

## TERMS OF REFERENCE

FOR THE

### SUPPLY AND DELIVERY OF SEVEN HUNDRED (700) PCS. RADIOSONDE TRANSMITTER - GRAW MET. DFM-06 with Free Met. Balloons

#### A. BACKGROUND

Upper-air soundings complete the required weather parameters in 3 dimensions which are necessary for the purpose of weather analysis and prediction. Its importance is so great that the equipment used should be of great quality such as the transmitters and weather balloons which measures the different weather parameters up to 12,000 meters above mean sea level and send these data to the receiving stations in the country. The upper-air soundings can be used to deliver a real time data required for local-area weather forecast such as thunderstorm and rainy days-to name a few. These can be of additional help in the formulation of localized weather forecast in the newly formed five (5) PAGASA Regional Services Divisions in NCR, Northern and Southern Luzon, Visayas and Mindanao.

#### B. APPROVED BUDGET FOR THE CONTRACT (ABC)

The Approved Budget for the Contract inclusive of VAT and all applicable government taxes is Eleven Million Nine Hundred Thousand Pesos (**PhP11,900,000.00**).

#### C. BID PROPOSAL CONTENTS

The prospective bidder is expected to comply and respond accordingly to the specific instructions to bidders and completely 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 label. Absence or lack of any of the bidder's documentary submissions shall be a ground for outright rejection of bids.

Furthermore, the prospective bidder is expected to respond "paragraph by paragraph" into this Terms of Reference (TOR); and, shall clearly indicate compliance to the required specifications (*Please see Section VII. Compliance Matrix*) and specify the number of days or schedules within which to complete the delivery of all the goods/services required using the prescribed bidding form. (*Please see Section VI. Schedule of Requirements*).

The prospective bidder is likewise required to include in its proposal, **original descriptive literatures** and/or **unamended brochures** of all equipment/materials to be supplied.

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

**D. QUALIFICATIONS OF THE BIDDER**

(Instructions to Bidders, the Bid Data Sheet and Checklist of Eligibility and Technical Requirements of the Bidding Documents)

**E. TECHNICAL SPECIFICATIONS:**

The Radiosonde Transmitter **GRAW MET. DFM-06** and the free **Met. Balloons** shall have the following minimum technical specifications:

Unit	Specification
<b>A. RADIOSONDE TRANSMITTER SPECIFICATIONS</b>	
Weight	: < 90 grams, ready to start
Size	: 94mmx60mm
	: No re-calibration of sensor necessary before start
	: Programmable frequency
	: Microprocessor controlled
	: Code correlated differential GPS
	: Environmental friendly dry lithium battery
Activation	: Switch
Wind finding	: Differential GPS (12 channels)
Transmission Rate	: One full data set per second
Bandwidth	: <20KHz
Frequency Deviation	: +/- 5KHz
Modulation	: FSK
Error correction	: Code-spreading, interleaving

**B. TEMPERATURE MEASUREMENT**

Temperature resolution	: 0.1C
Temperature Accuracy	: <0.2C
	: Ceramic Sensor
	: Mirrored surface reduces error due to the solar radiation
	: Fast reaction time due to low weight and low thermal capacity

**C. HUMIDITY MEASUREMENT**

Humidity Resolution	: 1%rH
Humidity Accuracy	: <5%Rh
	: Fast capacitive polymer sensor
Pressure Accuracy	: <1hPa
Geo potential height Accuracy	: <30m

Wind speed Accuracy : <0.2m/s  
Accuracy Horizontal : <10m  
Position

#### D. ACCESSORIES

##### Unwinder Flowtronic UW2

Cord length 30 (other length on request)  
Maximum Payload: 600g  
Unwinding Speed 0.5m/s  
(payload 200g):  
Unwinding Speed 1.5m/s  
(payload 600g):  
Weight: 30gms

#### E. METEOROLOGICAL BALLOONS

Weight : 350 grams Uncolored  
Neck Size & 120±20mm  
Diameter: 32±3mm  
Brand: **TOTEX (Japan)**

#### F. PACKAGING

Must be individually packed with hermetically sealed aluminum bag with anti-insect powder inside.

**Note:** A certification from the manufacturer must be attached and submitted by the winning bidder/supplier.

### DELIVERY PERIOD AND PLACE OF DELIVERY

The winning bidder shall supply and deliver the **Seven Hundred (700) pcs. Of Radiosonde Transmitter Graw Met. DFM-06 with Free Met Balloons** on-site at **PAGASA Laoag Upper Air Station at Airport, Gabu, Laoag City, Ilocos Norte.** Prior to delivery all transmitter and balloons shall be inspected first by the PAGASA and COA inspector.

Delivery shall be made in Four (4) tranches as follows:

Tranche	Quantity	Schedule of Delivery
1 <sup>st</sup>	175 pcs.	1 <sup>st</sup> week of April 2019
2 <sup>nd</sup>	175 pcs.	1 <sup>st</sup> week of July 2019

<b>3<sup>rd</sup></b>	<b>175 pcs</b>	<b>1<sup>st</sup> week of October 2019</b>
<b>4<sup>th</sup></b>	<b>175 pcs.</b>	<b>1<sup>st</sup> week of December 2019</b>
<b>Total</b>	<b>700 pcs.</b>	

imposition of liquidated damages in accordance with Section 68 and Section 3 (Annex "D") of the Revised IRR of RA 9184.

#### **F. PAYMENT TERMS**

The winning bidder/supplier may be allowed to collect partial payment commensurate to the amount of goods/items delivered; *provided that*, said deliveries are in accordance with the schedule of requirements specified above and subject further to the complete submission of the documentary requirements prescribed under the accounting and auditing rules and regulations.

#### **G. PERFORMANCE SECURITY**

The winning bidder/supplier shall post the required Performance Security in accordance with Section 39 of the Revised Implementing Rules and Regulations (IRR) of RA 9184. The amount of the Performance Security shall be equivalent to the total contract cost of the Project which shall be denominated in Philippine Peso and payable to PAGASA.

#### **H. WARRANTIES**

1. In order to assure that manufacturing defects shall be corrected by the winning bidder/supplier, a warranty security shall be required from the contract awardee for a minimum period of **one (1) year** after acceptance by PAGASA of the delivered goods/supplies.
2. The obligation for the warranty shall be covered by either retention money in an amount equivalent to at least one percent (1%) of every progress payment, or a special bank guarantee equivalent to at least one percent (1%) of the total contract price. The said amounts shall only be released after the lapse of the warranty period: Provided, however, that the supplies delivered are free from patent and latent defects and all the conditions imposed under the contract have been fully met.
3. The winning bidder likewise warrants that it shall strictly conform to all the Terms and Conditions of this Terms of Reference.