

**Government of India**  
**Bhabha Atomic Research Centre**  
**Post Irradiation Examination Division**  
**Radiological Laboratories, Trombay, Mumbai 400 085**

Tel: 25594047, Fax: 2550 5151

Ref: PIED/KMP/2018/ 1096

29.10.2018

**Sub: Fabrication, Supply, Installation and Commissioning of High Speed recorder with strain input for drop tower system at PIED.**

Dear Sir,

Please send us your lowest quotation for the following fabrication, supply, installation and commissioning works at NHF, RLG as per the site condition and the scope of work given below:

**Scope of work:**

Fabrication, Supply, Installation and commissioning of High Speed recorder with strain input for drop tower system at PIED consists of

**1. Fabrication and Supply of High Speed Recorder – Quantity 1 no.**

**Technical specification of High Speed Recorder :-**

Display:	8.0 to 10 inch Colour TFT LCD (resistive touch panel) Display resolution: 800 x 600
No. of slots:	2 Nos.
Acquisition Memory	: 200 Mpoint (100 Mpoint per module)
SD Memory Card	: Number of slots 1 Maximum capacity 32 GB Supported cards SD and SDHC compliant memory cards
Analysis and Computation	: Cursors T-Y waveform Horizontal, Vertical, H&V, Marker and Degree X-Y waveform Horizontal, Vertical, H&V and Marker FFT waveform Marker and Peak Computation: Operators: +, -, x, ÷, binary computation, frequency, period, moving average (10 points) and RMS Computation length: up to 2 Mpoint (when 1 waveform is used). FFT Type: LS, RS, PS, PSD Time windows: Hanning, Hamming, FlatTop, and Rectangle
Acquisition & Display: Normal:	Normal waveform acquisition Envelope: The peak values are held at the maximum sample rate regardless of time axis setting. Averaging: The number of times to average: 2 to 65536 in 2n steps (attenuation constant 2 to 256 in 2n step)
Communication Port: Ethernet Connection Connector type:	RJ-45 Modular Jack x 1 Conforms to IEEE 802.3 Transmission System: Ethernet (1000BASE-T/100BASE-TX/10BASE-T)

Auxiliary I/O: Trigger Input Terminal: Connector type Screwless terminal block Maximum voltage to the ground Non-isolated (common to main unit GND) Input level TTL (0 to 5 V) Minimum pulse width 1  $\mu$ s Detected edge Rising or falling Trigger delay time Within 1  $\mu$ s + 1 sample period Trigger Output Terminal: Connector type Screw less terminal block Maximum voltage to the ground Non-isolated (common to main unit GND) Output level 5 V CMOS

Power Supply : 230V AC, 50Hz

Withstand Voltage : 3 kV (between the main unit and AC adapter power line)

Insulation Resistance : 10 M $\Omega$  (between the main unit and AC adapter power line)

Warranty : 1 Year

Test /Calibration certificate : To be submitted along with delivery of material at site

## 2.0 **Fabrication and Supply of Strain Module compatible with above recorder – Quantity 1 no.**

### **Strain Module**

Number of channels: 2 Nos.

Sampling Rate: 100 kS/s

Voltage: 10 V

Resolution: 16bit

Isolation: Required

Accuracy:  $\pm 0.5\%$  (Strain)

The module should come along with suitable Bridge head (DSUB, 350  $\Omega$ ) Shunt-CAL with 5 m cable

## 3.0 **Installation and commissioning of the system with existing load sensor.**

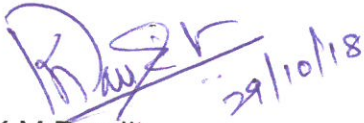
### **Please note the following:**

1. The work is to be completed within 60 days of receiving the firm work order from us.
2. The sealed quotations shall reach the office of the Head PIED, New Hot Cells Facility, RLG, Mumbai – 85 on or before **09.11.2018 11:00hrs** only by **Indian Postal Service**.
3. Please address your offer to: **K M Pandit, SO/F, Post Irradiation Examination Division, RLG, BARC, Trombay, Mumbai-400 085.**
4. The quotations are to be sent in a sealed envelope with the following information marked on top of the envelope: “High Speed recorder with strain input”
5. Offers sent by telegram, telex, fax or e-mail will **not** be considered.
6. All taxes should be mentioned clearly.
7. Quotation should be in the printed letter head /quotation format which should consist of GST Registration Number, PAN Number of the firm, etc.
8. **Good & Services Tax : 5%**. The goods proposed to be fabricated on this work order are meant for research purpose of Research Institution under Department of Atomic Energy and are exempt from payment of GST in terms of Notification No. 47/2017 integrated tax

(rate) dated 14.11.2017 issued by Ministry of Finance, Department of Revenue of Government of India. In the event of order, the Purchaser will make available the certificate to avail integrated GST @5% duly signed by the authorized officer in the Department of Atomic Energy.

9. **Quotation shall be signed by proprietor or authorized person and affix company seal.**
10. Computer generated quotation form will not be accepted.
11. Income Tax @2%, surcharge on IT as applicable and educational cess @3% (on IT & surcharge) will be deducted at source from your bill
12. Offer should be on free delivery basis to RLG Zonal Stores, BARC, Trombay.
13. Delivery period should be mentioned with all the possible consideration.
14. Payment will be made within 30 days from the date completion.

Yours sincerely,



K M Pandit  
SO/F, PIED