



**NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA – 769 008, ODISHA**

Advertised Tender Enquiry

Department: Physics and Astronomy

Tender Notice No: NITR/PW/PH/2021/260

Date: 25/06/2021

IMPORTANT DATES

To

Bidding
Through
CPP Portal
(e- Procurement)
<https://eprocure.gov.in/eprocure/app>

Event	Date	Time
Pre-bid meeting	NA	NA
Last date of submission of bid	26/07/2021	11:00 AM
Date of opening of techno-commercial bid	27/07/2021	11:00 AM

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.

For any clarification:

Yours sincerely,

Attention:

Prof. Prakash Nath Vishwakarma
Department of Physics and Astronomy
NIT Rourkela - 769 008
Phone: 0661-2462728(O) and 9437140165
Email: prakashn@nitrrkl.ac.in

Prof. Prakash Nath Vishwakarma

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
1.	Lock-in amplifier (Detailed specifications as per Annexure – II)	1 Unit

2. Specifications and allied Technical Details:

As per the specification attached in **Annexure-II**
* Attach User list along with the bid

3. Format of Quotation (tick appropriate box)

It is a two-part bid with separate techno-commercial and price bids.

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 date of opening of techno-commercial bid.

6. Some important dates:

i.	Pre-bid Conference	Date:	NA	Time:	NA
ii.	Last date for submission of bid	Date:	26/07/2021	Time:	11:00 AM
iii.	Date of opening of techno- commercial bid	Date:	27/07/2021	Time:	11:00 AM

7. **Delivery:** (1) For India make equipment: Department of Physics, NIT Rourkela, Odisha (2) For imported equipment: CIF Kolkata or NIT Rourkela (if interested) after custom clearance.

8. **Warranty:** 01 (one) year comprehensive warranty.

9. **GST:** GST should be charged according to applicable rates for India make items or Custom charges for imported items.

10. **Tender Cost:** Tender cost (Non- refundable) in the shape of Demand Draft for **INR 500/- (Rupees five hundred only)** in favor of "**Director, NIT Rourkela**" Payable at Rourkela from any Scheduled Commercial Bank except Co-operative and Gramin bank. Tender Cost should reach physically through speed post/ registered post/courier, contained in an envelope & superscripted with subject, tender reference number addressed to **Registrar, NIT Rourkela- 769008, Odisha; on or before 27/07/2021 at 11:00 AM.**, failing which the bid will be summarily rejected.

11. **Bid Security:** It is mandatory to submit the "**Bid Security declaration**" form as mentioned in **Annexure I**, failing which the bid will be summarily rejected.

12. **Performance Security:** **3 % of the contract value** should be deposited to the Institute within 15 days from the date of issue of Purchase Order in shape of Demand Draft (DD)/Bank Guarantee in favor of "Director, NIT Rourkela and payable at Rourkela" from any Scheduled Commercial Bank except Co-operative and Gramin bank. And Performance security should remain valid for a period of 60 days beyond the date of completion of all contractual obligations of the suppliers including warranty obligation.

13. Please go through the enclosed "bid document" carefully for other bidding instructions.

14. Please send your quotations through: <https://eprocure.gov.in/eprocure/app>

15. Technical Bid Evaluation Criteria:

The evaluation of the Techno-commercial Bid will be as per the detailed technical specifications given in Annexure–II. If required, the bidder(s) may be asked to provide additional clarification regarding the technical aspects.

Other Qualification Criteria:

- (i.) If the supplier is not the Original Equipment Manufacturer (OEM), then it should have its own service center in India. The bidders must enclose details of their infrastructure with reference to locations and technical manpower, availability of inventory spares etc. A valid GST registration certificate of the supplier should be submitted along with bid.
- (ii.) Offers from Authorized agents of Foreign Manufacturers should accompany Principal's Authorization letter mentioning our Tender Reference Number.
- (iii.) Manufacturer should have proper website and the offered product should be available in the website.
- (iv.) Scanned copies of the technical brochure of the above equipment and accessories as per Annexure-II must be included in the technical bid. Point wise technical compliance along with any deviation of the mentioned specifications (**Annexure-II**) must be indicated along with the technical documents.
- (v.) Make and model no. should be mentioned in the technical bid.
- (vi.) At least five user names and contacts from NIT/IIT/reputed Indian institute /Govt. R&D organizations must be provided where the above equipment (Annexure –II) have been supplied in last five years along with copies of purchase orders.
- (vii.) Prior installation conditions / site preparation / electrical connection required must be clearly mentioned in the quotation along with technical bidding documents
- (viii.) The comparison between the indigenous and the foreign offers shall be made on FOB destination basis and CIF/CIP basis respectively.
- (ix.) The quotations are liable to be rejected if any of the above conditions are not complied with or there is any violation of GFR17 rules and regulations. Conditional Bids shall not be accepted.
- (x.) The Bidder shall bear all costs associated with the preparation and submission of its bid, and "the Purchaser", will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.
- (xi.) The supplier must have annual turnover of Rs 10 lakhs for each of the last three financial years.
- (xii.) Service/Manpower: Should provide onsite instrument operation support with manpower for at least 2 years.
- (xiii.) The vendor should be able to provide all spare and parts for minimum of 10 years from the date of installation.

16. Financial Bid Evaluation Criteria:

The comparison will be made for the award of the contract on the overall L1 price basis.

17. For technical details, you may contact

<p>Prof. Prakash Nath Vishwakarma Department of Physics and Astronomy NIT Rourkela, Odisha- 769 008 Phone: 0661-2462728 (O) Email: prakashn@nitrkl.ac.in</p>
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NB: Please furnish your Dealership Certificate (must) and Proprietary Nature Certificate (If applicable)



NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA – 769 008, ODISHA

BID DOCUMENT

1. Instructions to the bidders

- 1.1 Bids are invited on behalf of the Director, National Institute of Technology (NIT), Rourkela – 769008, Odisha, from the intending bidders for supply of the goods/stores/equipment 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 rate 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 tender document.
- 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, s/he may make a request the concerned officer or faculty member at least 15 days before the deadline for receipt of bids.
- 1.7 Bid received after 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., techno-commercial 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 is acceptable.
- 1.11 If any bidder does not fulfil technical specification, his/her eligibility will be cancelled even if his/her price got L1 status.
- 1.12 Bidders registered with any of the following agencies/ bodies as per Public procurement policy for Micro & Small Enterprises (MSE) order 2012 are exempted categories from payment of EMD & Tender Cost provided that the registration Certificate issued by any one of these below mentioned agencies must be valid as on close date of tender. Micro small or medium enterprises who have applied for registration or renewal of registration with any of these agencies/bodies but have not obtained the valid Certificate as on close date of tender are not eligible for exemption.
 - i) Khadi and Village Industries Commission (KVIC)
 - ii) National Small Industries Corporation (NSIC)
 - iii) Any other body specified by Ministry of MSME/GOI

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 including 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 actuals. 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 availing custom duty exemption in terms of Notification No. 51/96 – Customs dt. 23.07.1996, Notification No. - 47/2017- Integrated Tax (Rate) dt. 14.11.2017 and Notification No- 45/2017 – Integrated tax (Rate) dt. 14/11/2017 & Notification No. - 45/2017- Central tax (Rate) dt. 14.11.2017, Notification No. - 45/2017- Union Territory Tax (Rate) dt. 14/11/2017 [Vide DSIR, Ministry of Science and Technology, Government of India, Registration No.: TU/V/RG- CDE (227)/2016, dated: 13.11.2018]

- 2.3** The goods are required to be delivered at the Department of Physics and Astronomy, NIT, Rourkela, and must be reached within **120 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 of Techno-commercial Bid. 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 as mentioned in schedule of requirements in the tender documents.
- 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** Purchase order / Work order shall be placed on the bidding firm(s). In case of deviation to this, if any, the bidding firm should produce any such sufficient documents/credentials i.e, Agreements, MOUs, Arrangements etc. with the third party/ OEM to satisfy the buyer. A consent letter from the third party/ OEM to that effect must be enclosed along with the bidding documents.
- 2.13** 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.
- 2.14** In case of Advance payment, the payment will be made on either in Foreign Demand Draft or Wire Transfer only. The proforma invoice copy need to be sent for advance payment.
- 2.15** State Bank of India is the sole Banking partner for NIT Rourkela for operation of LC (Letter of Credit).
- 2.16** 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.
- 2.17** The bid document/resultant contract will be interpreted under Indian Laws.

BID SECURITY DECLARATION

Tender Ref. No.: _____ Dated _____

Tender ID: _____

To

**The Registrar,
National Institute of Technology, Rourkela
Sundargarh, Odisha-769008**

The undersigned, declare that I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration. I/We accept that I/We may be disqualified/ suspended from bidding for any tender /contract in your Institute (NIT Rourkela) for a period of **Five Years** from the date of notification of present tender, if I am /We are in a breach of any obligation under the bid conditions as under, if I/We

- a) Withdraw/modify/amend, impair or derogate the tender/bids, during the period of bid validity specified in the form of Bid; or
- b) having been notified of the acceptance of our Bid by the purchaser during the period of bid validity
 - (i) fail or refuse to execute the contract, if required, or
 - (ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.

I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signed: (insert signature of person whose name and capacity are shown) in the capacity of (insert legal capacity of person signing the Bid Securing Declaration)

Name: (insert complete name of person signing the Bid Securing Declaration) Duly authorized to sign the bid for and on behalf of (insert complete name of Bidder)

Dated on _____ day of _____ (insert date of signing) Corporate Seal (where appropriate)

(Note: In case of a Joint Venture, the Bid Securing Declaration must be in the name of all partners to the Joint Venture that submits the bid)

INVITATION FOR TENDER FOR SUPPLY OF EQUIPMENT

Lock-in amplifier

General: The indented Lock-in amplifier will be used for low level signal detection in research and academic experimental works. A list of selected research papers may be attached to support the research capability of the tendered item. The system should be based on digital signal processing technique and should be able to simultaneously display the magnitude and phase of a signal.

1. Detailed Technical Specifications for Lock-in amplifier

Item No	DESCRIPTION
1.	<p>Signal Channel</p> <p>Voltage inputs Single-ended and differential</p> <p>Sensitivity 2 nV to 1 V</p> <p>Current input 10⁶ or 10⁸ V/A</p> <p>Input impedance</p> <p style="padding-left: 150px;">Voltage 10 MΩ + 25 pF, AC or DC coupled</p> <p style="padding-left: 150px;">Current 1 kΩ to virtual ground</p> <p>Gain accuracy ±1 % or better</p> <p>Noise</p> <p style="padding-left: 150px;">6 nV/√Hz at 1 kHz</p> <p style="padding-left: 150px;">0.13 pA/√Hz at 1 kHz (10⁶ V/A)</p> <p style="padding-left: 150px;">0.013 pA/√Hz at 100 Hz (10⁸ V/A)</p> <p>Line filters 50Hz and 100Hz</p> <p>CMRR 100 dB up to 10 kHz, decreasing by 6 dB/oct above 10 kHz</p> <p>Dynamic reserve >100 dB</p> <p>Stability <5 ppm/°C</p>
2	<p>Reference Channel</p> <p>Frequency range 1 Hz to 100 kHz (At least)</p> <p>Reference input TTL or sine</p> <p>Input impedance 1 MΩ, 25 pF</p> <p>Phase resolution At least 0.01°</p> <p>Absolute phase error <1°</p> <p>Relative phase error <0.001°</p> <p>Orthogonality 90° ± 0.001°</p> <p>Phase noise</p> <p style="padding-left: 150px;">Internal ref. <0.0001° rms at 1 kHz</p> <p style="padding-left: 150px;">External ref. 0.005° rms at 1 kHz</p> <p>Harmonic detection 2F, 3F, ... nF to 102 kHz (n < 19,999)</p> <p>Acquisition time 50 ms or lesser</p>
3	<p>Demodulator</p> <p>Stability Should be no drift in Digital outputs and <5 ppm/°C for Analog outputs.</p> <p>Harmonic rejection -90 dB</p> <p>Time constants 10 μs to 30 ks (6, 12, 18, 24 dB/oct roll off). Synchronous filters should be available below 200 Hz.</p>
4	<p>Internal Oscillator</p> <p>Range 1 Hz to 100 kHz (at least)</p> <p>Frequency accuracy 25 ppm + 30 μHz</p> <p>Frequency resolution 4½ digits or 0.1 mHz, whichever is greater</p> <p>Distortion -80 dBc (f <10 kHz), -70 dBc (f >10 kHz) @ 1 Vrms amplitude</p> <p>Amplitude 4mV to 5 Vrms (2 mV resolution), 50 Ω output impedance.</p> <p>Amplitude accuracy 1 %</p> <p>Amplitude stability 50 ppm/°C</p> <p>Outputs Sine, TTL</p>

5	<p>Displays Channel 1 & 2</p> <p>Offset</p> <p>Expand Reference</p>	<p>4½-digit digital display separately for Channel 1 and 2, displaying. (X,Y), (R, θ), (X-noise, Y-noise), Aux 1/Aux 2/ Aux 3/Aux 4..</p> <p>Provision of offset in X, Y, R up to ±105 % of full scale should be there.</p> <p>Provision for expanding X, Y, R by 10/100 times should be present.</p> <p>The reference signal should be displayed at least in 4½-digit display</p>
6	<p>Inputs and Outputs</p> <p>CH1, CH2 output</p> <p>X, Y outputs (rear panel and front panel)</p> <p>Aux. A/D inputs and D/A outputs</p> <p>Internal oscillator</p> <p>External Oscillator</p> <p>Data buffer</p> <p>Remote preamp</p>	<p>Output via BNC port for (X,Y), (R,θ) and (Xnoise,YNoise) should be there either in the front or rear panel.</p> <p>Should have X, Y outputs (BNC) both in the rear and front panel. Data should be refreshed at 256 kHz at least.</p> <p>Should have at least 4 nos of inputs and outputs respectively, of ±10 V, 1 mV resolution.</p> <p>The instrument should have in built sine wave oscillator.</p> <p>Provision of using external oscillator in association with this lock-in should be available</p> <p>Input data should be sampled at rates of 512 Hz or better and read through the computer interfaces.</p> <p>The Instrument should have provision for adding pre-amplifier. The Pre-amplifier unit may be quoted as optional.</p>
7	<p>Interfaces</p> <p>The instrument should be compatible with IEEE-488.2 interfaces standard and equipped with the required ports for interfacing.</p>	
8.	<p>Circuitry</p> <p>The circuit should be board/card based, having separate boards/cards for power supply, signal processing, signal in, etc. The structure should be such that repairing of the unit can be under taken by the user himself/herself, on the remote guidance of company technical. The unit manual should list all the electronic components used in it with clear schematic diagrams.</p>	

2. Available power supply at NIT Rourkela:

Should be compatible with Indian power standards 220-240VoIts, 50 Hz. Enclose pre-installation guide for the details on electrical power, space and other for all components and essential accessories, if required.

3. Warranty:

One year comprehensive warranty for the system from the date of installation and commissioning at NIT Rourkela.

4. Service/Manpower: Should provide onsite instrument operation support with manpower for at least 2 years. In the technical details, specify clearly about the kind of service/maintenance required for the system. Also mention that whether the service has to be carried out by a company engineer or it can be carried by trained service personnel within India.

5. OEM: Only reputed original equipment manufacturers (OEM) of international standard should submit (may be through their Indian agencies) tender with supported document. Resell or refurbished equipment would not be acceptable. The system should meet international standards.

6. Customer list: Vendor shall provide a list of customers along with their names, addresses, e-mail addresses where similar systems are installed.

7. Operation and service manual in English (electronic and hard copy) should be provided with all the equipment and components.