



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

**Advertised Tender Enquiry**

**Department: Physics and Astronomy**

**Tender notification no: NITR/PW/PH/2020/193**

**Date: 19/08/2020**

**To**

**Important Dates**

Bidding  
Through  
e-Procurement Portal of  
Ministry of HRD, Govt. of India  
(e- Procurement)

<b>Event</b>	<b>Date</b>	<b>Time</b>
Pre-bid Conference	<b>NA</b>	<b>NA</b>
Last Date of submission of bid	<b>08/09/2020</b>	<b>11:00 AM</b>
Date of opening of techno-commercial bid	<b>09/09/2020</b>	<b>11:00 AM</b>

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, you may contact to:

**Attention:**  
**Principal Investigator: Dr. Jyoti Prakash Kar**  
Department of Physics and Astronomy  
NATIONAL INSTITUTE OF TECHNOLOGY  
ROURKELA – 769 008, ORISSA  
Phone – 0661 – 2462732, 9438532157  
Email: [karjp@nitrkl.ac.in](mailto:karjp@nitrkl.ac.in)

Yours sincerely,

\_\_\_\_\_  
Dr. Jyoti Prakash Kar

**Encl:**

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

**1. Schedule of requirements**

Item No	DESCRIPTION	Quantity
1	Hall Effect Measurement System	1 Unit

**2. Specifications and allied Technical Details**

\* Attach User list along with the quotation

**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	NA	Date: NA	Time: NA
ii. Last date for submission of Bid:		Date: <b>08/09/2020</b>	Time: <b>11:00 AM</b>
iii. Date of opening of Technical bid:		Date: <b>09/09/2020</b>	Time: <b>11:00 AM</b>

**7. Warranty** of minimum **01** years must be provided.

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

**9. Bid Security and Tender Cost:** Bid Security in shape of Bank Guarantee/DD (Demand Draft) for **INR 70,000/- (Rupees Seventy Thousand Only)** and Tender Cost (Non- refundable) in the form of DD 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. And Bank Guarantee/DD for the Bid-Security should remain valid for a period of **45 days** beyond the bid validity period from the date of opening of bids. Bid security of unsuccessful bidders should be return to them at the earliest and latest on or before the **30<sup>th</sup> days** after the award of the contract. **EMD (Earnest Money deposit)** and **Tender Cost** should reach physically through speed post/ register post/courier, containing in an envelope & superscripted with subject, tender reference number addressing to **Registrar, NIT Rourkela-769008, Odisha**; Attention: HOD(PH) on or before **09/09/2020 at 11:00 AM.**

**10. Performance Security: INR 1, 70,000/- (One lakh seventy thousands only)** in shape of Demand Draft (DD)/Bank Guarantee in favour of Director, NIT Rourkela and payable at Rourkela. 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. And EMD (Earnest Money Deposit) amount of successful bidder will be return after the receipt of performance security in case of award of contract to successful bidder.

**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. Technical Bid Evaluation Criteria:** As per the detail equipment technical specifications given in Annexure–I. If required, the bidder may be asked to provide clarification regarding the technical aspects.

**Other Qualification criteria:**

- i. Scanned copies of the technical brochure of the above equipment and accessories as per the Annexure-I must be included in the technical bid. Pointwise technical compliance along with any deviation of the mentioned specifications (Annexure-I) must be indicated along with technical documents.
- ii. There must be a local maintenance center with availability of the spares in India.
- iii. Web references must be provided along with the technical bid.
- iv. Customized equipment and accessories (as per Annexure-I) will not be accepted. The standard equipment and accessories (as per Annexure-I) will only be accepted.
- v. Make and model no. should be mentioned in the technical bid.
- vi. Scan copies of the three purchase orders of the quoted equipment and accessories within last three years must be enclosed along with the technical bid.
- vii. The firm must provide the list of well reputed national and international organizations/Universities, where the quoted system is installed.
- viii. The firm must provide at least 3 performance certificates (in English language) of the particular model of the system mentioned in the quotation.
- ix. The firm must provide the reference (article title/Authors/volume no./year/page no.) of at least 5 international journals (in English language), where the quoted instrument model is used for the research work.
- x. The bidder must have valid authorization from the OEM specific to this tender. Documentary proof regarding this must be attached

- 14. Financial Bid Evaluation Criteria:** The comparison will be made for the award of contract on the overall price basis.

- 15.** For technical details, you may contact

**Dr. Jyoti Prakash Kar**  
Associate Professor  
Department of Physics and Astronomy,  
National Institute of Technology,  
Rourkela - 769 008  
Phone: 0661 – 2462732, 9438532157  
E-mail: [karjp@nitrkl.ac.in](mailto:karjp@nitrkl.ac.in)

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 – 769 008, 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 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.
- 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 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 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, entry tax 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 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 indenting Department of NIT, Rourkela, and must be reached within **90 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, and after successful installation and demonstration where ever applicable, whichever is later/latest.

2.13 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.

2.14 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.

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

**Specifications for Hall Effect Measurement System**

“Supply, installation, commissioning, demonstration and training of “Hall Effect Measurement System”

The Hall Effect Measurement system should be capable of for measuring resistivity, carrier concentration, mobility, hall coefficient, N-type or P-type behavior of samples at variable temperature as per the following specifications

<b>Sl. No.</b>	<b>ITEM</b>	<b>Technical Specifications</b>
<b>1</b>	<b>Sample size</b>	Varying from 0.75 cm × 0.75 cm up to 2 cm × 2 cm
<b>2</b>	<b>Measurable sample thickness</b>	Varying from 0.25 mm to 2mm
<b>3</b>	<b>Measurement range of resistivity</b>	At least in the range of $10^{-4}$ Ohm.cm to $10^6$ Ohm.cm
<b>4</b>	<b>Measurement range of carrier concentration</b>	At least in the range of $10^8$ /cm <sup>3</sup> to $10^{21}$ /cm <sup>3</sup>
<b>5</b>	<b>Measurement range of mobility</b>	At least in the range of 1 cm <sup>2</sup> /volt-sec to $10^6$ cm <sup>2</sup> /volt-sec
<b>6</b>	<b>Magnetic field</b>	At least 0.5 T
<b>7</b>	<b>Range of input current</b>	At least in the range of 2 nA to 20 mA
<b>8</b>	<b>Circuit switching mode</b>	Automatic
<b>9</b>	<b>Measurement temperature</b>	<ul style="list-style-type: none"> <li><b>i.</b> Room temperature measurement</li> <li><b>ii.</b> There should be option for varying the temperature from at least from -190 °C (83 K) to 70 °C (343 K) using liquid nitrogen.</li> <li><b>iii.</b> The cooling time from room temperature to - 190 °C should not exceed 10 minutes.</li> <li><b>iv.</b> The variation of temperature should be computer controlled with minimum step size of variation is 1 K.</li> <li><b>v.</b> The system should be capable for up gradation of measurement temperature range by attachment of additional accessories in future.</li> </ul>

10	System description	<p><b>The system should consist and capable of:</b></p> <ul style="list-style-type: none"> <li>i. The system should automatically maintain the desire temperature step wise without user intervention during measurements.</li> <li>ii. Once the test is finished, the system should provide the temperature dependent test results as tabular data as well as in graph form.</li> </ul>
11	Computer	<p><b>PC (desktop) should be with following specifications or better with 2 years of warranty:</b></p> <ul style="list-style-type: none"> <li>i. Core i5 or above</li> <li>ii. 1 TB hard drive</li> <li>iii. 8 GB RAM</li> <li>iv. 18.5 inch monitor</li> <li>v. Certified Operating System: Microsoft Windows 10 Professional 64 bit (English)</li> </ul>
12	Software	<ul style="list-style-type: none"> <li>i. The Hall effect measurement system should have separate software for data analysis and measurement.</li> <li>ii. Able to perform multi-tasking with Windows based data acquisition, or equivalent processing programs at the same time.</li> </ul>
13	Measurement software	<ul style="list-style-type: none"> <li>i. Multiple data acquisition and display</li> <li>ii. Seamless data transfer to the analysis software</li> <li>iii. The data acquisition software should be foolproof, which enable user to measuring resistivity, carrier concentration, mobility, hall coefficient, N/P type decision.</li> <li>iv. The system will start measurement with optimized conditions at the click of a button during Auto Mode.</li> </ul>
14	Data analysis software	<ul style="list-style-type: none"> <li>i. Running on Microsoft Windows.</li> <li>ii. Able to perform functions to include graphical plot of Carrier Concentration versus Temperature, Mobility versus Temperature, Resistivity versus Temperature, Conductivity versus Temperature, and Hall Coefficient versus Temperature.</li> <li>iii. Copy to clipboard function for convenient presentation editing.</li> </ul>
15	Sample holder	<ul style="list-style-type: none"> <li>• One spring-loaded sample holder compatible with above mentioned sample size, magnetic arrangements and measuring temperatures.</li> </ul>
16	Input power for operation of the system	<ul style="list-style-type: none"> <li>• AC, 230 V, 50 Hz</li> </ul>
17	Required information	<ul style="list-style-type: none"> <li>• The firm must provide the required civil work, electrical facilities such as working table size, temperature, specifications of online UPS etc. for the installation of the system</li> </ul>
18	Training during installation	<ul style="list-style-type: none"> <li>• The firm must arrange a training programme for the technical staffs and research scholars during the installation of the system</li> </ul>
19	Warranty	<ul style="list-style-type: none"> <li>• One year of comprehensive warranty for all the parts of the system and computer.</li> </ul>

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