



**DEPARTMENT OF PHYSICS, PONDICHERY UNIVERSITY,  
R. VENKATARAMAN NAGAR, KALAPET,  
PUDUCHERRY-605014**

**TENDER NOTICE FOR SUPPLYING FERROELECTRIC LOOP TRACER**

(also refer notice in: THE HINDU (Chennai region) dtd. 17.02. 2012)

TENDER NOTICE NO.: PU/PHY/RNB/BRNS/2012/Equip.-1

Date: 17.02. 2012

Sealed Tender/quotation(s) are invited from eligible and qualified suppliers under two bid systems (**technical bid and price bid separately**) for purchasing the major equipment Ferroelectric loop tracer (Quantity 01) under BRNS project.

**(A) Technical specification**

1. Basic unit:

Complete and computer controlled system for measuring P-E hysteresis loop, Fatigue, Retention, Imprint, Leakage, C-V, I-V, and PUND using single hardware configuration. Polarization, output voltage, and SENSOR inputs captured simultaneously. In-built high voltage protection circuit proofed up to 10 kV for Ferroelectric probe Head. The Ferroelectric loop tester can be operational in the presence of magnetic field.

2. Operating voltage output

In built, no external amplifier : higher range up to  $\pm 100$  V or  $\pm 200$  V  
with external amplifier : up to  $\pm 10$  kV

3. Configuration

(a) Arbitrary Wave form generator: triangle and sine wave

(b) Charge resolution: 1 fC-1 mC or better.

(c) Area resolution:  $0.1 \mu\text{m}^2$ - $10 \text{cm}^2$  or better

(d) Hysteresis loop frequency: 0.1 Hz- 100 kHz or better.

(e) Data capture: 100 points in 10-100  $\mu\text{s}$ .

(f) Pulse width:  $1 \mu\text{s}$  – 1 s or better.

(g) Minimum leakage current: 1 pA or less.

(h) 2 COMM channels for controlling high voltage amplifiers.

(i) Electrical Power: The equipment must operate at 230V/50 Hz single phase and /or equivalent three phase electrical power.

4. Software and controlling system

Software for executing various measurements, data analysis and displaying multiple measurement parameters simultaneously. Data export in ASCII format. Suitable Desktop computer with USB port can be operated with Windows 2000/Windows XP.

5. Accessories:

Sample holder for bulk sample and thin film measurement, cables, etc.

6. Optional access/additional features:  
High Voltage and Temperature Test Fixture, High Voltage Interface Unit, High Voltage Amplifier Unit.

**(B) TERMS AND CONDITIONS (UNDER TWO BID SYSTEM)**

**I. Instructions to the Bidder:**

**1. Tender EMD:**

The Tender Document Fee (INR 500) and EMD (INR 50,000) are to be submitted in the form of separate Demand Drafts, drawn in favour of **the Finance Officer, Pondicherry University, payable at Puducherry.**

**2. Last Date & Time for submission of Tender Documents:**

**05.03.2012 at 3.00 p.m.** and opening on the same day at **3.30 p.m.**

**3. Submission of tender Document:**

Tender/quotation (**separately for technical bid and price bid**) must be submitted in sealed cover super-scribing thereon bidder's name, Notification No. and name of the Item, along with tender document fee and EMD by Normal/speed/Registered post/courier service addressed to **Dr. R.N. Bhowmik, Assistant Professor, Department of Physics, Pondicherry University, Puducherry-605 014, India** positively before the tender bid closing time. Any tender submitted without tender document fee will not be accepted.

**4. Quoting the Core price & Tax, Duties, Discount etc.**

The taxes / duties / discounts, if applicable, are to be explicitly and separately shown in the bid and under no circumstances these components shall be added to the basic price and shown as single price. All the components of taxes, if applicable, should be shown explicitly and separately.

**5. The validity of the Quotation:**

*The validity of the quotation should be for at least 180 days from the closing date of the bid.*

**6. Invalid Bids:**

The bids will not be considered if received after the closing date and time. The offers received through telex/ fax /e-mail will not be accepted by the University under any circumstances. Any offer containing incorrect and incomplete information shall be liable for rejection.

**7. In case of Postal loss:**

The University shall not be responsible for any delay/loss or non-receipt of tenders by post /courier services.

**8. Purchase Agreement:**

If an order is placed with the firm, the purchase shall be governed by an agreement as per the University rules in force at the time. Additional terms and conditions may be incorporated in

the purchase order, if needed, to safe guard the interests of the University. The Tender is non-transferable.

#### **10. Power to reject the offer:**

Pondicherry University reserves the right to accept/reject any offer in full or in part or accept any offer other than the lowest offer without assigning any reason thereof. *However, deficiencies on any one or, more of the following crucial criteria will be a material factor, for consideration other than the Lowest Quotation: -*

1. Total Number of installations of the similar Equipment in the premier Educational/ Research Institutes in India.
2. Availability of Service Network in India, especially in Chennai or Bangaluru.
3. Valuable feedback from the present users about the performance, service support, accuracy of result, etc.
4. Any other techno-commercial information which is deemed fit to be important in the opinion of the University.

#### **II. Price Schedule**

1. The bidder who is capable of supplying the entire solutions as per the specifications of the equipment is alone need to submit their quotation.
2. The rates should be quoted for a single unit.
3. **The price should include the Delivery, installation, training charges (if any), insurance, etc. at the Department of Physics, Pondicherry University, Puducherry, India.**

#### **III. Eligibility:**

1. The firm must have the requisite domain expertise with regard to supply, installation and post-sale service of the items for which they are quoting.
2. The firm should have sufficient number of installations of the similar Equipment in the premier Research Institutes in India.
3. The firm should have nation-wide Service Network all over India.
4. The feedbacks from the present users of the similar equipment about the performance, service support, accuracy of result, etc. are to be submitted along with the Tender Document.
5. The bidder must declare the time to be taken for supplying the equipment to Pondicherry University after opening the Letter of Credit.

6. Any other techno commercial information, pertaining to this particular Equipment, principal suppliers, technical background and capability, local agents background on Scientific Equipment Business, etc. may also be appended along with Testimonials and documentary proof.

#### **IV. Conditions of Contract: -**

1. The offer must be in English. The rates should be indicated both in figures and words against item specified. It is preferable that the price be quoted in US Dollars or in a major foreign currency for imported equipment.
2. **The total cost should be quoted for FOB as well as CIF – Pondicherry University, Puducherry.**
3. The price quotes under FOB and CIF should also include the expected installation cost in the University Laboratory at Puducherry and also cost of consumables which are required for the main equipment for initial operation up to a reasonable period.
4. In case of the Principal supplier of Foreign country unable to meet the conditions stated at Section - IV, the local agent/dealer should fulfill the above said conditions in respect of Local Insurance, Freight, safety transport and installation, etc.
5. The prices quoted shall remain firm until the equipment is supplied to the Department of Physics, Pondicherry University, Puducherry.
6. The University has been granted the benefit of exemption from the payment of the Central Excise Duty and Customs Duty by the Department of Scientific and Industrial Research (DSIR), India, vide their Notification No. 10/97 dt. 01-03-1997 and 51/96 dt. 23.07.96 respectively.

#### **In respect of**

- a. Scientific and technical instruments, apparatus, equipment including computers.
- b. Accessories and spare parts of goods specified in (a) above and consumables.
- c. Computer softwares, compact disks, CD ROM, Recording magnetic tapes, microfilms, micro-chips etc.
- d. Prototypes.

Customs duties at Indian port, if any, will be to the account of the University.

7. Infra-structural, power and any other requirement for satisfactory installation and commissioning of the whole system must be provided, at least 120 days in advance of the installation to be commenced. All drawing for electrical connections, electrical safety items piping work etc. must be provided in detail.

8. Complete technical specifications and literature, including process flow, to be included with the quotation. Manufacturers of various major parts/equipment must be mentioned explicitly.
9. A clear statement regarding availability of after-sales service and availability of spare-parts for next 5 to 10 years should be included.
10. Furnish a recent customers list (within last five years) with contact details including email address.
11. If the firm must have an authorized representative in India, it is requested to inform its technical ability to take care of the problems in the system, if developed later within the warranty and outside the warranty period. The responsibility of the Indian agent must be clearly specified.
12. The bidder from abroad shall obtain, if required, export permission from the appropriate authorities in his country or the country of origin for items to be shipped to India in case of items to be imported. The University shall provide necessary information if required for this purpose.
13. The bidder from within India shall obtain the requisite approval for Imports etc., if required.
14. **Warranty:** The material covered under the purchase order, when installed, shall be warranted for the quality, workmanship, trouble free operation and performance for a period of **at least 36 months from the date of successful and complete installation** at the Pondicherry University, or at least 42 months from the date of receipt of the last lot of the consignment in India.

If any item covered under warranty fails, the same shall be replaced free of cost including all the applicable charges including shipping cost both ways.

15. **Payments terms:** Normally a letter of Credit (LoC) will be opened for 100% FOB price on receipt of order acknowledgement. However, 90% of the LC amount will be paid on proof of the shipment of the consignment with necessary documents to be detailed at the time of placing of the purchase order. Balance of 10% of the LC amount shall be made after satisfactory installation and commissioning and against submission of the Installation & Commissioning certificate, duly accepted by the purchaser, and **a performance bond of 10% of the total contract/purchase value in the form of bank guarantee (obtained from Nationalized Bank of India) for the duration of the Warranty period.**

All the Bank charges within India shall be borne by the purchaser and outside India shall be borne by the bidder/supplier.

16. In case of any dispute in respect of the tender, all legal matters shall be instituted within the jurisdiction of the place where the purchaser ordinarily resides.

17. No Agency commission will be paid to any authorized agent.
18. Liquidated damages: Timely supply of the ordered items, installation, commissioning (wherever is applicable) and training etc. is the essence of the contract. In case of failure to supply within the time specified in the Purchase order, a penalty/LD of 0.5% of the total value per week or a part thereof shall be levied subject to a maximum of 7.5% in respect of items which are not supplied. The decision of Pondicherry University shall be final in this regard.
19. The training should be provided by the firm on the operation and routine maintenance of the equipment for a minimum period of two-three days from the date of installation with an expert team for two persons.

For any clarification with respect to technical specifications, please contact to  
**Dr. R.N. Bhowmik, Assistant Professor, Department of Physics,  
Pondicherry University, Puducherry.**  
**Email: rnbhowmik.phy@pondiuni.edu.in**  
**Tel: 0413-2654636 (O) ; 09944064547 (M)**

Pondicherry  
17.02.2012

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