



TERMS OF REFERENCE

Supply, Delivery, Installation, Testing, and Commissioning of Two sets of 2-10kVA, Single Phase (1Φ), Uninterruptible Power Supply (UPS) for Bohol and Tagaytay RADAR Stations

I. BACKGROUND

PAGASA has an existing Weather Surveillance Doppler Radar Equipment System located in Bohol and Tagaytay to provide radar data and information to its offices at PAGASA Central Office. A significant part of the system is the Weather Surveillance Doppler Radar Equipment System, which will provide 24/7 transmission of radar data to the central office forecasting center.

The radar stations were already equipped with an uninterruptible power supply (UPS) to maintain the continuous supply of power to the radar equipment, including the servers, computer equipment, and other critical loads within the operation of the radar system. However, these UPSs have recently started malfunctioning and operating abnormally as they have reached their lifespan.

As part of the support system and preventive maintenance, and to execute an appropriate action to address the issue and, as much as possible, prevent more serious trouble for the radar system with its 24/7 operation, it is necessary to acquire a new and reliable Uninterruptible Power Supply (UPS) as a replacement for the malfunctioning units.

II. APPROVED BUDGET FOR THE CONTRACT

The Approved Budget for the Contract (ABC) is **Two Million Pesos (Php 2,000,000.00)** inclusive of VAT and all applicable government taxes.

III. QUALIFICATIONS OF THE BIDDER

The complete requirements for a prospective bidder to qualify may be referred to in Section II. Instructions to Bidders, the Bid Data Sheet, and Checklist of Eligibility and Technical Requirements of the Bidding Documents.

Prospective bidders who are not manufacturers or producers and acting merely as suppliers, distributors, and the like of the goods and services that are subject to this bidding must be duly authorized by the manufacturer or producer of the goods and services and must be able to show valid proof of such authorization during the opening of bids.

IV. DELIVERY PERIOD AND PLACE OF DELIVERY

The winning bidder shall supply, deliver, install, test, and commission the units to **Bohol and Tagaytay PAGASA Radar stations** within **sixty (60) calendar days** commencing from the date of receipt of the Notice to Proceed (NTP).

V. BID PROPOSAL CONTENTS

The prospective bidder is expected to comply and respond in accordance with the specific instructions to bidders and submit all the documentary requirements under the Checklist of Eligibility, Technical and Financial Requirements. The submission of documentary requirements must be properly arranged in order and with a label.

The prospective bidder shall respond paragraph by paragraph and shall clearly indicate compliance to all the required specifications (*Please see Section VII. Compliance Matrix*) and shall specify the number of days or schedules within which to complete the delivery of all the goods required (*Please see Section VI. Schedule of Requirements*).

The prospective bidder shall be required also to include in this proposal, original descriptive literature and unamended brochures of all equipment/materials to be supplied and must likewise be provided.

These details will allow the PAGASA-Bids and Awards Committee to fully evaluate and determine compliance from the prospective bidders.

VI. TECHNICAL SPECIFICATIONS

	TECHNICAL SPECIFICATIONS	MINIMUM VALUE REQUIRED
1	Input	
1.1	Voltage Range	160 ~280 Vac (Φ)
1.2	Frequency	45 ~65 Hz (Auto Sensing)
1.3	Phase	Single + G
1.4	Power Factor	Up to 0.99 at Linear Load
1.5	Type	On-line Double Conversion
2	Output	
2.1	Voltage	200/208/220/230/240Vac Selectable (208/120Vac optional)
2.2	Capacity	9000W
2.3	Frequency (Battery Mode)	± 1 Hz or ± 3 Hz (Selectable)
2.4	Crest Factor	3:1 Acceptable
2.5	Harmonic Distortion	< 3% at Linear Load
2.6	Output Wave Form	Pure Sine Wave
2.7	Transfer Time (AC to DC)	0mSec
2.8	Efficiency	Up to 92%
2.9	DC Start	Yes
2.10	Back-up time	3 minutes. (minimum)
3	Battery	
3.1	Number of Batteries	20pcs
3.1	Type	Sealed Lead Acid Maintenance Free
3.2	Capacity	12V/9AH
3.4	Rated Battery Voltage	240Vdc
3.5	Recharge Time (90%)	5 hours

4	Display	
4.1	Status on LED+LCD	Line Mode / Back up mode / ECO mode / Bypass Supply / Battery Low / Battery Fault / Overload / Transferring with Interruption / UPS Fault
4.2	Readings on LCD	Input Voltage / Input Frequency / Output Voltage / Output Frequency / Load Percentage / Battery Voltage / Temperature
4.3	Self-Diagnostic	Upon Power-on / Front Panel setting & Software Control / 24-hour routine checking
5	Alarms	
5.1	Audible and Visual	Line Failure / Battery Low / Transfer to Bypass, System Fault Conditions
6	Protection	
6.1	Overload Capacity	Inverter Supply: 105%~150% for 160 seconds ~ 2 cycles before switching bypass. Bypass Supply: 105%~200% for 500 seconds ~8 cycles before stopping supply load.
6.2	Short Circuit	Breaker, Fuse / Electronic Circuit
6.3	EPO	Output Shutdown immediately
6.4	Over Temperature	Bypass or Shutdown Immediately
7	Environmental	
7.1	Operating Temperature	0°C - 40°C / 32°F to 104°F
7.2	Noise	<50dBA
7.3	Altitude	1000m/3300ft without De-Rating
7.4	Interface	0 to 90% (Without Condensation)
8	Interface	
8.1	Interface Type	Standard RS232, EPO
8.2	Communication Slot	Option: 2nd RS232, USB, RS485, Dry Contact Relay, SNMP/WEB Card
8.3	Compatible Platforms	Microsoft Windows series, Linux, Mac, etc.
9	Standards and Certifications	
	Safety	EN62040-1, UL1778
	EMC	EN62040-2, EN61000-3-3, FCC Class A
	Markings	CE, cUL, UL FCC
Features:		
a. Simple Parallel Installation		
b. Full-time Digital Signal Processor Control		
c. Programmable Frequency Converter		
d. LCD/LED Mimic Panel		
e. Multi-Mode Operation		
f. Simple and Easy to Use		
g. Parallel Redundancy		

VII. SCOPE OF WORKS

1. The winning bidder shall dismantle the malfunctioned and defective existing UPS system.
2. The winning bidder shall;
 - a. Cover the supply, delivery, installation, testing, and commissioning of a UPS system.
 - b. Replace power cables and perform termination from power source to the UPS and from UPS to load distribution panel.
 - c. Include additional materials and activities he deems necessary to properly complete the project.
3. The winning bidder shall demonstrate the basic operation, maintenance and configuration of the equipment.
4. The winning bidder shall provide an As-Built Circuit Diagram signed by authorized office personnel.

VIII. WARRANTIES / AFTER-SALES SUPPORT

1. The winning bidder warrants that it shall strictly conform to all the Terms and Conditions of this Terms of Reference.
2. The winning bidder shall provide a 1-year standard warranty for the UPS and battery.
3. The winning bidder shall neither assign, transfer, pledge nor subcontract any part or interest therein.
4. During the warranty period, if the system parts, accessories, and other materials of the equipment fail to provide satisfactory operation shall be timely replaced at the winning bidder's expense.