notice to the State of Arizona. Such notice shall be sent directly to the Department and shall be sent by certified mail, return receipt requested.

D. ACCEPTABILITY OF INSURERS: Contractors insurance shall be placed with companies duly licensed in the State of Arizona or hold approved non-admitted status on the Arizona Department of Insurance List of Qualified Unauthorized Insurers. Insurers shall have an “A.M. Best” rating of not less that A- VII. The State of Arizona in no way warrants that the above-required minimum insurer rating is sufficient to protect the Contractor from potential insurer insolvency.

E. VERIFICATION OF COVERAGE: Contractor shall furnish the State of Arizona with certificates of insurance (ACORD form or equivalent approved by the State of Arizona) as required by this Contract. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf.

All certificates and endorsements are to be received and approved by the State of Arizona before work commences. Each insurance policy required by this Contract must be in effect at or prior to commencement of work under this Contract and remain in effect for the duration of the project. Failure to maintain the insurance policies as required by this Contract, or to provide evidence of renewal, is a material breach of contract.

All certificates required by this Contract shall be sent directly to the Department. The State of Arizona project/contract number and project description are to be noted on the certificate of insurance. The State of Arizona reserves the right to require complete copies of all insurance policies required by this Contract at any time.

F. SUBCONTRACTORS: Contractor's certificate(s) shall include all subcontractors as insureds under its policies or Contractor shall furnish to the State of Arizona separate certificates for each subcontractor. All coverages for subcontractors shall be subject to the minimum requirements identified above. Contractor may at its discretion furnish as partial coverage for a subcontractor, certificates with lesser limits of liability than the minimum amounts identified above, provided that Contractor also includes said subcontractor as insured under Contractor's insurance for all amounts exceeding such lesser limits of liability.
G. **APPROVAL:** Any modification or variation from the insurance requirements in this Contract shall be made by the contracting agency in consultation with the Department of Administration, Risk Management Division. Such action will not require a formal Contract amendment, but may be made by administrative action.

H. **EXCEPTIONS:** In the event the Contractor or sub-contractor(s) is/are a public entity, then the Insurance Requirements shall not apply. Such public entity shall provide a Certificate of Self-Insurance. If the contractor or sub-contractor(s) is/are a State of Arizona agency, board, commission, or university, none of the above shall apply.

22. **CONTRABAND.**

22.1 Any person who takes into or out of, or attempts to take into or out of a correctional facility or the grounds belonging to adjacent to a correctional facility, any item not specifically authorized by the correctional facility shall be prosecuted under the provisions of the Arizona Revised Statutes. All persons, including employees and visitors, entering upon these confines are subject to routine searches of their person, vehicles, property of packages.

22.2 DEFINITION - A.R.S. 13-2501: Contraband means any dangerous drug, narcotic drug, intoxication liquor of any kind, deadly weapon, dangerous instrument, explosive or any other article whose use or possession would endanger the safety, security, or preservation of order in a correctional institution or any person therein. (Any other article includes any substance which could cause abnormal behavior, i.e. marijuana, non-prescription medication, etc.)

22.3 PROMOTING PRISON CONTRABAND - A.R.S. 13-2505:

1. A person, not otherwise authorized by law, commits promoting prison contraband:
   A. By knowingly taking contraband into a correctional facility or the grounds of such a facility; or
   B. By knowingly conveying contraband to any person confined in a correctional facility; or
   C. By knowingly making, obtaining or possessing contraband while being confined in a correctional facility.

2. Promoting prison contraband is a Class 5 felony.

23. **LOBBYING.** The Contractor shall not engage in lobbying activities, as defined in 40 CFR part 34 and ARS §41-1231, etc., using monies awarded under this Contract. Upon award of this Contract, the Contractor shall disclose all lobbying activities to the State to the extent they are an actual or potential conflict of interest or where such activities would create an appearance of impropriety. The Contractor shall implement and maintain adequate controls to assure that monies awarded under this Contract shall not be used for lobbying. All proposed Subcontractors shall be subject to the same lobbying provisions stated above. The Contractor shall include anti-lobbying provisions in all Contracts with Subcontractors.

24. Termination for Convenience that “The Contractor shall be entitled to receive just and equitable compensation for work in progress, work completed and materials accepted before the effective date of the termination.” also apply to termination for non-appropriation of funds.

25. Subsections 3.7 Property of the State and 3.8 Ownership of Intellectual Property does not apply to this agreement.

26. The Contractor proposes that risk of loss pass upon delivery of equipment. As a publicly traded company, The Contractor must comply with U.S. Generally Accepted Accounting Principles (GAAP). GAAP requires the passage of risk of loss prior to a company recording a shipment as revenue on its income statement. The Contractor warrants any equipment found to be nonconforming upon inspection by authorized personnel at the Customer’s location will be covered under agreed to warranty provisions.

27. The Contractor complies subject to excess costs being reasonable and for materials and services not exceeding that specified in the contract less the unpaid portion of the contract price.

28. **EQUIPMENT WARRANTY.** During the Warranty Period, The Contractor warrants that the Equipment under normal use and service will be free from material defects in materials and workmanship. If System Acceptance is delayed beyond six (6) months after shipment of the Equipment by events or causes within Customer’s control, this warranty expires eighteen (18) months after the shipment of the Equipment.

28.1 **THE CONTRACTOR SOFTWARE WARRANTY.** Unless otherwise stated in the Software License Agreement, during the Warranty Period, The Contractor warrants the software in accordance with the terms of the Software License Agreement and the provisions of this Section 1 that are applicable to the Contractor’s Software. If System Acceptance is delayed beyond six (6) months after shipment of the Contractor’s Software by events or causes within Customer’s control, this warranty expires
eighteen (18) months after the shipment of the Contractor’s Software. TO THE EXTENT, IF ANY, THAT THERE IS A SEPARATE LICENSE AGREEMENT PACKAGED WITH, OR PROVIDED ELECTRONICALLY WITH, A PARTICULAR PRODUCT THAT BECOMES EFFECTIVE ON AN ACT OF ACCEPTANCE BY THE END USER, THEN THAT AGREEMENT SUPERCEDES THIS SOFTWARE LICENSE AGREEMENT AS TO THE END USER OF EACH SUCH PRODUCT.

28.2 EXCLUSIONS TO EQUIPMENT AND THE CONTRACTOR’S SOFTWARE WARRANTIES. These warranties do not apply to: (i) defects or damage resulting from: use of the Equipment or The Contractor Software in other than its normal, customary, and authorized manner; accident, liquids, neglect, or acts of God; testing, maintenance, disassembly, repair, installation, alteration, modification, or adjustment not provided or authorized in writing by The Contractor; Customer’s failure to comply with all applicable industry and OSHA standards; (ii) breakage of or damage to antennas unless caused directly by defects in material or workmanship; (iii) Equipment that has had the serial number removed or made illegible; (iv) batteries (because they carry their own separate limited warranty) or consumables; (v) freight costs to ship Equipment to the repair depot; (vi) scratches or other cosmetic damage to Equipment surfaces that does not affect the operation of the Equipment; and (vii) normal or customary wear and tear.

28.3 WARRANTY CLAIMS. To assert a warranty claim, Customer must notify The Contractor in writing of the claim before the expiration of the Warranty Period. Upon receipt of this notice, The Contractor will investigate the warranty claim. If this investigation confirms a valid warranty claim, The Contractor will (at its option and at no additional charge to Customer) repair the defective Equipment or The Contractor Software, replace it with the same or equivalent product, or refund the price of the defective Equipment or The Contractor Software. That action will be the full extent of The Contractor’s liability for the warranty claim. If this investigation indicates the warranty claim is not valid, then The Contractor may invoice Customer for responding to the claim on a time and materials basis using The Contractor’s then current labor rates. Repaired or replaced product is warranted for the balance of the original applicable warranty period. All replaced products or parts will become the property of The Contractor.

28.4 ORIGINAL END USER IS COVERED. These express limited warranties are extended by The Contractor to the original user purchasing the System for commercial, industrial, or governmental use only, and are not assignable or transferable.

28.4 DISCLAIMER OF OTHER WARRANTIES. THESE WARRANTIES ARE THE COMPLETE WARRANTIES FOR THE EQUIPMENT AND THE CONTRACTOR SOFTWARE PROVIDED UNDER THIS AGREEMENT AND ARE GIVEN IN LIEU OF ALL OTHER WARRANTIES. THE CONTRACTOR DISCLAIMS ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

28.5 “Warranty Period” means one (1) year from the date of System Acceptance or Beneficial Use, whichever occurs first.
UNIFORM TERMS AND CONDITIONS

1. Definition of Terms. As used in this Solicitation and any resulting Contract, the terms listed below are defined as follows:

1.1 “Attachment” means any item the Solicitation requires the Offeror to submit as part of the Offer.

1.2 “Contract” means the combination of the Solicitation, including the Uniform and Special Instructions to Offerors, the Uniform and Special Terms and Conditions, and the Specifications and Statement or Scope of Work; the Offer and any Best and Final Offers; and any Solicitation Amendments or Contract Amendments.

1.3 “Contract Amendment” means a written document signed by the Procurement Officer that is issued for the purpose of making changes in the Contract.

1.4 “Contractor” means any person who has a Contract with the State.

1.5 “Days” means calendar days unless otherwise specified.

1.6 “Exhibit” means any item labeled as an Exhibit in the Solicitation or placed in the Exhibits section of the Solicitation.

1.7 “Gratuity” means a payment, loan, subscription, advance, deposit of money, services, or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value is received.

1.8 “Materials” means all property, including equipment, supplies, printing, insurance and leases of property but does not include land, a permanent interest in land or real property or leasing space.

1.9 “Procurement Officer” means the person, or his or her designee, duly authorized by the State to enter into and administer Contracts and make written determinations with respect to the Contract.

1.10 “Services” means the furnishing of labor, time or effort by a contractor or subcontractor which does not involve the delivery of a specific end product other than required reports and performance, but does not include employment agreements or collective bargaining agreements.

1.11 “Subcontract” means any Contract, express or implied, between the Contractor and another party or between a subcontractor and another party delegating or assigning, in whole or in part, the making or furnishing of any material or any service required for the performance of the Contract.

1.12 “State” means the State of Arizona and Department or Agency of the State that executes the Contract.

1.13 “State Fiscal Year” means the period beginning with July 1 and ending June 30.

2 Contract Interpretation

2.1 Arizona Law. The Arizona law applies to this Contract including, where applicable, the Uniform Commercial Code as adopted by the State of Arizona and the Arizona Procurement Code, Arizona Revised Statutes (A.R.S.) Title 41, Chapter 23, and its implementing rules, Arizona Administrative Code (A.A.C.) Title 2, Chapter 7.

2.2 Implied Contract Terms. Each provision of law and any terms required by law to be in this Contract are a part of this Contract as if fully stated in it.
2.3 **Contract Order of Precedence.** In the event of a conflict in the provisions of the Contract, as accepted by the State and as they may be amended, the following shall prevail in the order set forth below:

- 2.3.1 Special Terms and Conditions;
- 2.3.2 Uniform Terms and Conditions;
- 2.3.3 Statement or Scope of Work;
- 2.3.4 Specifications;
- 2.3.5 Attachments;
- 2.3.6 Exhibits;
- 2.3.7 Documents referenced or included in the Solicitation.

2.4 **Relationship of Parties.** The Contractor under this Contract is an independent Contractor. Neither party to this Contract shall be deemed to be the employee or agent of the other party to the Contract.

2.5 **Severability.** The provisions of this Contract are severable. Any term or condition deemed illegal or invalid shall not affect any other term or condition of the Contract.

2.6 **No Parol Evidence.** This Contract is intended by the parties as a final and complete expression of their agreement. No course of prior dealings between the parties and no usage of the trade shall supplement or explain any terms used in this document and no other understanding either oral or in writing shall be binding.

2.7 **No Waiver.** Either party's failure to insist on strict performance of any term or condition of the Contract shall not be deemed a waiver of that term or condition even if the party accepting or acquiescing in the nonconforming performance knows of the nature of the performance and fails to object to it.

3 **Contract administration and operation.**

3.1 **Records.** Under A.R.S. § 35-214 and § 35-215, the Contractor shall retain and shall contractually require each subcontractor to retain all data and other “records” relating to the acquisition and performance of the Contract for a period of five years after the completion of the Contract. All records shall be subject to inspection and audit by the State at reasonable times. Upon request, the Contractor shall produce a legible copy of any or all such records.

3.2 **Non-Discrimination.** The Contractor shall comply with State Executive Order No. 2009-09 and all other applicable Federal and State laws, rules and regulations, including the Americans with Disabilities Act.

3.3 **Audit.** Pursuant to ARS § 35-214, at any time during the term of this Contract and five (5) years thereafter, the Contractor’s or any subcontractor’s books and records shall be subject to audit by the State and, where applicable, the Federal Government, to the extent that the books and records relate to the performance of the Contract or Subcontract.

3.4 **Facilities Inspection and Materials Testing.** The Contractor agrees to permit access to its facilities, subcontractor facilities and the Contractor’s processes or services, at reasonable times for inspection of the facilities or materials covered under this Contract. The State shall also have the right to test, at its own cost, the materials to be supplied under this Contract. Neither inspection of the Contractor’s facilities nor materials testing shall constitute final acceptance of the materials or services. If the State determines noncompliance of the materials, the Contractor shall be responsible for the payment of all costs incurred by the State for testing and inspection.

3.5 **Notices.** Notices to the Contractor required by this Contract shall be made by the State to the person indicated on the Offer and Acceptance form submitted by the Contractor unless otherwise stated in the Contract. Notices to the State required by the Contract shall be made by the Contractor to the Solicitation Contact Person indicated on the Solicitation cover sheet, unless otherwise stated in the Contract. An authorized Procurement Officer and an authorized Contractor representative may change their respective person to
whom notice shall be given by written notice to the other and an amendment to the Contract shall not be necessary.

3.6 Advertising, Publishing and Promotion of Contract. The Contractor shall not use, advertise or promote information for commercial benefit concerning this Contract without the prior written approval of the Procurement Officer.

3.7 Property of the State. Any materials, including reports, computer programs and other deliverables, created under this Contract are the sole property of the State. The Contractor is not entitled to a patent or copyright on those materials and may not transfer the patent or copyright to anyone else. The Contractor shall not use or release these materials without the prior written consent of the State.

3.8 Ownership of Intellectual Property
Any and all intellectual property, including but not limited to copyright, invention, trademark, trade name, service mark, and/or trade secrets created or conceived pursuant to or as a result of this contract and any related subcontract (“Intellectual Property”), shall be work made for hire and the State shall be considered the creator of such Intellectual Property. The agency, department, division, board or commission of the State of Arizona requesting the issuance of the contract shall own (for and on behalf of the State) the entire right, title and interest to the Intellectual Property throughout the world. Contractor shall notify the State, within thirty (30) days, of the creation of any Intellectual Property by it or its subcontractor(s). Contractor, on behalf of itself and any subcontractor(s), agrees to execute any and all document(s) necessary to assure ownership of the Intellectual Property vests in the State and shall take no affirmative actions that might have the effect of vesting all or part of the Intellectual Property in any entity other than the State. The Intellectual Property shall not be disclosed by contractor or its subcontractor(s) to any entity not the State without the express written authorization of the agency, department, division, board or commission of the State of Arizona requesting the issuance of this contract.

3.9 Federal Immigration and Nationality Act The Contractor shall comply with all federal, state, and local immigration laws and regulations relating to the immigration status of their employees during the term of the Contract. Further the contractor shall flow down this requirement to all subcontractors utilized during the term of the contract. The State shall retain the right to perform random audits of contractor and subcontractor records or to inspect papers or any employee thereof to ensure compliance. Should the State determine that the contractor and or any subcontractors be found noncompliant, the State may pursue all remedies allowed by law, including but not limited to; suspension of work, termination of the contract for default and suspension and or debarment of the contractor.

3.10 E-Verify Requirements In accordance with A.R.S 41-4401, Contractor warrants compliance with all Federal immigration laws and regulations relating to employees and warrants its compliance with A.R.S. 23-214, Subsection A.

3.11 Scrutinized Businesses In accordance with A.R.S. 35-391 and A.R.S. 35-393, Contractor certifies that the Contractor does not have scrutinized business operations in Sudan or Iran.

4 Costs and Payments

4.1 Payments. Payments shall comply with the requirements of A.R.S. Titles 35 and 41, Net 30 days. Upon receipt and acceptance of goods or services, the Contractor shall submit a complete and accurate invoice for payment from the State within thirty (30) days.

4.2 Delivery. Unless stated otherwise in the Contract, all prices shall be F.O.B. Destination and shall include all freight delivery and unloading at the destination.

4.3 Applicable Taxes.

4.3.1 Payment of Taxes. The Contractor shall be responsible for paying all applicable taxes.
4.3.2 **State and Local Transaction Privilege Taxes.** The State of Arizona is subject to all applicable state and local transaction privilege taxes. Transaction privilege taxes apply to the sale and are the responsibility of the seller to remit. Failure to collect such taxes from the buyer does not relieve the seller from its obligation to remit taxes.

4.3.3 **Tax Indemnification.** Contractor and all subcontractors shall pay all Federal, state and local taxes applicable to its operation and any persons employed by the Contractor. Contractor shall, and require all subcontractors to hold the State harmless from any responsibility for taxes, damages and interest, if applicable, contributions required under Federal, and/or state and local laws and regulations and any other costs including transaction privilege taxes, unemployment compensation insurance, Social Security and Worker's Compensation.

4.3.4 **IRS W9 Form.** In order to receive payment the Contractor shall have a current IRS W9 Form on file with the State of Arizona, unless not required by law.

4.4 **Availability of Funds for the Next State fiscal year.** Funds may not presently be available for performance under this Contract beyond the current state fiscal year. No legal liability on the part of the State for any payment may arise under this Contract beyond the current state fiscal year until funds are made available for performance of this Contract.

4.5 **Availability of Funds for the current State fiscal year.** Should the State Legislature enter back into session and reduce the appropriations or for any reason and these goods or services are not funded, the State may take any of the following actions:

- 4.5.1 Accept a decrease in price offered by the contractor
- 4.5.2 Cancel the Contract
- 4.5.3 Cancel the contract and re-solicit the requirements.

5 **Contract changes**

5.1 **Amendments.** This Contract is issued under the authority of the Procurement Officer who signed this Contract. The Contract may be modified only through a Contract Amendment within the scope of the Contract. Changes to the Contract, including the addition of work or materials, the revision of payment terms, or the substitution of work or materials, directed by a person who is not specifically authorized by the procurement officer in writing or made unilaterally by the Contractor are violations of the Contract and of applicable law. Such changes, including unauthorized written Contract Amendments shall be void and without effect, and the Contractor shall not be entitled to any claim under this Contract based on those changes.

5.2 **Subcontracts.** The Contractor shall not enter into any Subcontract under this Contract for the performance of this contract without the advance written approval of the Procurement Officer. The Contractor shall clearly list any proposed subcontractors and the subcontractor’s proposed responsibilities. The Subcontract shall incorporate by reference the terms and conditions of this Contract.

5.3 **Assignment and Delegation.** The Contractor shall not assign any right nor delegate any duty under this Contract without the prior written approval of the Procurement Officer. The State shall not unreasonably withhold approval.

6 **Risk and Liability**

6.1 **Risk of Loss.** The Contractor shall bear all loss of conforming material covered under this Contract until received by authorized personnel at the location designated in the purchase order or Contract. Mere receipt does not constitute final acceptance. The risk of loss for nonconforming materials shall remain with the Contractor regardless of receipt.

6.2 **Indemnification**
6.2.1 **Contractor/Vendor Indemnification (Not Public Agency)** The parties to this contract agree that the State of Arizona, its departments, agencies, boards and commissions shall be indemnified and held harmless by the contractor for the vicarious liability of the State as a result of entering into this contract. However, the parties further agree that the State of Arizona, its departments, agencies, boards and commissions shall be responsible for its own negligence. Each party to this contract is responsible for its own negligence.

6.2.2 **Public Agency Language Only** Each party (as ‘indemnitor’) agrees to indemnify, defend, and hold harmless the other party (as ‘indemnitee’) from and against any and all claims, losses, liability, costs, or expenses (including reasonable attorney's fees) (hereinafter collectively referred to as ‘claims’) arising out of bodily injury of any person (including death) or property damage but only to the extent that such claims which result in vicarious/derivative liability to the indemnitee, are caused by the act, omission, negligence, misconduct, or other fault of the indemnitor, its officers, officials, agents, employees, or volunteers."

6.3 **Indemnification - Patent and Copyright.** The Contractor shall indemnify and hold harmless the State against any liability, including costs and expenses, for infringement of any patent, trademark or copyright arising out of Contract performance or use by the State of materials furnished or work performed under this Contract. The State shall reasonably notify the Contractor of any claim for which it may be liable under this paragraph. If the contractor is insured pursuant to A.R.S. § 41-621 and § 35-154, this section shall not apply.

6.4 **Force Majeure.**

6.4.1 **Except for payment of sums due,** neither party shall be liable to the other nor deemed in default under this Contract if and to the extent that such party’s performance of this Contract is prevented by reason of force majeure. The term “force majeure” means an occurrence that is beyond the control of the party affected and occurs without its fault or negligence. Without limiting the foregoing, force majeure includes acts of God; acts of the public enemy; war; riots; strikes; mobilization; labor disputes; civil disorders; fire; flood; lockouts; injunctions-intervention acts; or failures or refusals to act by government authority; and other similar occurrences beyond the control of the party declaring force majeure which such party is unable to prevent by exercising reasonable diligence.

6.4.2 **Force Majeure shall not include the following occurrences:**

6.4.2.1 Late delivery of equipment or materials caused by congestion at a manufacturer's plant or elsewhere, or an oversold condition of the market;

6.4.2.2 Late performance by a subcontractor unless the delay arises out of a force majeure occurrence in accordance with this force majeure term and condition; or

6.4.2.3 Inability of either the Contractor or any subcontractor to acquire or maintain any required insurance, bonds, licenses or permits.

6.4.3 **If either party is delayed at any time in the progress of the work by force majeure,** the delayed party shall notify the other party in writing of such delay, as soon as is practicable and no later than the following working day, of the commencement thereof and shall specify the causes of such delay in such notice. Such notice shall be delivered or mailed certified return receipt and shall make a specific reference to this article, thereby invoking its provisions. The delayed party shall cause such delay to cease as soon as practicable and shall notify the other party in writing when it has done so. The time of completion shall be extended by Contract Amendment for a period of time equal to the time that results or effects of such delay prevent the delayed party from performing in accordance with this Contract.

6.4.4 **Any delay or failure in performance by either party hereto shall not constitute default hereunder or give rise to any claim for damages or loss of anticipated profits if,** and to the extent that such delay or failure is caused by force majeure.
6.5 Third Party Antitrust Violations. The Contractor assigns to the State any claim for overcharges resulting from antitrust violations to the extent that those violations concern materials or services supplied by third parties to the Contractor, toward fulfillment of this Contract.

7 Warranties

7.1 Liens. The Contractor warrants that the materials supplied under this Contract are free of liens and shall remain free of liens.

7.2 Quality. Unless otherwise modified elsewhere in these terms and conditions, the Contractor warrants that, for one year after acceptance by the State of the materials, they shall be:

- Of a quality to pass without objection in the trade under the Contract description;
- Fit for the intended purposes for which the materials are used;
- Within the variations permitted by the Contract and are of even kind, quantity, and quality within each unit and among all units;
- Adequately contained, packaged and marked as the Contract may require; and
- Conform to the written promises or affirmations of fact made by the Contractor.

7.3 Fitness. The Contractor warrants that any material supplied to the State shall fully conform to all requirements of the Contract and all representations of the Contractor, and shall be fit for all purposes and uses required by the Contract.

7.4 Inspection/Testing. The warranties set forth in subparagraphs 7.1 through 7.3 of this paragraph are not affected by inspection or testing of or payment for the materials by the State.

7.5 Compliance With Applicable Laws. The materials and services supplied under this Contract shall comply with all applicable Federal, state and local laws, and the Contractor shall maintain all applicable licenses and permit requirements.

7.6 Survival of Rights and Obligations after Contract Expiration or Termination.

7.6.1 Contractor's Representations and Warranties. All representations and warranties made by the Contractor under this Contract shall survive the expiration or termination hereof. In addition, the parties hereto acknowledge that pursuant to A.R.S. § 12-510, except as provided in A.R.S. § 12-529, the State is not subject to or barred by any limitations of actions prescribed in A.R.S., Title 12, Chapter 5.

7.6.2 Purchase Orders. The Contractor shall, in accordance with all terms and conditions of the Contract, fully perform and shall be obligated to comply with all purchase orders received by the Contractor prior to the expiration or termination hereof, unless otherwise directed in writing by the Procurement Officer, including, without limitation, all purchase orders received prior to but not fully performed and satisfied at the expiration or termination of this Contract.

8 State's Contractual Remedies

8.1 Right to Assurance. If the State in good faith has reason to believe that the Contractor does not intend to, or is unable to perform or continue performing under this Contract, the Procurement Officer may demand in writing that the Contractor give a written assurance of intent to perform. Failure by the Contractor to provide written assurance within the number of Days specified in the demand may, at the State’s option, be the basis for
terminating the Contract under the Uniform Terms and Conditions or other rights and remedies available by law or provided by the contract.

8.2 **Stop Work Order.**

8.2.1 The State may, at any time, by written order to the Contractor, require the Contractor to stop all or any part, of the work called for by this Contract for period(s) of days indicated by the State after the order is delivered to the Contractor. The order shall be specifically identified as a stop work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage.

8.2.2 If a stop work order issued under this clause is canceled or the period of the order or any extension expires, the Contractor shall resume work. The Procurement Officer shall make an equitable adjustment in the delivery schedule or Contract price, or both, and the Contract shall be amended in writing accordingly.

8.3 **Non-exclusive Remedies.** The rights and the remedies of the State under this Contract are not exclusive.

8.4 **Nonconforming Tender.** Materials or services supplied under this Contract shall fully comply with the Contract. The delivery of materials or services or a portion of the materials or services that do not fully comply constitutes a breach of contract. On delivery of nonconforming materials or services, the State may terminate the Contract for default under applicable termination clauses in the Contract, exercise any of its rights and remedies under the Uniform Commercial Code, or pursue any other right or remedy available to it.

8.5 **Right of Offset.** The State shall be entitled to offset against any sums due the Contractor, any expenses or costs incurred by the State, or damages assessed by the State concerning the Contractor's non-conforming performance or failure to perform the Contract, including expenses, costs and damages described in the Uniform Terms and Conditions.

9 **Contract Termination**

9.1 **Cancellation for Conflict of Interest.** Pursuant to A.R.S. § 38-511, the State may cancel this Contract within three (3) years after Contract execution without penalty or further obligation if any person significantly involved in initiating, negotiating, securing, drafting or creating the Contract on behalf of the State is or becomes at any time while the Contract or an extension of the Contract is in effect an employee of or a consultant to any other party to this Contract with respect to the subject matter of the Contract. The cancellation shall be effective when the Contractor receives written notice of the cancellation unless the notice specifies a later time. If the Contractor is a political subdivision of the State, it may also cancel this Contract as provided in A.R.S. § 38-511.

9.2 **Gratuities.** The State may, by written notice, terminate this Contract, in whole or in part, if the State determines that employment or a Gratuity was offered or made by the Contractor or a representative of the Contractor to any officer or employee of the State for the purpose of influencing the outcome of the procurement or securing the Contract, an amendment to the Contract, or favorable treatment concerning the Contract, including the making of any determination or decision about contract performance. The State, in addition to any other rights or remedies, shall be entitled to recover exemplary damages in the amount of three times the value of the Gratuity offered by the Contractor.

9.3 **Suspension or Debarment.** The State may, by written notice to the Contractor, immediately terminate this Contract if the State determines that the Contractor has been debarred, suspended or otherwise lawfully prohibited from participating in any public procurement activity, including but not limited to, being disapproved as a subcontractor of any public procurement unit or other governmental body. Submittal of an offer or execution of a contract shall attest that the contractor is not currently suspended or debarred. If the contractor becomes suspended or debarred, the contractor shall immediately notify the State.
9.4 **Termination for Convenience.** The State reserves the right to terminate the Contract, in whole or in part at any time, when in the best interests of the State without penalty or recourse. Upon receipt of the written notice, the Contractor shall stop all work, as directed in the notice, notify all subcontractors of the effective date of the termination and minimize all further costs to the State. In the event of termination under this paragraph, all documents, data and reports prepared by the Contractor under the Contract shall become the property of and be delivered to the State upon demand. The Contractor shall be entitled to receive just and equitable compensation for work in progress, work completed and materials accepted before the effective date of the termination. The cost principles and procedures provided in A.A.C. R2-7-701 shall apply.

9.5 **Termination for Default**

9.5.1 In addition to the rights reserved in the contract, the State may terminate the Contract in whole or in part due to the failure of the Contractor to comply with any term or condition of the Contract, to acquire and maintain all required insurance policies, bonds, licenses and permits, or to make satisfactory progress in performing the Contract. The Procurement Officer shall provide written notice of the termination and the reasons for it to the Contractor.

9.5.2 Upon termination under this paragraph, all goods, materials, documents, data and reports prepared by the Contractor under the Contract shall become the property of and be delivered to the State on demand.

9.5.3 The State may, upon termination of this Contract, procure, on terms and in the manner that it deems appropriate, materials or services to replace those under this Contract. The Contractor shall be liable to the State for any excess costs incurred by the State in procuring materials or services in substitution for those due from the Contractor.

9.6 **Continuation of Performance Through Termination.** The Contractor shall continue to perform, in accordance with the requirements of the Contract, up to the date of termination, as directed in the termination notice.

10 **Contract Claims.** All contract claims or controversies under this Contract shall be resolved according to A.R.S. Title 41, Chapter 23, Article 9, and rules adopted thereunder.

11 **Arbitration.** The parties to this Contract agree to resolve all disputes arising out of or relating to this contract through arbitration, after exhausting applicable administrative review, to the extent required by A.R.S. § 12-1518, except as may be required by other applicable statutes (Title 41).

12 **Comments Welcome.** The State Procurement Office periodically reviews the Uniform Terms and Conditions and welcomes any comments you may have. Please submit your comments to: State Procurement Administrator, State Procurement Office, 100 North 15th Avenue, Suite 201, Phoenix, Arizona 85007.
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Solicitation No.: ADSPO13-00002133
Motorola – Change Log
To
Radio Dispatch Consoles
Solicitation No.: ADSPO13-00002133

The following are the changes that Motorola Solutions, Inc, is submitting to our original proposal submitted on September 27, 2012.

Motorola’s Proposal is subject to the terms and conditions of its attached and incorporated Communications System Agreement (“CSA”).

Sentence Removed

Special Terms and Conditions

Section 7   Subcontracts

EXCEPTION — Motorola reserves the right to utilize subcontractors in performance of the contract, and Motorola’s prices are predicated on the use of its choice of subcontractors without advance notice and approval of the Procurement Officer.

Exception removed

Section 10   Billing

EXCEPTION — Motorola invoices will not include delivery time or contract number.

Exception removed

Section 14   Appropriations of Funds

EXCEPTION — Motorola shall be entitled to receive just and equitable compensation for work in progress, work completed and materials accepted before the effective date of the termination.

Exception removed and replaced with:

Motorola requests that the provision of the Uniform Terms and Conditions in Section 9.4 – Termination for Convenience that “The Contractor shall be entitled to receive just and equitable compensation for work in progress, work completed and materials accepted before the effective date of the termination.” also apply to termination for non-appropriation of funds.
Section 19 Billing

EXCEPTION Motorola takes the same exception as in Section 10 Billings above.
Exception removed

Section 21 Insurance

Subsection 21.1 Indemnification

CLARIFICATION — Motorola will provide indemnification as set forth in Section 13 of its CSA.
Clarification removed and replaced with:

Motorola complies subject to removing the words “or intangible” and “arising or recovered under the Worker’s Compensation Law”.

Motorola believes that Workers Compensation is provided for and covered in Subsection 21.2, please see below.

Subsections 21.2 A through H Insurance Requirements
The following language is added:

The parties have previously negotiated an insurance module in the Arizona Department of Transportation Solicitation # T11-43-00008 and Motorola’s Corporate Insurance Department believes that the changes it has made to this section, which are in line with what has been previously negotiated and agreed upon between the State and Motorola.

Uniform Terms and Conditions

Motorola’s Proposal is subject to the terms and conditions of its attached and incorporated CSA.
Sentence Removed

Section 1 Definition of Terms

Subsection 1.2 “Contract”

CLARIFICATION — The definition of “Contract” also includes — Motorola’s clarifications and exceptions to this Request for Proposal, Solicitation No.: ADSPO13-00002130.
Section 2. Contract Interpretation

Subsection 2.3 Contract Order of Precedence

CLARIFICATION—Items 2.3.1 and 2.3.2 include Motorola’s clarifications and exceptions to this Request for Proposal, Solicitation No.: ADSPO13-00002130.

Clarification removed

Section 3. Contract Administration and Operation

Subsection 3.1 Records

CLARIFICATION—Motorola acknowledges that the State has the right to inspect certain Motorola books and records for the purpose of verifying performance in accordance with the terms of the contract. The State's inspection is limited to the verification of shipment to invoice quantities and shipment receipts. After the State provides thirty days' written notice, the State may send a representative to a Motorola facility during normal business hours to conduct such limited review, or at the State’s request Motorola will provide copies of the specific documents to the State’s location for its review. Motorola books and records provided to the State pursuant to this provision shall not be used, duplicated or disclosed to any other third party without the express written permission of Motorola. In no circumstances will Motorola be required to create or maintain documents not kept in the ordinary course of Motorola’s business operations, nor will Motorola be required to disclose any information, including but not limited to product cost data, which it considers confidential or proprietary to Motorola.

Clarification removed and replaced with:

Motorola understands and will comply with all applicable Arizona statutes. Motorola considers its books and records, including those related to product cost data, to be trade secrets, confidential or proprietary and as may be provided by Arizona law should not be used, duplicated or disclosed to any other third party.

Subsection 3.3 Audit
CLARIFICATION—Motorola makes the same clarification as to—
Subsection 3.1—Records above.
Clarification removed and replaced with:

Motorola understands and will comply with all applicable Arizona statutes. Motorola considers its books and records, including those related to product cost data, to be trade secrets, confidential or proprietary and as may be provided by Arizona law should not be used, duplicated or disclosed to any other third party.

Subsection 3.4 Facilities Inspection and Materials Testing

CLARIFICATION—Motorola acknowledges the State’s right to—
inspect materials, equipment and workmanship at Motorola's manufacturing or staging facilities for the limited purpose of —— evaluating Motorola’s performance of the contract. The State must provide Motorola thirty days’ written notice prior to the inspection— of any facility and will be responsible for its own costs associated— with such inspection(s). Motorola will restrict inspection of its— facilities to normal business hours, to areas that are relevant to the— performance of the contract, and to areas which Motorola does not— consider confidential or proprietary in nature. A Motorola— representative must accompany the State’s employees at all times.
Clarification removed and replaced with:

Motorola understands and will comply. Motorola considers certain areas of its facilities to be confidential or proprietary in nature.

Subsections 3.7 Property of the State and 3.8 Ownership of Intellectual Property

EXCEPTION Ownership of intellectual property will be as —— provided for in Motorola’s CSA.
Exception removed and replaced with:

It is Motorola’s understanding from discussions with the State Procurement Office that the State is not interested in obtaining ownership interest in any intellectual property and accordingly, these sections, or any other section that may give ownership rights in intellectual property, are not applicable and of no cause and effect in this contract.

Subsection 3.9 Federal Immigration and Nationality Act
CLARIFICATION—Regarding any audits under no circumstances will Motorola be required to create or maintain documents not kept in the ordinary course of Motorola’s business operations, nor will Motorola be required to disclose any information, including but not limited to product cost data, which it considers confidential or proprietary to Motorola.

Exception removed

Section 5. Contract Changes

Subsection 5.2 Subcontracts

EXCEPTION Motorola reserves the right to utilize subcontractors in performance of the contract, and Motorola’s prices are based on the use of its choice of subcontractors without advance notice and approval of the Procurement Officer.

Exception removed

Section 6. Risk and Liability

Subsection 6.1 Risk of Loss

EXCEPTION Title and risk of loss will be as set forth in Section 5.3 of Motorola’s CSA.

Exception language removed and replaced with:

Motorola proposes that risk of loss pass upon delivery of equipment. As a publicly traded company, Motorola must comply with U.S. Generally Accepted Accounting Principles (GAAP). GAAP requires the passage of risk of loss prior to a company recording a shipment as revenue on its income statement. Motorola warrants any equipment found to be nonconforming upon inspection by authorized personnel at the Customer’s location will be covered under agreed to warranty provisions.

Subsection 6.2 Indemnification

EXCEPTION Indemnification will be as set forth in Section 13 of Motorola’s CSA.

Exception language removed and replaced with:

Motorola proposes that all indemnification be handled as provided for in Subsection 21.1-Indemnification of the Special Terms and Conditions.

Subsection 6.3 Indemnification – Patent and Copyright
EXCEPTION: Patent and copyright indemnification will be as set forth in Section 13 of Motorola’s CSA. Exception language removed and replaced with:

Motorola proposes that all indemnification be handled as provided for in Subsection 21.1-Indemnification of the Special Terms and Conditions.

Section 7 Warranties

Subsection 7.3 Fitness

EXCEPTION: Motorola disclaims all warranties not specifically provided for in its CSA, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Exception language removed and replaced with:

Subsections 7.2 Quality and 7.3 Fitness

Please see the Additional Provisions below which explain Motorola’s suggested way to address warranty which is in a like manner as in the current contracts between the parties for similar products; (i) Solicitation # AD050017-A5, and (ii) Arizona Department of Transportation Solicitation EPS060066-A4 Motorola Radio System Upgrade and Replacement Project dates September 2, 2010.

Subsection 7.6 Survival of Rights and Obligations after Contract Expiration or Termination

CLARIFICATION: Motorola proposes that survival of terms of the contract be handled as provided for in Motorola’s CSA. Clarification removed

Section 9 Contract Termination

Subsection 9.4 Termination for Convenience

CLARIFICATION: Ownership of intellectual property will be as provided for in Motorola’s CSA. Clarification removed

Subsection 9.5.2
CLARIFICATION — Ownership of intellectual property will be as provided for in Motorola’s CSA.
Clarification removed

Subsection 9.5.3

CLARIFICATION — Remedies for default will be handled as provided for in Motorola’s CSA.
Clarification removed and replaced with:

Motorola complies subject to excess costs being reasonable and for materials and services not exceeding that specified in the contract less the unpaid portion of the contract price.

Section 11 Arbitration

CLARIFICATION — Motorola only agrees to arbitration as required in A.R.S. sec. 12-1518(C).
Clarification removed

Special Instructions to Offerors

Section 4.6 Insurance

CLARIFICATION — Motorola will submit a Memorandum of Insurance.
Clarification removed

Section 4.9 Exceptions

CLARIFICATION — The RFP does not contain an Attachment G as is stated. Motorola has handled its exceptions as provided for in Section C. Offer Preparation, Subsection 4. Exceptions to Terms and Conditions in the Uniform Instructions to Offerors.
Clarification removed

Uniform Instructions to Offerors

Section C. Offer Preparation

Subsection 11. Solicitation Order of Precedence
 Clarification removed

Subsection 14. Federal Immigration and Nationality Act

Clarification removed

Additional Provisions

A. For purposes of showing precedence and the parties past course of doing business, Solicitation # AD050017-A5 and the Arizona Department of Transportation Solicitation EPS060066-A4 Motorola Radio System Upgrade and Replacement Project dates September 2, 2010, which are the current contracts between the parties for similar products, contain Additional Provisions for limitation of liability and warranty. These contracts also contain some clarifications such as we have made above. With this in mind, Motorola proposes for the State’s consideration the inclusion of the following items:

1.1 EQUIPMENT WARRANTY. During the Warranty Period, Motorola warrants that the Equipment under normal use and service will be free from material defects in materials and workmanship. If System Acceptance is delayed beyond six (6) months after shipment of the Equipment by events or causes within Customer’s control, this warranty expires eighteen (18) months after the shipment of the Equipment.

1.2 MOTOROLA SOFTWARE WARRANTY. Unless otherwise stated in the Software License Agreement, during the Warranty Period, Motorola warrants the Motorola Software in accordance with the terms of the Software License Agreement and the provisions of this Section 1 that are applicable to the Motorola Software. If System Acceptance is delayed beyond six (6) months after shipment of the Motorola Software by events or causes within Customer’s control, this warranty expires eighteen (18) months after the shipment of the Motorola Software. TO THE EXTENT, IF ANY, THAT THERE IS A SEPARATE LICENSE AGREEMENT PACKAGED WITH, OR PROVIDED ELECTRONICALLY WITH, A PARTICULAR PRODUCT THAT BECOMES EFFECTIVE ON AN ACT OF ACCEPTANCE BY THE END USER, THEN THAT AGREEMENT SUPERCEDES THIS SOFTWARE LICENSE AGREEMENT AS TO THE END USER OF EACH SUCH PRODUCT.

1.3 EXCLUSIONS TO EQUIPMENT AND MOTOROLA SOFTWARE WARRANTIES. These warranties do not apply to: (i) defects or damage resulting from: use of the Equipment or Motorola Software in other than its normal, customary, and authorized manner; accident, liquids, neglect, or acts of God; testing, maintenance, disassembly, repair, installation, alteration,
modification, or adjustment not provided or authorized in writing by Motorola; Customer’s failure to comply with all applicable industry and OSHA standards; (ii) breakage of or damage to antennas unless caused directly by defects in material or workmanship; (iii) Equipment that has had the serial number removed or made illegible; (iv) batteries (because they carry their own separate limited warranty) or consumables; (v) freight costs to ship Equipment to the repair depot; (vi) scratches or other cosmetic damage to Equipment surfaces that does not affect the operation of the Equipment; and (vii) normal or customary wear and tear.

1.4. WARRANTY CLAIMS. To assert a warranty claim, Customer must notify Motorola in writing of the claim before the expiration of the Warranty Period. Upon receipt of this notice, Motorola will investigate the warranty claim. If this investigation confirms a valid warranty claim, Motorola will (at its option and at no additional charge to Customer) repair the defective Equipment or Motorola Software, replace it with the same or equivalent product, or refund the price of the defective Equipment or Motorola Software. That action will be the full extent of Motorola’s liability for the warranty claim. If this investigation indicates the warranty claim is not valid, then Motorola may invoice Customer for responding to the claim on a time and materials basis using Motorola’s then current labor rates. Repaired or replaced product is warranted for the balance of the original applicable warranty period. All replaced products or parts will become the property of Motorola.

1.5. ORIGINAL END USER IS COVERED. These express limited warranties are extended by Motorola to the original user purchasing the System for commercial, industrial, or governmental use only, and are not assignable or transferable.

1.6. DISCLAIMER OF OTHER WARRANTIES. THESE WARRANTIES ARE THE COMPLETE WARRANTIES FOR THE EQUIPMENT AND MOTOROLA SOFTWARE PROVIDED UNDER THIS AGREEMENT AND ARE GIVEN IN LIEU OF ALL OTHER WARRANTIES. MOTOROLA DISCLAIMS ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

“Warranty Period” means one (1) year from the date of System Acceptance or Beneficial Use, whichever occurs first.

LIMITATION OF LIABILITY

This limitation of liability provision shall apply notwithstanding any contrary provision in this Agreement. Except for personal injury or death, Motorola's total liability, whether for breach of contract, warranty, negligence, strict liability in tort, indemnification, or otherwise, will be limited to the direct damages recoverable under law, but not to exceed the price of the Equipment, Software, or services with respect to which losses or damages are claimed. ALTHOUGH THE PARTIES ACKNOWLEDGE THE POSSIBILITY OF SUCH LOSSES OR DAMAGES, THEY AGREE THAT MOTOROLA WILL NOT BE LIABLE FOR ANY COMMERCIAL LOSS; INCONVENIENCE; LOSS OF USE, TIME, DATA, GOOD WILL, REVENUES, PROFITS OR SAVINGS; OR OTHER SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES IN ANY WAY RELATED TO OR ARISING FROM THIS AGREEMENT, THE SALE OR USE OF THE EQUIPMENT OR SOFTWARE, OR THE PERFORMANCE OF SERVICES BY MOTOROLA PURSUANT TO THIS AGREEMENT. This limitation of liability will survive the expiration or termination of this Agreement.
B. SOFTWARE LICENCE AGREEMENT: For the purposes of showing precedence and the parties past course of doing business, in the Arizona Department of Transportation Solicitation # T11-43-00008 contract dated September 2, 2010, the State of Arizona’s Attorney General agreed to an additional provision that provided for licensing of software in accordance with Motorola’s Software License Agreement. With this in mind, Motorola’s Software License Agreement is attached and proposed for inclusion in the contract.

It is Motorola’s understanding with the State Procurement Office that the items in this Change Log and any other clarifications or exceptions made by Motorola and accepted by the State will be included and considered as a part of the Special Terms and Conditions of the contract.