

Scope of Work:

The Contractor shall provide all labor and materials to install a new UHF radio system for the Eastern Louisiana Mental Health System (ELMHS).

Project Locations:

Location 1:

ELMHS Bienville Building
4502 HWY 951
Jackson, LA 70748

Location 2:

ASSA Building
5226 HWY 10
Jackson, LA 70748

Specifications:

The Contractor shall install the repeater antenna approximately 200 feet atop a water tower located at **Location 1**.

Two base stations shall be installed at the Bienville Building at **Location 1** and the ASSA Building at **Location 2**, each featuring antennas mounted on towers or poles approximately 75 feet from the respective base stations by the Contractor.

Regarding the installation of the second base station at **Location 2** for our UHF radio system. This base station shall be located approximately 5 miles from **Location 1** and shall include a Bidirectional Digital Amplifier (BDA) to enhance signal strength.

The antenna for the BDA shall be mounted approximately 75 feet away, with six indoor antennas installed throughout the ASSA building at **Location 2**, each positioned between 50 to 100 feet from the BDA.

This project shall also incorporate 500 portable radios, all programmed to communicate with the repeater.

Key details of the installation include:

1. **Antenna Specifications:** The antenna shall be mounted securely at the top of the water tower, positioned to optimize performance and coverage.
2. **Safety Protocols:** The Contractor shall follow strict safety guidelines and utilize appropriate personal protective equipment (PPE) during the installation process.

3. **Testing and Commissioning:** Once the installation is complete, thorough testing shall be conducted by the Contractor to ensure optimal functionality of the antenna.

Personal Protective Equipment (PPE): The Contractor shall ensure that all personnel are equipped with appropriate PPE, including helmets, harnesses, gloves, and safety glasses.

Climbing Gear: The Contractor shall utilize certified climbing gear, including harnesses, ropes, and lanyards that meet industry standards.

Training: Only trained and qualified personnel shall perform the climbing tasks. The Contractor shall ensure that all installers have completed safety training relevant to tower climbing.

Weather Conditions: Climbing operations should be postponed in inclement weather or unsafe conditions. A thorough assessment of weather forecasts shall be conducted by the Contractor before commencing work.

Emergency Procedures: The Contractor shall familiarize all workers with emergency procedures, including communication protocols and rescue plans in case of an incident.

Installation of antennas on the roofs of Bienville and ASSA buildings.

Installation Details:

1. **Antenna Specifications:**
 - The Contractor shall securely mount the antenna on the roof, positioned to maximize signal coverage and performance.
2. **Preparation:**
 - Prior to installation, a site assessment shall be conducted by the Contractor to ensure compliance with safety regulations and structural integrity.
3. **Safety Protocols:**
 - All personnel involved shall adhere to strict safety measures, including the use of personal protective equipment (PPE) and compliance with safety guidelines during the installation process.
4. **Post-Installation Testing:**
 - Following the installation, comprehensive testing shall be conducted by the Contractor to ensure the antenna functions effectively and meets our performance standards.

Installation of a repeater, duplexer, and backup battery

Installation Details:

1. Repeater Installation:

- The repeater shall be installed by the Contractor at the base of the water tower, ensuring optimal coverage and signal strength for our communication network.

2. Duplexer Setup:

- A duplexer shall be integrated with the repeater by the Contractor to allow simultaneous transmission and reception, enhancing overall efficiency.

3. Backup Battery Installation:

- A backup battery shall be installed by the Contractor to ensure uninterrupted operation of the repeater during power outages. This shall include secure mounting and proper connections to maintain reliability.

4. Equipment Specifications:

- All equipment shall meet industry standards and be suitable for operational requirements.

5. Testing and Commissioning:

- After installation, comprehensive testing shall be conducted by the Contractor to ensure that all components function effectively and meet performance expectations.

Mobile Radio/Base Station/Antenna

Two base station radios shall be installed by the Contractor. These radios must meet the following requirements:

1. Connectivity Requirements: The radios shall support the following connectivity options:

- Analog and Digital Conventional
- MPT and XPT Trunking
- DMR Tier II and Tier III Trunking
- IP Multi-Site Connect
- DMR Simulcast Systems

2. Power Output: Each radio must provide a minimum of 45 watts to ensure effective communication range and clarity.

3. Installation: Radios shall be installed in a desktop dock with a power supply for reliable operation.

4. **Channel Capacity:** The radios should support a minimum channel capacity of 1,024 channels (approximately 512 Analog and 512 Digital) to accommodate diverse communication needs.
5. **Zone Capacity:** The radios must support a minimum of 64 zones, with approximately 256 channels per zone, allowing for efficient channel management.
6. **Durability Standards:** The radios must meet an IP54 rating for dust and water resistance and comply with MIL-STD-810G standards for ruggedness in challenging environments.
7. **Encryption:** Optional advanced end-to-end digital encryption (128/256-bit) compliant with DMRA standards should be available.
8. **Warranty:** Each radio must come with a minimum comprehensive three-year warranty, providing assurance of quality and support.

Repeater/Duplexer/Antenna

The Contractor shall integrate a repeater into the communication system. The repeater must meet the following essential requirements:

1. **Power Output:** The repeater must provide a minimum of 50 watts of output power to ensure strong and reliable signal transmission.
2. **Power Supply:** The repeater must feature an AC/DC auto switch capability, allowing seamless operation across different power sources.
3. **Switching Capabilities:** The repeater must support both analog and digital auto-switching, facilitating smooth transitions between communication modes.
4. **Duty Cycle:** The repeater shall have a 100% duty cycle to ensure continuous operation without overheating or performance degradation.
5. **Compatibility:** The device must support analog and digital conventional modes, as well as DMR Tier II, IP Connect, and XPT Trucking, ensuring versatility in communication options.
6. **Battery Backup:** The repeater should include a gel cell battery backup to provide uninterrupted operation during power outages, ensuring reliability in critical situations.
7. **Warranty:** The repeater must come with a minimum comprehensive three-year warranty, and the duplexer must come with a minimum comprehensive one-year warranty, providing assurance of quality and support.

**Attachment C –
Specifications
RFx 3000023871**

Revised Per Addendum No.1 (12/16/2024)

Antenna Installation: One new antenna shall be securely mounted on the water tower by the Contractor.

Cable Installation: A 1/2" Heliac cable shall be installed by the Contractor to connect the antenna to the repeater, ensuring optimal signal transmission.

Repeater and Duplexer Setup: The Contractor shall install a rack mount repeater and duplexer, along with a backup battery to ensure reliable operation.

FCC License

Installation of the radio system shall require an FCC 10-year license, which shall need to be provided by the Contractor.

Bidirectional Digital Amplifier/Antenna

A Bi-Directional Digital Amplifier (BDA) shall be integrated into the communication system by the Contractor. The BDA must meet the following requirements:

1. **Antenna Installation:** The BDA antenna shall be mounted on the roof of the ASSA building **Location 2** by the Contractor, adhering to the established safety guidelines for roof installations to ensure safe access and operation.
2. **Coaxial Cable:** The system shall utilize 50-ohm coaxial cable for optimal signal transmission between the BDA and the antennas.
3. **Indoor Antennas:** A total of six indoor wideband Omni antennas shall be installed by the Contractor, connected to the BDA, to enhance coverage and ensure reliable communication throughout the designated areas.
4. **Installation Hardware:** All necessary hardware for installation, including brackets, mounting equipment, connectors, and grounding materials, shall be provided by the Contractor to ensure a complete and secure setup.
5. **Warranty:** BDA must come with a minimum comprehensive five-year warranty, providing assurance of quality and support.

Portable Radios

Along with the antenna installation, the Contractor shall also provide a minimum of 500 portable radios to ELMHS. These radios shall be Hytera HP602-Um or equal.

Specify Brand/Model of Radio Bidding: _____

These radios must meet the following essential requirements:

Power Output: Each radio shall provide a minimum of 4 watts of output power to ensure effective communication range and clarity.

Battery: Each radio shall be equipped with a high-performance Lithium Polymer battery for extended usage and reliability.

Audio Quality: The radios must feature an anti-magnetic speaker to prevent interference and ensure clear audio quality in various environments.

Water Resistance: A water port speaker is required, providing enhanced durability and performance in wet conditions.

Ingress Protection Rating: The radios must meet or exceed the IP68 standard, ensuring complete protection against dust and the ability to withstand submersion in water.

Military Standard Compliance: The devices shall meet or exceed MIL-STD-810G standards, guaranteeing their reliability and performance in challenging environments.

Channel Capacity: The radios must support a total channel capacity of 1,024 channels (512 Analog and 512 Digital) to accommodate diverse communication needs.

Zone Capacity: The radios must support 64 zones, with 256 channels per zone, allowing for efficient channel management.

Connectivity Requirements: The radios must support the following connectivity options:

- Analog and Digital Conventional
- MPT and XPT Trunking
- DMR Tier II and Tier III Trunking
- IP Multi-Site Connect
- DMR Simulcast Systems
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Encryption: The radios must support digital end-to-end and over-the-air encryption for voice and data transmitted on digital channels, ensuring secure communications.

Warranty: Each radio must come with a comprehensive three-year warranty, providing assurance of quality and support.

LEGEND	
	Fire Extinguisher
	Exit
	Fire Alarm Control Panel/Remote
	Fire Alarm Pull Station
	Sprinkler Head
	Smoke Detector
	Smoke Barrier
	Fire Barrier
	Smoke/Fire Barrier Door Tag
	Horn/Strobe
	Room/Door Numbers

ASSA Fire Protection

