



**SPONSORED RESEARCH, INDUSTRIAL CONSULTANCY &
CONTINUING EDUCATION CELL
NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA – 769 008, ORISSA**

Advertised/ Limited Tender Enquiry

Department: Metallurgical & Materials Engineering

Enquiry No: NITR/PW/MM/2018/123

Date: 02-02-2018

To,
CPP Portal
(E-procurement)

Important Dates

Event	Date	Time
Pre-bid Conference		
Last Date of submission of quotation	22-02-2018	3:00pm
Quotation Opening date	26-02-2018	3:00pm

Dear Sir,

We intend to purchase the commodities specified below and invite quotations in accordance with the terms and conditions detailed in the bid document. If you are interested, kindly send your offer with prices and complete terms within the time mentioned above.

Please send your quotation to:

Name:
Principal Investigator: Prof. A. Basu
Department of Metallurgical & Materials Engg.,
NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA – 769 008, ORISSA

Yours sincerely,

Name: Prof. A. Basu
Principal Investigator:
MM-044 Project

Encl:

- (1) Schedule of requirement, specifications, dates etc.
- (2) Bid document containing detail terms and conditions.

1. Schedule of requirements

Sl. No.	Description of Goods/Service	Quantity
01.	<u>Potentiostat / Galvanostat with EIS facility</u> Electrode configuration : 2, 3 or 4 terminals plus ground Standard Voltage Compliance : $\pm 12V$ or better Standard Current Compliance : $\pm 2A$ or better (without using any external booster) Potentiostat Bandwidth : 1MHz or more Potentiostat Rise Time : $< 350ns$ with no load Applied Voltage Range : $\pm 10V$ with resolution $300\mu V$ in maximum voltage range and $300nV$ in minimum voltage range Applied Voltage Accuracy : $\pm 0.2\%$ of value $\pm 2mV$ or better Maximum Scan Rate : $5000V/s$ with $50mV$ step or better (Detailed specification as per attached Annexure – I)	01 unit

2. Specifications and allied Technical Details

* Attach User list along with the quotation

3. Format of Quotation (tick appropriate box)

It is a single bid; please give all technical specifications and price bid in one go.

OR

~~It is a two part bid with separate techno-commercial and price bids. Please see item 1.12 of instructions for method of bidding.~~

4. The bid should be submitted through <https://eprocure.gov.in/eprocure/app>

5. Quotations should be valid for a period of **90** days from the closing date of the bid.

6. Some important dates:

i. Pre-bid Conference: Date: NA Time: NA

ii. Last date for receipt of quotation: Date: 22-02-2018 Time: 3:00 PM

iii. Opening of Technical and Financial bid: Date: 26-02-2018 Time: 3:00PM

7. **Warranty** of **02** years must be provided.

8(a) **Excise Duty:** The Institute is exempt from Excise Duty. Please state applicable excise duty as a separate item.

8(b) **GST:** GST should be charge according to applicable rates.

9. **Bid Security: Not Applicable.**
10. **Performance Security: Not Applicable.**
11. Please go through the enclosed "bid document" carefully for other bidding instructions.
12. Please send your quotations through <https://eprocure.gov.in/eprocure/app>
13. For technical details, you may contact

Prof.A. Basu

Principal Investigator: MM-044 Project
Department of Metallurgical & Materials Engg.,
National Institute of Technology,
Rourkela – 769 008
Phone: 0661 – 2462553,
Mobile No. +919437437579
Fax: 0661 – 2462999
E-mail: basua@nitrkl.ac.in

NB: ***Please furnish your Dealership Certificate (must) and Proprietary Nature Certificate (If applicable)***



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BID DOCUMENT

1. Instructions to the bidders

- 1.1 Bids are invited on behalf of the Director, National Institute of Technology (NIT), Rourkela – 769 008, Orissa, from the intending bidders for supply of the goods/stores/ equipments for the Institute as detailed in the enquiry letter.
- 1.2 The bidders should quote their offer/rates in BOQ in clear terms without ambiguity.
- 1.3 In case of any discrepancy between the rates in figures and that in words, the rate in words will be accepted as correct.
- 1.4 The last date for receipt of the bid is marked in the enquiry. In case the above date is declared a holiday for NIT, Rourkela, and the bids will be received up to the appointed time on the next working day.
- 1.5 The bids should be uploaded in <https://eprocure.gov.in/eprocure/app> Please follow the guidelines of the site.
- 1.6 If a prospective bidder requires any clarification in regard to the bidding documents, he may make a request the concerned officer or faculty member at least 15 days before the deadline for receipt of bids.
- 1.7 Bids received after the deadline of receipt indicated in para 1.4 above, shall not be taken in to consideration.
- 1.8 Each bidder shall submit only one bid. A bidder, who submits more than one bid, shall be disqualified and considered non-responsive.
- 1.9 (In respect of high value plant, machinery etc. of a complex and technical nature). The bids may be submitted in two parts, viz., technical bid and financial bid.
- 1.10 The bidder has to sign in full at all pages of the scanned part of the bidding document. No over-writing in those pages are acceptable.

2. Conditions of the bid

- 2.1 The rates quoted should preferably be net, inclusive of packing, forwarding, freight, Insurance and all other incidental charges excluding taxes. In case these charges are quoted extra in addition to the quoted rates, the amount thereof or Ad Valorem rate must be specified. Packing, forwarding, freight etc., when quotes separately are reimbursable at actual. If external agencies are employed, their receipts must be enclosed with the invoice.

2.2 Duties and Taxes are to be quoted separately. Ad Valorem rates thereof should be clearly indicated with reference to the relevant Acts and Rules.

It may be noted that the Institute is exempt from paying Excise Duty vide Government Notification No. 10/97 dated 01.03.1997 [Registration No.: TU/V/RG-CD (227)/2011, dated 10.10.2011. The Institute is not authorized to issue C or D forms. GST may be charged at applicable rates.

2.3 The goods are required to be delivered at the indenting Department of NIT, Rourkela, and must be dispatched within **60 days** from the date of placement of the supply of order under the risk and arrangement of the bidder and offers with delivery beyond the above period shall be treated as unresponsive. In case the delivery time is higher, the same must be mentioned clearly in the quotation.

2.4 The bid should remain valid for a period of **90 days** from the date of opening. In case your offer has a different validity period that should be clearly mentioned in the quotation.

2.5 Conditional discount, if any, offered by the bidder shall not be considered at the time of evaluation.

2.6 The goods offered should strictly conform to the specification and technical details mentioned in **Annexure - I**.

2.7 The Institute may like to conduct pre-dispatch inspection of goods, where applicable.

2.8 Period of guarantee/warranty, where applicable, should be specified in the bid.

2.9 If the successful bidder, on receipt of the supply order, fails to execute the order within the stipulated period, in full or part, it will be open to the Director, NIT, Rourkela to recover liquidated damage from the firm at the rate of 1 percent of the value of undelivered goods per month or part thereof, subject to a maximum of 5 percent of the value of undelivered goods. Alternatively, it will also be opened to the Director, to arrange procurement of the required goods from any other source at the risk and expenses of the bidder.

2.10 The successful bidder may be required to execute a contract, where applicable.

2.11 The bidder has to furnish up to date GST and Income Tax Clearance Certificate along with the bid.

2.12 Payment (*100 percent*) will be made by Account Payee Cheque/Bank Draft, within 30 days from the date of receipt of the goods in good condition or receipt of the bill, commissioning of the equipment, where applicable, whichever is later/latest.

2.13 In the event of any dispute arising out of the bid or from the resultant contract, the decision of the Director, NIT Rourkela shall be final.

2.14 The bid document/resultant contract will be interpreted under Indian Laws.

Technical Specification of POTENTIOSTAT / GALVANOSTAT with EIS

1. Electrochemical workstation

- Electrode configuration : 2, 3 or 4 terminals plus ground
- Standard Voltage Compliance : $\pm 12\text{V}$ or better
- Standard Current Compliance : $\pm 2\text{A}$ or better (without using any external booster)
- Potentiostat Bandwidth : 1MHz or more
- Potentiostat Rise Time : $< 350\text{ns}$ with no load
- Applied Voltage Range : $\pm 10\text{V}$ with resolution $300\mu\text{V}$ in maximum voltage range and 300nV in minimum voltage range
- Applied Voltage Accuracy : $\pm 0.2\%$ of value $\pm 2\text{mV}$ or better
- Maximum Scan Rate : 5000V/s with 50mV step or better
- Applied Current Range : $\pm 2\text{A}$ to $\pm 200\text{nA}$ with resolution $60\mu\text{A}$ in maximum current range and 6pA in minimum current range
- Applied Current Accuracy : $\pm 0.2\%$ of reading, $\pm 0.2\%$ of range
- Electrometer with maximum input range : $\pm 10\text{V}$, input impedance $\geq 10^{12}\Omega$ and $\geq 10\text{MHz}$ bandwidth
- Electrometer Leakage Current : $\leq 5\text{pA}$
- Voltage Measurement Range : $\pm 10\text{V}$ with $6\mu\text{V}$ minimum resolution
- Current Measurement Ranges : 2A to 200nA , at least 8 ranges, auto-ranging with 6pA resolution in 200nA range
- **Electrochemical Impedance Spectroscopy** frequency range : $10\mu\text{Hz}$ - 1MHz and AC amplitude from 0.1mV rms to 1V rms or better
- IR Compensation : Positive Feedback and Dynamic IR
- Digital Inputs / Outputs, Auxiliary Voltage Input, DAC voltage Output
- Interface: USB interface to communicate with PC
- Built-in Calibration with Internal Dummy Cell for calibration check
- Certification : CE
- **Software and possible analysis:** Corrosion applications, different electrochemical methods, galvanostatic study, voltammetry and EIS (Tafel plot, open circuit potential, corrosion potential, polarization resistance, cyclic polarization, electrochemical reactivation, pulse deposition, square wave voltammetry, differential pulse voltammetry, sampled DC voltammetry, cyclic voltammetry, chronoamperometry, chronocoulometry, chronopotentiometry, Nyquist, Bode, admittance, Mott-Schottky, find circle, dynamic capacitance study other EIS studies etc.)
- The hardware must be capable for the following **future up gradation** possibilities:
 - Current booster 10A or more
 - Ultra low current measurement capability with at least 125 aA current resolution
 - BiPotentiostat for RRDE/RDE measurements
 - Interfacing with Solar Simulator

2. Electrochemical cell and electrodes

- 250ml cell for corrosion testing of flat samples
- One Ag/AgCl Reference Electrode
- One Pt Mesh Counter Electrode

3. PC and UPS

- One PC to operate the instrument and for data acquisition
- UPS for the workstation for 10 minutes back up.

4. Others

- Warranty: 2 years standard warranty from the date of installation. Additional 1 year warranty should be quoted separately
- *Bidders must provide user details of at least 5 national level premier institution of repute where similar instruments were supplied in last 2 years
- Scanned copy of technical brochure and website reference of the same must be included in the bid.