



PONDICHERRY UNIVERSITY
(A Central University)

MADANJEET SCHOOL OF GREEN ENERGY
TECHNOLOGIES

CENTRE FOR GREEN ENERGY
TECHNOLOGY

Tender Document for supply of
“Computer Controlled
Electrochemical Workstation with
Frequency Response Analyzer
(FRA)”

(Tender No. Ref: - PU/GET/PE/CSIR/2013/03 Dt. 30.05.2013)

CONTENTS

I	Terms and conditions under two bid system	2-7
II	Description & Technical Specifications of Instruments	8
III	Annexure- I (Bidder's Warranty)	9
IV	Annexure-II (Bank Guarantee)	10-12

TERMS AND CONDITIONS (UNDER TWO BID SYSTEM)

I. Instructions to the Bidder: -

1. Purchase of Tender Document

The Tender document can be either downloaded from the University website www.pondiuni.edu.in or procured from the Information Facilitation Counter, Dr.Ambedkar Administrative Block, Pondicherry University on payment of tender document fee as specified below, by means of a Demand draft drawn in favor of **the Finance Officer, Pondicherry University, payable at Puducherry**. In case of downloaded documents, it should be submitted along with the tender document fee in the form of Demand draft drawn as mentioned above.

2. Tender Document fee and EMD to be submitted

S.No	Name of the Equipment	Tender Document Fee	EMD Fee
1	Computer controlled Electrochemical Workstation with frequency response analyzer (FRA)	Rs. 500/-	2.5% of the quoted price

3. Last Date & Time for submission of Tender Documents

21.06.2013 at 3.00 p.m. and they will be opened on the same day at 3.30 p.m.

4. 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. Any tender, submitted without tender document fee, will not be accepted. This is to be dropped in the Tender Box placed at the Information Facilitation Counter, Pondicherry University, or sent by Registered post / courier service addressed to "**The Registrar, Pondicherry University, R.V.Nagar, Kalapet, Puducherry – 605014**" positively before the tender bid closing time. **Tenders sent through Fax will not be accepted.**

5. 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.

6. The validity of the Quotation

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

7. Late Bids

The offers will not be considered if received after the bid closing date and time.

8. Invalid quotes

The offers received through telex / tele-fax / e-mail will not be accepted by the University under any circumstances.

9. In case of Postal loss

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

10. No unsolicited correspondence

No unsolicited correspondence shall be entertained after the submission of the offer.

11. 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.

12. Additions in terms and conditions

Additional terms and conditions will be incorporated in the purchase order, if needed, to safe guard the interests of the University.

13. Non-transferable

Tender is not transferable.

14. Power to reject the offer

Any offer containing incorrect and incomplete information shall be liable for rejection.

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 Research Institutes in India.*
- 2. Availability of Service Network in India, especially in Chennai or Bangalore.*
- 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 for the instrument quoted as per the list of ITEMS mentioned in the schedule, is alone need to submit their quotation.
2. The rates should be quoted for a single unit.
3. The price should include the delivery and installation at the Centre for Green Energy Technology, Pondicherry University, Puducherry and training charges (if any).

III. Eligibility:

1. The firm must have the requisite domain expertise with regard to supply, installation and post-sale service of the items they are quoting.
2. The firm should have been in existence for at least six years as on the date of this document and must have executed at least three orders for this kind of equipment during the last five years.
3. The firm should have sufficient number of installations of the similar Equipment in the premier Research Institutes in India.
4. The firm should have nation-wide Service Network all over India, especially in Chennai or Bangalore.

Tender document for supply of minor equipments for Centre for Green Energy
Technology, Pondicherry University

5. 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.
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 in the given Annexure. It is preferable that the price be quoted in Indian Rupees.
2. **The total cost should be quoted for FOB as well as CGET – 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, 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 equipment is supplied to the Centre for Green Energy Technology, Pondicherry University, R.V.Nagar, Kalapet, 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 software, 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

Tender document for supply of minor equipments for Centre for Green Energy
Technology, Pondicherry University

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. Please give a recent customer list (within last five years) with contact details including email address.
11. If you have an authorized representative in India, you are requested to inform his 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 putting the system into operation** at the Pondicherry University, or at least 42 months from the date of receipt of the last lot of the consignment in India. (A signed Bidder's Warranty as per Annexure – I has to be submitted along with the Bid Document) 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 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.** (Refer Annexure – II for Bank Guarantee Format)

Tender document for supply of minor equipments for Centre for Green Energy
Technology, Pondicherry University

Bank charges in India shall be borne by the purchaser and outside India shall be borne by the contractor / 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 in India.
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 specimen and operation of the equipments for a minimum period of three weeks from the date of installation with an expert team for two persons.

For any clarification with respect to technical specifications, please contact The Dr. P. Elumalai, Centre Head & PI CSIR Project, Centre for Green energy Technology, Pondicherry University, Puducherry.

Email: elumalai.get@pondiuni.edu.in

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Tender document for supply of minor equipments for Centre for Green Energy
Technology, Pondicherry University

Name of the Instrument and specification

S.No	Name of the Item	Specifications	Qty
1	Computer controlled Electrochemical Workstation with frequency response analyzer (FRA)	<p>Applied Voltage Range: $\pm 10V$ or above Compliance Voltage: $\pm 20V$ or more Current range: $\pm 10\mu A$ - $\pm 700mA$ or more Current Resolution: $760pA$ or better Voltage Resolution: $5\mu V$ or better Frequency range: $10\mu Hz$ - $1MHz$ or more Mode: Potentio static/Glavano static AC Amplitude: $1mV_{pp}$ - $1V_{pp}$ Electrode configuration: 2, 3, 4 & 5 terminals</p> <p>Auxiliary voltage inputs/outputs for connecting external devices to the Instruments like RDE, QCM, and pH meter etc.</p> <p>Interface: <u>USB/Ethernet</u></p> <p>Software techniques required.</p> <ol style="list-style-type: none"> 1. Voltammetry techniques 2. Pulse techniques 3. Corrosion measurement techniques 4. Impedance spectroscopy 5. Battery/Super capacitor testing 6. Fuel cell/Solar cell testing 7. Equivalent circuit fitting 8. Analysis tools for Battery, Voltammetry, Corrosion, Impedance etc. <p>Voltammetry techniques:</p> <ol style="list-style-type: none"> a. OCP b. Cyclic Voltammetry c. Advanced cyclic Voltammetry d. Chrono Amperometry e. Chrono potentiometry f. Linear sweep Voltammetry g. Large amplitude sinusoidal Voltammetry h. Galvano dynamic i. Potentio dynamic j. AC Voltammetry <p>Pulse Techniques:</p> <ol style="list-style-type: none"> a. Differential Pulse Voltammetry b. Normal Pulse Voltammetry c. Square wave Voltammetry d. Reverse normal pulse Voltammetry e. Differential normal pulse voltammetry f. Differential Pulse Amperometry <p>Corrosion:</p> <ol style="list-style-type: none"> a. Linear cyclic polarization b. Generalized corrosion c. Pitting d. Tafel e. ZRA (noise) f. LPR g. Rp. Vs. Time 	1

		<p>h. Depassivation potential 2D & 3D Views should be available</p> <p>Technique Builder:</p> <ol style="list-style-type: none"> Modular Potentio Modular Galvano Loop, Trigger in, Trigger out, wait. <p>Impedance:</p> <ol style="list-style-type: none"> Potentio EIS Galvano EIS Staircase Potentio EIS, Galvano EIS Mott-Schottky IR compensation <p>Battery testing/Photo voltaic Measurements:</p> <ol style="list-style-type: none"> Galvanostat cycling Potentio dynamic cycling Constant Load Discharge Constant power Discharge Alternate pulse Galvano cycling I-V measurement <p>Warranty: 2 year</p> <ul style="list-style-type: none"> System should be air-cooled Software should be based on Windows 7 with graphical user interface. System should be supplied with PC for data acquisition with LCD monitor or suitable laptop with all in one laser printer. 	
2	Electrodes	<ol style="list-style-type: none"> Ag/AgCl reference electrode (length: 70mm – OD: 6mm) Saturated Calomel Electrode (Length: 90mm – OD: 6mm) Platinum counter electrode coiled (23cm – wire diameter 0.5mm) Glassy carbon electrode (OD: 6mm – ID:3mm) 	<p>2</p> <p>2</p> <p>2</p> <p>1</p>
3	Computing system	<p>Laptop or Desktop: i3 processor, 2GB RAM, 500Gb hard disk, Windows 7 or 8 OS or better</p> <p>Printer: all in one LaserJet printer (printer, scanner and copier) or better</p>	<p>1</p> <p>1</p>
4	Air condition & power backup	<p>AC: 1.5 ton AC</p> <p>UPS: 1KVA online UPS with 2 hours backup</p>	<p>1</p> <p>1</p>
5	Additional Accessories	<p>FRA board for Potentiostat</p> <ul style="list-style-type: none"> Frequency range : 10μHz-1MHz 	<p>1</p>

BIDDER'S WARRANTY

The Registrar, Pondicherry University, Puducherry invited Bid Document for Supply of Minor Equipments at Centre for Green Energy Technology, Pondicherry University and M/s. _____

There in after referred to as "The Bidder" having carefully studied all the bid documents, Specifications, etc. accompanying the tender for supply of the _____ (Name of the Instrument) and desirous to submit the bids as per the Tender Document advertised [wide Notification -Tender No. - PU/GET/PE/ CSIR/2013/03 Dt. 30.05.2013](#)

DO HEREBY WARRANTY THAT

1. The bidder is familiar with all the requirements of the bid documents.
2. The bidder has investigated the site and satisfied, he regarding the character and scope of the work and local conditions that may affect the supply or its Performance.
2. The bidder is satisfied that the supply can be performed and completed as required in the contract.
4. The bidder accepts all risk directly or indirectly connected with the performance of the contract.
5. The bidder has had no collusion with other contractors, with any of the men of Pondicherry University, Puducherry, or with any other person in preparation of the bid.
6. The bidder has not been influenced by any statement or promise of the Officials of Pondicherry University, Puducherry but only by the bid documents.
7. The bidder is financially solvent.
8. The bidder is experienced and competent to perform the contract to the satisfaction of the Co-ordinator, Centre for Green Energy Technology, Pondicherry University, Puducherry.
9. The statements submitted with the bid are true.
10. The contractor is familiar with all general and special laws, acts, ordinances, rules and regulations of the Municipal, District, State and Central Government that may affect the work, its performance or personnel employed therein.
11. All the terms & conditions of the Supply Order will bind the bidder once his quote is accepted and supply order issued.

Signature of the Bidder

BANK GUARANTEE

Pondicherry University
Bharat Rathna Dr. B R Ambedkar Administrative Building
R Venkataraman Nagar
Puducherry 605 014

This guarantee made this _____ day of _____ 201_ by _____ Bank having its Registered Office at _____ and one of its branches at _____ (hereinafter referred to as “the Guarantor” which expression shall, unless it be repugnant to the subject, meaning or context thereof, be deemed to mean and include its successors and assigns) in favour of the Pondicherry University, Puducherry 605 014 represented by its Registrar, having his office at R. Venkataraman Nagar, Kalapet hereinafter referred to as the “University” which expression shall include his successors in office for an amount not exceeding Rs. _____ (Rupees _____ only) at the request of M/s. _____ (more fully described hereunder)

2. Whereas the University has placed work Order No: PU/ _____ dated _____ for _____ with M/s. _____ having its office at _____ and hereinafter referred to as the “Contractor” which expression shall include their successors and assigns.

3. And whereas the Contractor has accepted and agreed to execute the work as per the work order as per undertaking / agreement dated _____ within the time stipulated and in the manner specified therein.

4. And whereas the University has called upon the Contractor to furnish Bank Guarantee for the sum of Rs. _____ (Rupees _____ only) for fulfilment of the said work as specified in the work order and as agreed to by the Contractor.

5. And whereas the Contractor has requested the Guarantor herein to furnish an irrevocable and unconditional Bank Guarantee in favour of the University for an amount of Rs. _____ as guarantee towards execution of the work as agreed to by the contractor to the University.

6. Now, therefore, we _____ Bank, the Guarantor herein, do hereby irrevocably and unconditionally Guarantee the payment to the University the sum not exceeding Rs. _____ (Rupees _____ only) in the event of any breach, failure, neglect or inability on the part of the Contractor in the execution of the said work, on demand without reference of the matter to the Contractor and

Tender document for supply of minor equipments for Centre for Green Energy
Technology, Pondicherry University

without any prior consent of the Contractor, at all times throughout the period of execution of the work, without demur, cavil or argument or delay.

7. The Guarantor agrees and undertakes that the decision of the University as to whether the contractor has committed any breach of the obligation with respect to the work to be executed, and the quantum of amount therefore payable by the Contractor to the University in that regard, shall be final, binding and conclusive as against the Guarantor and the Guarantor shall make payment accordingly, on demand by the University.

8. The Guarantor further agrees and undertakes to pay to the University the amount demanded by the University irrespective of and notwithstanding any dispute raised by the Contractor in any suit or proceeding before any judicial forum relating to the Contracted work and the Guarantor's liability under this Guarantee shall be absolute and unequivocal.

9. This Guarantee is issued subject to the condition that the liability of this Guarantor under this guarantee is limited to the maximum of Rs. _____ (Rupees _____ only) and the guarantee shall remain in full force up to _____ and cannot be invoked otherwise than by a written demand or claim by the University for the payment of the said amount by the Guarantor on or before _____ or any extended date as decided by the University.

10. This University shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the contracted work or to extend time for performance of the work by the Contractor. Any change to the contracted work shall not in any way release the Bank (Guarantor) from liability under this Guarantee and we waive notice of any such change. The University shall have full liberty to forbear or enforce any of the terms and conditions of the contracted work.

11. This Guarantee shall not be affected by any legal limitation, disability or other circumstances relating to the Contractor or the Guarantor.

12. This Guarantee shall be valid for the period up to _____ and shall extend further and beyond _____ for such period as determined by the University.

13. The Guarantor undertakes not to revoke this guarantee except with the previous consent of the University in writing.

14. Notwithstanding anything contained herein:

- Our liability under this guarantee shall be limited to Rs. _____ (Rupees _____ only)

Tender document for supply of minor equipments for Centre for Green Energy
Technology, Pondicherry University

- This guarantee shall be valid up to _____ and for such further period as determined by the University for fulfilment of the contract.
- We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before _____ or such extended period / date.

In witness whereof, this Guarantee has been executed by _____ for an on behalf of the Bank (Guarantor) on the day, month and year first above written.

SIGNATURE AND SEAL

NAME OF THE BANK (GUARANTOR):

ADDRESS: