

ANNEX “A”
TERMS OF REFERENCE

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Project details: The Visayas Media Hub (VMH) will house the Communications arm of the government in the Central Philippines and will cater to tailor-fitted news and information for its regions.

The project will complete the triumvirate of the Main Government Broadcast hubs in Luzon, Visayas, and Mindanao.

Having a centralized and integrated facility for government media entities will ensure close coordination among themselves which in turn will result in reaching wider and more effective information dissemination for the Visayas region. With its modern high-definition equipment, the VMH will serve as the central broadcast source of the government serving different regions in the Visayas. It will also serve as a disaster recovery broadcast center for nationwide television coverage.

The Office of the President - Presidential Communications Office (OP-PCO) will take the lead in managing and maintaining the facility. Much like the Mindanao Media Hub in Davao City, the VMH will also house field offices of OP-PCO attached agencies/government media such as the People's Television Network, Inc. (PTNI), Bureau of Broadcast Services (BBS), Philippine Information Agency (PIA), Philippine News Agency (PNA), and Radio Television Malacañang (RTVM). Further, there will be allotted offices for the following agencies: (1) Department of Information and Communication Technology, (2) Bureau of Communications Services, (3) National Printing Office, APO Production, Inc., among others.

Part XII: **Supply, Delivery, Installation, Supervision, Training, Testing, Commissioning of 2.5KW Digital Terrestrial Television Broadcast (DTTB) Transmitter and Headend Equipment with Early Warning Broadcast System (EWBS)**

ABC: Twenty Million Pesos (PHP 20,000,000.00).

Objective To support the government's goal of reaching every Filipino viewer nationwide in the Digital Terrestrial Television Broadcasting (DTTB) spectrum, it aims to strengthen the service in the Visayas Region and benefit from the features of the DTTB of crisp audio and video content, variety of

programs, prompt public information, and reliable Emergency Warning Broadcast System (EWBS).

I. Delivery Sites

1. PTV Transmitter Station, Mt. Busay, Cebu

II. SCOPE OF PROJECT

The supplier shall be responsible for the overall project for which includes the following:

- Site Inspection
- Supply and Installation Works
 - DTT Transmitter System and all accessories
 - Transmitter Output Network
 - Transmitter Electrical and Protection System
- Testing, Commissioning and Proof of Performance
 - Factory Acceptance Test (FAT)
 - Site Acceptance Test (SAT)
- Personnel Training
- Detailed Technical Plans and Diagrams
- Warranty and After Sales Service
- VAT and other related TAXES
- National and local government permits such as but not limited to importation Permits and all other Permits/Clearances, including barangay permits, permits from the National Telecommunications Commission (NTC) for the supply of radio transceivers and/or broadcast equipment accessories among others.

III. SUPPORT AND SERVICES TO BE PROVIDED BY SUPPLIER

1. The bidder must submit a complete detailed technical specification of equipment and services to be supplied.
2. The bidder must submit a guaranteed certificate of the availability of spare parts and services for the supplied equipment within the next ten (10) years upon completion of the project.
3. The Bidder shall submit a Company profile to showcase its experiences and expertise in manufacturing and installing TV transmitter equipment and system.

The Bidder shall provide brand new equipment and accessories of reputable manufacturers with the latest make and model.

4. The bidder shall include remarkable and significant features of the offered equipment such as but not limited to:

- a. Remarkable Features*
- b. Energy efficiency*
- c. Failure rate*
- d. Footprint / Density*
- e. Handling/Maintenance*
- f. Future Proof/ Ready*
- g. Reliability*
- h. Other features*

The PCO shall determine and evaluate the equipment that has the best technical specifications and features that suits its requirements.

IV. EQUIPMENT, SUPPLY, AND INSTALLATION WORKS

- A. The supplier shall be responsible for the supply and installations of the following
 1. DTT Transmitter System
 - i. Control and Exciter System
 - ii. GPS Receiving System
 - iii. RF Power Amplifiers
 - iv. Cooling System
 2. Transmitter Output Network
 - i. Band Pass Filter
 - ii. Directional Coupler
 - iii. Harmonic Filter
 - iv. 3-Port Patch Panel
 3. Transmitter AC Protection System
 - i. Transient Voltage Surge Suppressor (TVSS)
 - ii. Automatic Voltage Regulator (AVR)
 - iii. Isolation Transformer
 - iv. Grounding System
 4. TX Room Air-cooling System
 - i. Installation of Air-Cooling system for the transmitter system
 5. Interconnection Kits and other Accessories

- i. Cables, wires and connectors for the interconnection of the transmitter system
- ii. Distribution panels, circuit breakers and cable wires of appropriate sizes for the interconnection of the transmitter electrical system
- iii. Rigid line kit for the interconnection of the transmitter output network

V. TESTING, COMMISSION AND PROOF OF PERFORMANCE

A. The supplier must show and submit the results of the following transmitter response based on the Integrated Service Digital Broadcasting - Terrestrial (ISDB-T) standard during the testing and commissioning of the Digital Terrestrial TV (DTT) transmitter system:

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| 1. Frequency Deviation | 17. Actual Viewing of Video |
| 2. Signal Power | and Listening to Sound |
| 3. Occupied Frequency Bandwidth | 18. Noise Figure |
| 4. Spectrum Mask | |
| 5. Spurious and Unwanted Emissions | |
| 6. Inverse Fast Fourier Transform (IFFT) Sampling Frequency Deviation | |
| 7. Phase Noise | |
| 8. Amplitude-Frequency Characteristics | |
| 9. Group Delay Characteristics | |
| 10. Delay Time | |
| 11. Intermodulation | |
| 12. Gaussian Noise vs. Bit Error Rate (BER) Characteristics | |
| 13. Power Consumption | |
| 14. Input Signal | |
| 15. Output End Mismatching Range | |
| 16. Modulation Error Ratio (MER) Characteristics | |

- B. The supplier shall carry out their testing and commissioning of the DTT transmitter system using their own testing equipment. Test results shall be submitted to PCO.
- C. Factory Acceptance Test (FAT)
 - 1. The DTT transmitter system shall be tested at the manufacturer's factory before shipment.
 - 2. Factory test data shall be recorded for the purpose of on-site testing and commissioning reference and shall be submitted to the PCO.
- D. Site Acceptance Test (SAT)
 - 1. On-site testing and commissioning shall be conducted by the manufacturer's field engineer with the presence of PCO's designated project manager
 - 2. Test data gathered during the SAT should be in the acceptable range compared to the figures recorded from the FAT.
- E. All performance determined to be unacceptable shall be for the rectification by the manufacturer. All costs attributed to the correction shall be for the supplier's account.
- F. The supplier shall submit a detailed, comprehensive and duly signed proof of performance report upon completion of the test.

VI. PERSONNEL TRAINING

- A. Prior to the official turn-over of the project, the supplier / manufacturer shall organize and conduct a comprehensive technical training to at least ten (10) personnel of the PCO and its attached agencies regarding the operation, troubleshooting, and maintenance of the transmitter system. The cost that will be incurred for the training shall be for the account of the supplier, which includes travel expenses and accommodation for at least ten (10) personnel from Manila.
- B. An on - site comprehensive training seminar on operations, calibrations, techniques, and maintenance of equipment shall be given to the transmitter engineers and technicians in conjunction with the proof of performance at designated transmitter site.
- C. Schedule of the aforesaid must be coordinated with PCO.

VII. WARRANTY AND AFTER SALES SERVICE

1. The winning bidder shall ensure availability of spare parts for at least Ten (10) years from the date of final acceptance and turnover of the project to PCO.
2. The winning bidder shall provide three (3) years product and service warranties. The supplier shall provide after-sales service and spare parts free of charge within the warranty period. All spare parts shall be delivered on-site and installed accordingly.
3. The winning bidder shall provide 24/7 technical support in addressing concerns raised by PCO within the warranty period by telephone and email, or on-site support if needed. Onsite support will be provided within twenty-four (24) hours upon request.
4. All defective components not capable of on-site repair shall be pulled out from PCO premises and may be sent back to the supplier. During the warranty period, the supplier shall cover all expenses incurred or related to the repair and shipment of the equipment/parts. The supplier shall provide and install within twenty-four (24) hours a temporary spare part while waiting for the product's replacement to ensure service continuity.
5. All warranties must be at least three (3) years from the date of final acceptance and turnover of the project to PCO.