

CITY OF YANKTON SOUTH DAKOTA

Request for Bids

Land Mobile Radio Subscriber Equipment



06/13/16

**CITY OF YANKTON
INFORMATION & TECHNOLOGY SERVICES
LAND MOBILE RADIO SUBSCRIBER EQUIPMENT**

ANNOUNCEMENT

Attention: Contractors, Suppliers & Manufacturers

The City of Yankton is requesting bids for the following equipment:

Furnish, program and install new land mobile radio subscriber equipment in accordance with the attached Specifications.

Bids Close 4:00 P.M. Friday, June 24, 2016.

BIDS:

Bids shall be submitted as follows to the PURCHASER:

1. Electronic to PURCHASER : D.Johnson@cityofyankton.org
 - a. Single Adobe Acrobat file of complete response, to include;
 - i. Bid Item Schedule, signed electronically or pen & ink and scanned,

The City of Yankton reserves the right to accept or reject any or all bids, to adjust quantities or delete items partially or in their entirety and waive minor irregularities in its best interests.

Purchasers Detailed Terms & Conditions

1. GENERAL: This section provides detailed terms & conditions of the PURCHASER.
2. PURCHASER: The PURCHASER is The City of Yankton, South Dakota.
3. PROJECT ADMINISTRATOR: The PROJECT ADMINISTRATOR is Information & Technology Services Director Duane Johnson. D.Johnson@cityofyankton.org.
4. CONSULTANT: The CONSULTANT to the PURCHASER is G.J.Therkelsen & Associates, Inc. gary@gjtherkelsen.com
5. STATE: The STATE is South Dakota. All references to STATE, STATE laws or regulations shall mean those of South Dakota.
6. BID DOCUMENTS: BIDDERS shall submit signed bids electronically.
7. SALES TAX: The PURCHASER is exempt from STATE sales tax.
8. OTHER TAX: Any other tax that the PURCHASER may be liable for shall be included and tabulated in the BID or PROPOSAL.
9. ACCEPT OR REJECT: The PURCHASER reserves the right to reject or accept any or all BIDS or PROPOSALS.
10. WAIVER: The PURCHASER reserves the right to waive minor irregularities in BIDS or PROPOSALS.

SPECIFICATIONS

1. **GENERAL:** This document defines the minimum acceptable requirements for subscriber radios to be purchased by the Yankton Police Department. The department currently operates on an 800 MHz EDACS trunking system. The existing fleet of mobile and portable radios is aged and requires replacement. The City intends to construct a replacement for the EDACS system with an 800 MHz APCO P-25 network. This subscriber purchase is intended to allow the department to continue to operate on the EDACS network until it's replacement is constructed.
2. **BAND OF OPERATION:** 800 MHz
3. **MODES OF OPERATION:**
 - 3.1. Analog Conventional
 - 3.2. EDACS Trunking
 - 3.3. P-25 Conventional
 - 3.4. P-25 Trunking
4. **MINIMUM POWER:**
 - 4.1. Mobile: 25 Watts
 - 4.2. Portable: 2 Watts
5. **ANTENNA:** 1/4 Wave. Threaded.
6. **SOLID STATE:** All radios shall contain solid state devices. Relays if used, shall be limited to antenna change over operation and rated for a minimum of one million operations and easily replaced. All radios shall use the latest design techniques, high VSWR protection, metal or high impact cases and covers and extensive use of chip capacitors and integrated circuits.
7. **MILITARY STANDARD 810:** Subscribers shall comply with the current provisions of Military Standard 810 in the following categories:
 - 7.1. Shock

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- 7.2. Humidity
- 7.3. Driven rain
- 7.4. Vibration
- 7.5. Fog

8. **BANDWIDTH:** Radios shall transmit and receive on any valid frequency within the 800 MHz band without degradation. Bidders shall certify compliance.

MANDATORY RESPONSE REQUIRED

9. **OPERATING TEMPERATURE:** All radios must operate without performance degradations over the temperature range of 30°C to 60°C with specifications referenced to a nominal +25°C.
10. **DUTY CYCLE:** Subscriber radios shall be rated TIA/EIA Intermittent Duty. Intermittent Duty means a duty cycle of 20% transmit and 80% receive or stand-by without power reductions, becoming spurious or overheating.
11. **CODED SQUELCH:** If configured to operated on conventional channel(s), all subscriber radios shall be equipped for programming both tone (CTCSS) and digital (CDCSS.) Subscriber radios shall be capable of a different encode and decode tone/code on each channel.
12. **HOUSING COLOR:** Black.
13. **PROGRAMMABLE:** Key parameters shall be programmable. Contractor shall furnish customer with paper and electronic copies of all radio personality files.
- 13.1. Transmit frequency
 - 13.2. Time-Out-Timer; Programmable set to 60 seconds.
 - 13.3. Transmit coded squelch
 - 13.4. Transmit power
 - 13.5. Receive frequency
 - 13.6. Receive coded squelch
 - 13.7. Scan functionality
 - 13.8. Display
 - 13.9. Audible Alerts

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- 13.10. Bandwidth
- 13.11. EDACS trunking parameters
- 13.12. APCO P-25 trunking parameters

14. TALK-GROUP SCAN: All subscriber radios shall be provided with talk-group scan or channel scan for conventional channels. Scan function is expected to be public safety grade. This means high speed scanning of talk-groups or channels with look back sampling sufficiently fast to not disrupt the signals on non-priority signals received. Priority traffic is expected to be quickly presented to the user.

The subscriber radios are not expected to be capable of scanning across conventional and EDACS trunking simultaneously.

14.1. **PRIORITY RECEIVE:** The channel or talk-group selected for transmit shall be priority if the radio is scanning.

- 14.1.1. User shall be provided with indication if received channel is a priority channel.
- 14.1.2. If a Priority 2 function is available, the CONTRACTOR shall only program in accordance with direction of CONSULTANT.
- 14.1.3. The radios shall sample the priority channel with enough frequency to ensure that nearly no syllables are lost.

14.2. **CODED SQUELCH:** Radios operated in the conventional mode shall scan employing coded squelch if programmed. Scanning shall not pause unless both the receive frequency and coded squelch are correct. Bidders shall certify compliance with this sub-paragraph.

MANDATORY RESPONSE REQUIRED

14.3. **TALK-BACK SCAN NOT PERMITTED:** Unless otherwise required.

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- 14.4. SCAN LIST: The CONTRACTOR shall assist the PURCHASER and CONSULTANT in developing a scan list that supports the PURCHASER's requirements within the capabilities of the radio.
 - 14.4.1. Scan function shall be capable of being enabled or disabled through programming.

- 14.5. SCANNING CONTROLS: Subscriber radios shall have the following minimum controls:
 - 14.5.1. Scan ON / OFF
 - 14.5.2. Add / Delete from scan list
 - 14.5.3. Priority indication

- 14.6. DISPLAY: When radio is operating in receiver scan mode, channel being received shall be displayed in the alpha numeric display.

- 15. DISPLAYS:** Subscribers shall clearly and concisely provide visual indication of their status and talk group / channel selection.
 - 15.1. READABILITY: Display shall be clearly readable over a viewing range of direct on to +/-60 degrees either side of direct even in bright sun or artificial light.

 - 15.2. CHARACTERS: The display shall present talk-group or channel names and or numbers selected or received in the scan mode. A minimum of 7 characters is required. Other controls and displays shall be continuously back lit. Portable displays shall be back lit when changing a function or if timed out.

 - 15.3. TEMPERATURE EXTREMES: Displays shall not diminish within the operating temperature range of the equipment.

 - 15.4. SIZE: The characters in the display used to indicate talkgroup or channels names or numbers shall be of sufficient size and contrast to be readable at 30 inches by a mobile user and 15 inches by a portable user with normal or corrected (20/20) vision.

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- 15.5. **MUTUAL AID CHANNELS:** In addition to the PURCHASER's EDACS talk-groups, the National Public Safety Planning Advisory Committee (NPSPAC) channels for the 800 MHz band shall be programmed. The alpha numeric display shall be programmed in accordance with the naming requirements of the plan.
16. **AUDIBULE INDICATORS:** Prior to programming subscribers, the CONTRACTOR shall coordinate with PURCHASER the provision or elimination of any optional audible alerts.
17. **AUDIO OUTPUT:** Minimum audio speaker output shall be:
- 17.1. Mobile: 5 watts.
17.2. Portable: 0.5 watts.
18. **ENCRYPTION:** Subscriber radios shall be equipped with the following encryption capabilities:
- 18.1. EDACS Mode: ProVoice
18.2. APCO P-25: DES Single Key
19. **SUPPORT:**
- 19.1. **WARRANTY:** Minimum 1 calendar year following acceptance by the PURCHASER to include all parts and labor
- 19.2. **AUTHORIZED TO SELL:** Bidders shall provide proof of authority by the manufacturer to sell products offered.
- 19.3. **AUTHORIZED TO SERVICE:** Bidders shall provide proof of authority by the manufacturer to service products offered.
- 19.4. **UNITED STATES FACTORY SUPPORT:** The manufacturer of the subscriber must employ factory product support technicians or engineers within the United States.

MANDATORY RESPONSE REQUIRED
16.1 through 16.4

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- 20. EXTRANEOUS TRANSMISSIONS:** Subscribers shall be programmed to prevent or eliminate any automatic transmission of tones, or unmodulated carrier on power up, other than system registration or affiliation.
- 21. MANUALS:** One set of technical manuals shall be provided to the PURCHASER for each type of radio purchased. Manuals shall be clearly marked with the radio type and owners name. Manuals shall be provided in Adobe Acrobat on a removable disc or drive.
- 22. MOBILE SPECIFIC:**
- 22.1. **CONTROL HEAD:** Subscriber radios shall be equipped with a control head, required cabling, mounting hardware and connectors to permit remote mounting of the transceiver.
- 22.2. **MICROPHONE:** Subscriber radios shall be furnished with a public safety grade palm microphone. The microphone cord shall be coiled, heavy duty and designed for a 10 year service life. The microphone shall be provided with a connector to a matching microphone jack on the front or side of the radio. Rear connection is not permitted.
- 22.3. **LOUDSPEAKER:** A remote mount loudspeaker, cabling and mounting hardware shall be furnished.
- 22.4. **ANTENNA SYSTEM:** Professional grade antenna system shall be furnished and installed. This means antenna, mount, cable and connectors. Antenna mast shall be stainless steel and the spring and mount chrome plated. Antennas shall be 0.100 inch diameter or greater and be equipped with an anti-static ball.
- 22.4.1. **MOUNTING:** Antennas shall be mounted on the roof near the center. Care shall be taken to minimize the effects of shielding and detuning created by roof mounted obstructions. No antenna may be mounted on the hood or cowl.
- 22.4.2. **PLUMB:** Antenna mast shall be installed plumb.

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- 22.4.3. CONFLICTING INSTRUCTIONS: If vehicle users provide conflicting installation instructions, the CONTRACTOR shall stop work and notify the CONSULTANT.
- 22.4.4. CONNECTORS: All connectors shall be installed by personnel trained using proper tools.
- 22.4.5. ADAPTERS: Gender and type adapters are not permitted.
- 22.4.6. TRANSMISSION LINE: Route to protect from damage.
- 22.4.7. POWER: Vehicles and radios are assumed to be 12 volt negative ground. If a converter is required it shall be Wilmore Electronics or equal.

23. PORTABLE SPECIFIC:

- 23.1. BATTERIES: Each portable subscriber shall be equipped with one rechargeable battery, minimum. PURCHASER may elect to purchase additional, spare batteries.
- 23.2. CHARGER - SINGLE: **OPTIONAL**. Chargers shall provided in the quantity specified that will charge a fully discharged battery to at least 70% in 3 hours. The charger must be capable of charging the battery if it is attached to the radio or not. Chargers shall revert to a trickle charge mode when charging is complete to prevent damaging the battery. Chargers shall have indicators to indicate charging or charged.
- 23.3. CHARGER - MULTI: **OPTIONAL**. Same as single charger, but capable of charging 5 batteries simultaneously, minimum.
- 23.4. BELT ATTACHMENT: Subscribers shall be equipped with a "D" swivel and matching 3" belt loop. It shall be possible to replace the "D" swivel with a belt clip.

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23.5. ACCESSORY INTERFACE: Subscribers must have a audio / control interface to permit connection with accessories such as remote speaker microphone, ear piece or 3rd party headsets.

23.6. SPEAKER MICROPHONE / EARPIECE: **OPTIONAL**. PURCHASER may require a coiled cord speaker microphone with compatible earpiece. This must be of the same manufacture as the subscriber and equipped with a clip to permit attachment to garment.

LINE	ITEM OR SERVICE	MANUFACTURER	MODEL	QUANTITY	EACH	EXTENDED	
1	Radio, Portable with battery, P-25, EDACS, ProVoice, DES Encryption, Antenna, "D" Swivel & belt loop and Programmed			30			
2	OPTION: Battery, (identical to that with radio)						
3	OPTION: Charger, Single						
4	OPTION: Charger, Multi						
5	OPTION: Belt Clip						
6	OPTION: Coiled cord speaker microphone with earpiece						
7	Trade in , old portables			30			
8						SUB-TOTAL:	
9							
10	Radio, Mobile Remote Mount, Microphone, Speaker, Antenna System, Cabling, P-25, EDACS, ProVoice, DES Encryption, Programmed & Installed			14			
11	Radio, Mobile Dash Mount, Microphone, Speaker, Antenna System, Cabling, P-25, EDACS, ProVoice, DES Encryption, Programmed & Installed			2			
12	Trade in, old mobiles			16			
13						SUB-TOTAL:	
14	SUBSCRIBER TOTAL - NO OPTIONS:						

Submitted By:

Address:

Telephone

Printed Name:

Signature (above)

Date:

The City is Tax Exempt