

**Centre of Excellence for Green Energy and Sensor Systems
Indian Institute of Engineering Science and Technology, Shibpur
P.O. Botanic Garden, Howrah – 711 103, West Bengal, India**

**Ref.: Tender Advt. No. CGE 1186, published in “The Times of India, Kolkata”, Sanmarg” &
“Ei-Samay”, dated 18.02.2016**

**(University Project Code: DRC/WBREDA/CEGESS/HS/013/14-15)
under
“Smart Micro Grid at CEGESS” WEBREDA**

Notice for Inviting Quotations

Sealed quotations are invited from *bonafide* suppliers for supply of the following items.

Item no. 1. Acquisition, Analysis & Control Software

Item no. 2. Ethernet Based Acquisition & Control system

**Item no. 3. Industry Standard Programmable Automation Control
(PAC) UNIT for SMART CONTROL & MONITORING**

Bidding documents may be downloaded from the website (www.becs.ac.in) and bidders can submit quotations as per instructions in the document.

Last date of submission of bid is **14 working days** from the date of publications of this advertisement . up to **5.00pm**.

Dean (R & D)

(A. Code DRC-T104/15-16)

SECTION-I: General Conditions and Important Instructions for Bidders

1. Bidders are to submit the original tender documents with technical specifications and price details in sealed envelope to Prof. Hiranmay Saha, Principal Investigator, “**Smart Micro Grid at CEGESS**” **WEBREDA** and Chair Professor, Center of Excellence for Green Energy and Sensor Systems (CEGESS), IEST ,Shibpur (Formerly Bengal Engineering and Science University), Shibpur, Howrah-711103, West Bengal.

2. Bidders are to submit Technical Commercial Bids in a single Quotation

All Document should be placed in a common sealed envelope, superscripted with the Ref. **Advertisement No. , Item name** and date along with the bidders name and address. Any deviation from the said process will result in disqualification of the particular bidder.

3. Bidders are to submit this tender document in original after accepting the terms and conditions.

4. Preference will be given to reputed indigenous manufacturers having proven track record with service and maintenance capability in Kolkata/ India. Vendors are requested to visit the site to evaluate the appropriate costing.

5. Last Last date of submission of bid is **14 working days** from the date of publications of this advertisement . up to **5.00pm**.

Tenders received late will not be accepted under any circumstances. Tenders will be opened in the room of Head Center of Excellence for Green Energy and Sensor Systems (CEGESS),IEST,Bengal Engineering and Science University, Shibpur, Howrah- 711103, West Bengal . In case the University remains closed on the said date, tenders will be opened on next working day at 3.10 pm.

6. The Price Bid should clearly mention the price including the following:

- Ex Works Price
- Packing and Forwarding Charges, if any
- Freight and insurance, up to IEST, Shibpur West Bengal.
including loading and unloading charges
- All taxes, duties, levies applicable, in INR

For imported equipment, Letter of Credit may be opened against proforma invoice received from the Principal Vendor. In case of imported equipment the local agents are to quote the price in foreign currency.

7. The manufacturer selected shall provide Training in operation and application of the Instrument for the R&D work to user Scientists at BESUS.

8. The University will not issue any C or D form availing of concessional Sales Tax/ VAT. The University will issue Customs Duty Exemption Certificate or Excise Duty Exemption Certificate for foreign purchase, if required.

9. The equipments are to be supplied at the Center of Excellence for Green Energy and Sensor Systems (CEGESS), IEST (Formerly Bengal Engineering and Science University), Shibpur, Howrah-711103, West Bengal, between 11.00 am and 4.00 pm from Monday to Friday except holidays. The bidders will be responsible for any breakage, damage or defect in the equipment detected subsequently.

10.

(a) For Indian purchase (This clause is applicable only for Indian purchase and not applicable for foreign purchase):

Bills in triplicate should be presented for payment within 15 days of Supply / Completion of work. No Advance Payment can be made. All bills are to be accompanied by Order copies and Challan Receipt. The Order Number is to be noted on both the Challan and the Bill. Payment will be made on submission of Proper Bills, Challans etc, by A/C Payee Cheque and no cash payment will be made under any circumstances.

Or

(b) For Foreign purchase (This clause is applicable only for foreign purchase and not applicable for Indian purchase):

Payment will be made through Letter of Credit/Bank Transfer. AWB, Packing list, Warranty Certificate, etc should be provided.

11. All payments are subjected to statutory deductions as and when applicable.

12. Earnest Money Deposit: NIL

a) Earnest money deposit, as specified against different items, in the form of Demand Draft / Pay Order drawn in favour of the "Registrar, IEST, Shibpur" and payable at Kolkata shall have to be paid together with the TECHNO-COMMERCIAL BID, failing which, unless otherwise exempted by any rule, shall not be entertained.

b) Tender has to be kept valid for acceptance for a period of **6 months** without any modifications in its terms and conditions.

c) Earnest Money Deposit of the successful bidders will be converted to Security Deposit.

d) Earnest Money Deposit / Security Deposit will be refunded after successful completion of supply or after expiry of Guarantee period. No interest is payable on Earnest Money Deposit/

Security Deposit.

e) Bidders shall submit self-addressed envelope affixing postal stamp of Rs.25/- for release of Earnest Money Deposit.(If Applicable)

13. Documents to be submitted with the tender:

- Tender Documents, General Conditions and Important Instruction in original duly signed by the Proprietor/ Partner/ Director of the company as a token of acceptance of Terms and Conditions of Tender.
- Latest Income Tax, Sales Tax, Professional Tax clearance certificates and copy of valid Trade License.
- Technical Bid, Price Bid (Priced) separately in two sealed envelope according to specifications.
- Demand Draft/ Pay Order for Earnest Money Deposit.

14. For all items the warranty/ guarantee period should be at least 24 months from the date of commissioning. Warranty/ Guarantee for all the items supplied will be on 'all comprehensive' basis, i.e., including repairs, replacements, maintenance etc.

Calibration / Test Certificate must accompany along with the equipment.

Supply of equipment shall include installation, commissioning and demonstration. IEST, Shibpur, Howrah reserves the right to accept/ reject all or any of the bidders without assigning any reason whatsoever.

15. The vendors quoting against this tender should have a proper track record internationally and should have supplied similar instruments to National institute of repute(Document to be attached)

15. IEST, Shibpur, reserves the right to accept / reject all or any of the tenders without assigning any reason whatsoever.

I/We accept the above terms and conditions.

Signature of the Bidders with date and seal

SECTION II: TECHNICAL SPECIFICATIONS

Acquisition, Analysis & Control Software:-

i) Graphical Platform for Data Analysis, DATA Acquisition, Data Logging and Control. A platform that helps engineers scale from design to test and from small to large systems. Should offers unprecedented integration with existing legacy software. Should have capacity for future innovation.

ii) Should includes thousands of advanced analysis functions created specifically for engineers and scientists, all with detailed help files and documentation. With these powerful tools, one can perform advanced signal processing, filtering, frequency analysis, probability and statistics, curve fitting, interpolation, digital signal processing, and more. can extend with processing for applications including sound and vibration, machine vision, RF/communications, and transient/short-time duration signal analysis.

iii) Requires ultimate system design software used by engineers and scientists to efficiently design, prototype, and deploy embedded control and monitoring applications. Combination of hundreds of prewritten libraries, tight integration with off-the-shelf hardware, and a variety of programming approaches including graphical development, .m file scripts, and connectivity to existing ANSI C and HDL code. Whether designing medical devices or complex robots, reduce time to market and the overall cost of embedded control and monitoring.

iv) Application Area of the Software Platform:-

- Acquiring Data and Processing Signals
- Instrument Control Automating Test and Validation Systems
- Embedded Monitoring and Control Systems
- Academic Teaching

2) Ethernet Based Acquisition & Control system:- Ethernet based remote or distributed electrical measurements system with option to add/replace/remove input/outputs. Integrated Controller cum Chassis with 400 MHz industrial real-time processor & 4-slot LX25 FPGA chassis and connectivity of 10/100BASE-T Ethernet port; RS232 serial port. With 9 to 30 VDC power supply input. Analog Input facility should be 32 single-ended or 16 differential channels, Resolution of the signal need to be 16bit, aggregate sampling rate 250 kS/s & ± 200 mV, ± 1 , ± 5 , and ± 10 V programmable input ranges as well as 4 channel Digital input/output wit 55 ns high-speed operation. DI/O should operate as sinking/sourcing. One 4-Port, RS485/RS422 Serial Interface Module with Baud rates from 14 baud to 3.684 Mbaud; -40 to 70 °C operating range & Data bits: 5, 6, 7, 8; Stop bits: 1, 1.5, 2; Flow control: XON/OFF, RTS/CTS, None . Individual 64 B UART FIFO buffers per port also available. Transceiver modes is 4-wire, 2-wire DTR controlled, 2-wire DTR controlled with echo, 2-wire auto. This module is 8 to 28 VDC externally powered; PC-MF4-PT cable included.

3) Industry Standard Programmable Automation Control (PAC) UNIT for SMART

CONTROL & MONITORING:- Integrated Controller cum Chassis with 400 MHz industrial real-time processor & 4-slot LX25 FPGA chassis and connectivity of 10/100BASE-T Ethernet port; RS232 serial port. With 9 to 30 VDC power supply input. Along with a Analog Input Module 16 bit 16 differential channels with 250 kS/s sample rate with a programmable range of ± 200 mV, ± 1 V, ± 5 V, and ± 10 V measurements along with channel-earth isolation. Digital Input/Output Module – 32 channel Bidirectional Digital I/O with 5 V/TTL & configurable by line with shift-on-the-fly capability. Analog Output Module – Four Channels of analog output with 100 kS/s per channel simultaneous rate and ± 10 V signal of 16 bit resolution along with CAT-II Isolation of 250 Vrms .System can sustain at -40 to 70 °C operating range

