



SECTION 1:

Scope of the Specifications:

The scope of work requires the awarded vendor (Contractor) to provide a **Top Mount UHF antenna** described herein and customer support services. Hence, the Contractor shall supply every component necessary for an operational system, whether or not specified herein.

1.1 The Contractor Shall Perform the Following Services:

- 1.1.1 Provide a UHF top mount antenna tuned for broadcasting channel 25 that is capable of 37kW of RF input power.
- 1.1.2 Provide the required hardware to mount the antenna on top of an existing Stainless G7 tower.
- 1.1.3 Provide a fine matcher.
- 1.1.4 Provide any required adapters to connect the antenna to the existing 4 1/16" 50 ohm transmission line.
- 1.1.5 Provide a RF line sweep of the transmission system.

1.2 Facilities and Services to be provided by Louisiana Educational Television Authority:

- 1.2.1 All required licenses, FCC construction permits, and certificates of inspection.
- 1.2.2 Roadways adequate for delivery of equipment.
- 1.2.3 Television tower.
- 1.2.4 Area illumination

1.3 Contacts:

- 1.3.1 Purchaser: Louisiana Educational Television Authority (LETA), an instrumentality of the State of Louisiana, Clarence Copeland, Executive Director, 7733 Perkins Road, Baton Rouge, Louisiana 70810, Telephone (225) 767-4446.
- 1.3.2 Director of Engineering, Tom Woodside, Telephone (225) 767 4430
twoodside@lpb.org
- 1.3.3 Transmitter Supervisor, Steve Ringo, Telephone (225) 252-7886 sringo@lpb.org
- 1.3.4 WLPB Transmitter Supervisor Frank Hillyard (225) 978-3343 – fhillyard@lpb.org or Bennie Robertson (225) 268-1580 brobertson@lpb.org

1.4 Site Location:

- 1.4.1 The WLPB Channel 25 transmitter site is located at **6677 River Road Baton Rouge, LA. 70820** Phone: 225-252-7886.

1.5 Delivery:

- 1.5.1 All items described herein shall be delivered F.O.B., the transmitter site. All items herein shall be delivered within 120 calendar days following the award of contract.

1.6 Substitution of Materials or Equipment:

- 1.6.1 Where materials or equipment are specified herein by a manufacturer's name and/or type number, such designation is intended to establish desired level of quality and/or

performance. Bidder may propose substitute materials or equipment, which he/she believes equivalent to items specified, provided that documentation necessary to establish equivalency is supplied with bid. The burden of establishing equivalency shall rest with the Bidder, and the Purchaser shall be the final judge of the acceptability of equipment or materials submitted as equivalents.

1.7 Terms, Conditions, and Warranties:

- 1.7.1 The warranties covering the transmitter and all vendor items contained within and thereon shall be for at least (four (4) years - 48 months) following the successful completion of antenna and line sweep tests.
- 1.7.2 Warranties covering all other vendor items shall be those of the manufacturers. Contractor shall assure Purchaser that vendor's warranty shall begin with the successful completion of proof of performance tests, the same as the warranty for items provided by the Contractor.

1.8 Codes, Permits, Taxes, and Certifications of Inspection and Approval:

- 1.8.1 The digital transmitting facility shall be installed in accordance with all national, state, and local codes and regulations, and in strict conformity to the Rules and Regulations of the Federal Communications Commission. Purchaser will secure and pay for all permits, licenses, and certificates of inspection. Contractor shall pay all taxes applicable to this project.

1.9 Decision of Purchaser:

- 1.9.1 Purchaser shall be the sole judge of acceptability of technical equipment, materials, design, and workmanship.

1.10 Consideration of Bids:

All bids submitted should contain the following information. (Omission of any of the following items may result in the bid being deemed as non-responsive):

- 1.10.1 A complete bill of materials which shall include quantity, manufacturer, model number and description of every item of equipment to be supplied within the bid. Bidders shall state overall bid cost both in writing and in figures. Any bid which fails to state a price in both figures and writing may be deemed non-responsive and rejected. In the event of any discrepancy between written and numerical prices, the written price will be considered to the bid. All equipment bid shall be new and not previously sold or delivered.
- 1.10.2 A manufacturer's specification sheet, drawing, or other information for each major item of equipment bid, to permit a determination as to whether the equipment bid meets the requirements of these specifications.
- 1.10.3 Please list on separate page the Digital UHF broadcast stations to which bidder has furnished antennas. Such list should include call signs, engineering contacts and addresses of stations. (Please list on separate page)
- 1.10.4 A complete listing of any and all exceptions to these specifications and/or requirements of this bid document.

1.10.5 Each individual item of equipment required for complete antenna system: (Please list on separate page)

A technical drawing, showing sizes and recommended locations of items of equipment to be supplied:

- a. Proposed functional diagrams of signal path.
- b. Proposed layouts of equipment to be supplied.
- c. A statement as to availability of replacement parts.
- d. The current list prices of the type and model antenna used.

2 SECTION 2 - UHF DIGITAL ANTENNA:

2.1 Manufacturer's Requirements:

- 2.1.1 All major components of the antenna shall be warranted by one (1) single manufacturer.
- 2.1.2 The manufacturer shall have been continuously engaged in the manufacture of UHF television antenna for a minimum of ten (10) years.
- 2.1.3 All components offered shall be the latest design of its type by the manufacturer. Its construction shall conform to the best prevailing engineering practice and applicable industry standards to assure a high degree of quality, performance, reliability, and maintainability.
- 2.1.4 The manufacturer shall warrant the antenna to be free from defects in material and workmanship for a period of not less than four (4) years. Under the terms of this warranty, the manufacturer shall either provide free exchange replacements for products determined to be defective or repair the defective products without charge for parts and labor.
- 2.1.5 The antenna manufacturer shall have a service department that is accessible 24 hours a day, 7 days a week, 365 days a year, and shall employ a staff of full-time customer service engineers available for telephone consultation or on-site service.
- 2.1.6 Parts and service support shall be provided for a minimum of ten (10) years after the sale of the equipment.

2.2 General Antenna Requirements:

The antenna shall be constructed to meet the following technical requirements:

- 2.2.1 The antenna shall be a top mounted slot cylinder based design that operates efficiently on UHF channel 25. The antenna maximum VSWR across channel 25 shall be no more than 1.08:1. Field tuning of the antenna shall not be allowed.
- 2.2.2 The antenna shall be elliptically polarized with a 30% vertical polarization with respect to the horizontal polarization.
- 2.2.3 There shall be no external radiating or pattern shaping elements. All pattern shaping elements shall be enclosed within a non-pressurized cylinder radome that is FAA orange in color.
- 2.2.4 The antenna shall be designed to structural code RS-222G.

- 2.2.5 The antenna shall mount directly to the existing top plate. L.E.T.A shall supply whatever information they have about the top plate, but it shall be the responsibility of the Contractor to obtain or confirm the information needed regarding the tower top. The antenna shall include all required mounting hardware.
- 2.2.6 The antenna shall have a medium cardioid azimuth pattern with a horizontal pole azimuth pattern gain of 1.94 (2.87 dB). Elevation gain shall be no less than 18.5 (12.87dB). It shall be designed with the 1.0 relative field to be located 60 degrees offset from 0 degrees north. The pattern shall meet the requirement of WLPB FCC Construction Permit File Number Blank-0000225883
- 2.2.7 The antenna shall achieve a horizontal polarization effective radiated power of 600 kilowatts and a vertical polarization effective radiated power of 180 kilowatts using 1,150 feet of 4 1/16" 50 ohm transmission line with 30.6kilowatts on the input of the transmission line.
- 2.2.8 Elevation null fill shall be no less than 35% first null, 13% second null, and 9% third null. Elevation patterns shall be supplied with the bid.
- 2.2.9 The antenna beam tilt shall be 1.0 degree.
- 2.2.10 The antenna input power rating shall be rated at a minimum of 37 kilowatts average digital television power operating on the "Nextgen" ATSC 3.0 modulation standard.
- 2.2.11 The antenna shall be tested and fully certified at the factory prior to shipping. The antenna shall be shipped fully assembled. On-site antenna assembly shall not be allowed.
- 2.2.12 A formal antenna input elbow complex shall be supplied to allow easy changing of antenna from the existing 4 1/16" 50 ohm transmission line. L.E.T.A shall provide any existing tower drawings to assist with the design of the input complex. However, final "fit" will be the responsibility of the Contractor. Any cut sections to connect to the existing 4 1/16" 50 ohm transmission line to the elbow complex input shall be factory welded and shipped overnight.