



राष्ट्रीय प्रौद्योगिकी संस्थान राउरकेला ओडिशा
NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA
ODISHA - 769008

**Supply, Installation, Demonstration and Training of Multiport
Chemisorption /Physisorption / Micropore Analyzer at NIT Rourkela**

Tender Reference No.: NITR/PW/CRF/2025/349

Date: 21/05/2025

Advertised Tender Enquiry

(E-procurement mode only)

National Institute of Technology Rourkela (NITR) invites online bids from eligible, capable and qualified agency for **Supply, Installation, Demonstration and Training of Multiport Chemisorption / Physisorption / Micropore Analyzer at NIT Rourkela** through e-procurement module of CPP Portal only. Interested companies may view and download the tender document containing the detailed terms & conditions from the website <http://eprocure.gov.in/eprocure/app>.

CRITICAL DATES FOR TENDER

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|-----|--------------------------------------|---|
| 1. | Title of the Tender | Supply, Installation, Demonstration and Training of Multiport Chemisorption / Physisorption / Micropore Analyzer at NIT Rourkela |
| 2. | Date of publication of tender | As per e-procurement Portal. |
| 3. | Bid Documents download start date | As per e-procurement Portal. |
| 4. | Pre-bid meeting date and location | As per e-procurement Portal. |
| 5. | Bid Documents download end date | As per e-procurement Portal. |
| 6. | Last date of submission of tender | As per e-procurement Portal. |
| 7. | Technical Bid Opening Date | As per e-procurement Portal. |
| 8. | Financial Bid Opening Date | To be informed to the technically qualified bidders later. |
| 9. | Tender Fee | A non-refundable fee of INR 1,500/- (Rupees One Thousand Five Hundred only) to be deposited through ONLINE mode only using NET-BANKING / NEFT / RTGS / IMPS or payment online in an acceptable form. |
| 10. | Earnest Money Deposit / Bid Security | A refundable fee of INR 3,00,000/- (Rupees Three Lakhs only) to be deposited through ONLINE mode only using NET-BANKING / NEFT / RTGS / IMPS or payment online in an acceptable form. |
| 11. | Delivery Period | 120 days (Includes Installation and Commissioning of Instruments) |
| 12. | Bid Validity | 120 days from the date of opening of technical bids. |
| 12. | Location and Site Visit: | CRF, NIT Rourkela |
| 13. | Address for Communication | DR. PRATEEK KHATRI ASSISTANT PROFESSOR DEPARTMENT OF CHEMICAL ENGINEERING NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA – 769 008, ODISHA Email: khatrip@nitrrkl.ac.in |

SECTION – I: INSTRUCTION TO BIDDERS

1. Bid Preparation

- 1.1 Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as a part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents including the names and content of each of the documents that need to be submitted. Any deviations from these may lead to rejection of the bid.
- 1.2 Bidder, in advance, should be prepared with the bid documents to be submitted as indicated in the tender document/schedule and generally, that can be in PDF / XLS / RAR / DWF / JPG formats. Bid documents may be scanned with 100 dpi with a black and white option which helps to reduce the size of the scanned document.
- 1.3 To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates, etc.) has been provided to the bidders. Bidders can use “My Space” or “Other Important Documents” available to them to upload such documents. These documents may be directly submitted from the “My Space” area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for the bid submission process.
- 1.4 Bidder should take into account any corrigendum published on the CPP Portal concerned with this tender document before submitting their bids.
- 1.5 ***NOTE: My documents space is only a repository given to the bidders to ease the uploading process. If a bidder has uploaded his documents in the My Documents space, this does not automatically ensure these Documents are part of the Technical Bid.***

2. Submission of Bid

- 2.1 The tenderer shall submit the tender in two parts in the e-Procurement site (<https://eprocure.gov.in/eprocure/app>) of CPP portal consisting of Part-I (Technical Bid) and Part-II- Financial Bid (i.e. BOQ) each in separate cover.
- 2.2 Bidders should log into the site well in advance of bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- 2.3 The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- 2.4 The bidder has to select the payment option as “Offline” to pay the tender fee / EMD as applicable and enter details of the instrument.
- 2.5 The bidder should prepare the EMD / Tender fee as per the instructions specified in the tender document. The details of the online transaction or any other accepted instrument should tally with the details available in the bank statement and the date entered during bid submission time. Otherwise, the bid shall be technically disqualified.
- 2.6 Bidders are requested to note that they should submit their financial bid in the format provided and no other format is acceptable. Bidders are required to download the BoQ file, open it, and complete the unprotected cells with their respective financial quotes and other details (such as the name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid shall be summarily rejected.
- 2.7 The uploaded tender document is readable only after the tender opening by the authorized bid openers.
- 2.8 Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant person indicated in the tender.
- 2.9 Any queries relating to the process of online bid submission or queries relating to the CPP Portal, in general, may be directed to the 24x7 CPP Portal helpdesk.

3. Tender Fee and Earnest Money Deposit (EMD)

- 3.1 Tender Fee (non-refundable) of **Rs. 1,500/- (Rupees One Thousand Five Hundred only)** and EMD / Bid Security (refundable) of **Rs. 3,00,000/- (Rupees Three Lakhs only)** to be deposited through **ONLINE** mode only using **NET-BANKING / NEFT / RTGS / IMPS or payment online in an acceptable form.**

- a) The bidders are allowed to submit their bid only after the successful payment of EMD.
- b) The bidders are required to submit a proof of successful payment details of Tender Fee and EMD along with technical bid i.e. transaction reference no, bank details and UTR no. Any other mode of payment shall not be entertained.
- c) In online payment of Tender Fee and EMD, if the payment is made by the bidder within the last date and time of bid submission but not received by NIT Rourkela within the last date **as mentioned in e-procurement portal** to any reason(s) whatsoever then the bid will not be accepted. Tender Fee and EMD received after due date and time as specified will be forfeited.
- d) Bank details for NET-BANKING / NEFT / RTGS / IMPS or payment online in an acceptable form is as follows:

Bank Name: State Bank of India

Branch: NIT Campus, Rourkela, Odisha

Account Name: Security Deposit Account

Account No.: 30046305869

IFSC: SBIN0002109

- 3.2 EMD / Bid Security of the unsuccessful bidder will be returned to them without any interest at the earliest and latest on or before 30 days after the award of the contract to the L1 bidder.
- 3.3 The Part-I offer of those Tenderers, whose EMD and Tender Cost are found in order and submitted as prescribed, will be opened immediately thereafter. Otherwise, the tender will be considered invalid and other parts will not be opened.
- 3.4 Bids received without Earnest Money Deposit and Tender Fee shall stand technically disqualified and thus shall not be considered for evaluation at any stage.
- 3.5 The EMD / Bid Security of the bidder who withdraws its bid in breach of terms and conditions of the contract, withdraws at any stage after the opening of the technical bid or the price bid and who evades or refuses to accept the Award of Contract after being L1 within the period of validity, shall be liable to forfeiture.
- 3.6 The EMD submitted by the successful bidder shall be refunded within thirty days of submission and acceptance of the Performance Security/Performance Bank Guarantee/ Security Deposit in case of award of contract.

4. EMD / Bid Security Exemption

- 4.1 Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) for goods produced and services rendered, are exempted from EMD. Accordingly, MSEs shall be required to submit valid Udyam Registration Certificate for availing benefit under MSE Procurement Policy. The benefit as above to MSMEs shall be available only for Goods produced and services rendered by MSMEs. However, traders are excluded from the purview of MSME Procurement Policy.
- 4.2 Startup(s) as recognized by Department for Promotion of Industry and Internal Trade (DPIIT), Govt. of India, are exempted from Bid Security. However, they have to enclose valid self-attested registration certificate(s) along with the tender to this effect.
- 4.3 Eligible MSE and startup bidders who seeks exemption from Bid Security as per above clause, if they withdraw or modify their bids during the period of validity, or if they are awarded the contract and they fail to execute the contract, or to submit a performance security before the deadline defined in the request for bids document/contract, they will be suspended for the period of three years or for a period as decided by the competent authority from being eligible to submit bids for

future contracts with the NIT Rourkela. Bidders should submit the duly filled and signed declaration as per the attached format in Annexure-X.

- 4.4 Those firms who have applied for renewal of registration with any of the above bodies but have not obtained the valid certificate as of the closing date of the tender are not eligible for exemption.

5. Eligibility Criteria

- 5.1 **Status:** The bidder shall necessarily be a legal entity either in the form of sole proprietorship, partnership, Limited, or Private Limited Company registered under the Companies Act 1956 or subsequent amendments of the act. The bidder in the form of a Joint Venture (JV) / Consortium is not permitted. Copy of Registration No. under the Shop & Commercial Establishment Act may be enclosed. Proof of the status of the bidder shall be submitted. The firm should have registered for a minimum period of 05 years.
- 5.2 **Financial Capacity:** The Bidders should have a minimum average annual turnover of **Rs. 1, 00, 00,000/- (Rupees One Crore)** in the last three financial years i.e. 2021-22, 2022-23, 2023-2024, Bidders are required to submit documentary evidence like an Audited Balance Sheet, Profit & Loss Statement, and Income Tax Return (ITR) duly certified by a Chartered Accountant.
- 5.3 **Experience:** The bidder/OEM must have successfully commissioned at least **3 numbers of similar / higher capacities in last 5 years** in the premier institutions of India such as IIT's /NIT's/IISER's/IISc/ CFTI's/PSU's/ Government institutions etc. A copy of the Purchase Orders along with satisfactory supply & installation certificate against the respective purchase order should be submitted in support of their experience. NITR may ask for input from user where the quoted instrument has been installed. Supply of only purchase order without any satisfactory supplied & installation report shall not be considered as a valid experience. Bidder must fulfil at least one of the following criteria for the above experience:

The installed reference equipment should be running condition. Proof in this regard with contact details of the user should be provided. All certificates should be attached in the technical bid to evaluate the credibility of the bidder

- 5.4 Bidder should be an OEM or authorized dealer / distributor of OEM for the tendered items.
- 5.5 Bidders have to submit a Catalogue containing detailed specification of equipment.

6. Documents to be submitted as a part of Technical Bid

- 6.1 Copy of Certificate of Incorporation.
- 6.2 Copy of PAN Card.
- 6.3 Copy of GST registration certificate.
- 6.4 Copy of Labour License, issued by Labour Commissioner, if applicable.
- 6.5 Copy of registration certificate of Employee Provident Fund Organization (EPFO), if applicable
- 6.6 Copy of registration certificate of Employee State Insurance Corporation (ESIC), if applicable
- 6.7 Copy of successful payment of Tender Fee & EMD.
- 6.8 Copy of audited Balance Sheet, Profit & Loss Statement and Income Tax Return (ITR) for the last three financial years ending on 31st march, 202.
- 6.9 Copy of signed agreement / Purchase Order or any other documents which shows the quantity and size of awarded goods for Multiport Chemisorption/ Physisorption/ Micropore Analyzer along with satisfactory supply & installation certificate against the respective purchase order.
- 6.10 Copy of quoted product brochure.
- 6.11 Duly filled and signed Annexure – III (Tender Acceptance Letter)
- 6.12 Duly filled and signed Annexure – IV (Self Declaration Non-Blacklisting)
- 6.13 Duly filled and signed Annexure – V (Bid Security Declaration for EMD exempted bidder)
- 6.14 Duly filled and signed Annexure – VI (Declaration of local contents)
- 6.15 **In case of Bidder is an OEM (Original Equipment Manufacturer) or authorized dealer / distributor or OEM:**
- a) GST/Excise documents / Factory license / Pollution Control Board certificate / NSIC Certificate or any other documents clearly indicating that the bidder is a manufacturer of tendered item.
- 6.16 **In case Bidder is authorized dealer / distributor of OEM:**
- a) Bidder shall submit a letter from the OEM authorizing the bidder for participation in tender and execute the order on behalf of the OEM in India.
- b) Guarantee (specific to the tender) shall be provided by the OEM clearly stating that the OEM shall fulfill the contractual obligations for the tendered item.

7. Bid Evaluation Criteria

7.1 Techno-commercial Bid Evaluation

- a. Techno-commercial bids will be opened on the specified date & time by the Tender Evaluation Committee duly constituted by the competent authority of NIT Rourkela. The bids will be evaluated based on the documents submitted by the bidders in the e-Procurement module of CPP Portal and the satisfactory performance report from the previous works. The decision of the committee will be final and binding on all bidders and can't be questioned at any stage of evaluation.
- b. The Institute also reserves the right to seek confirmation/clarification from the issuing agency for the supporting documents submitted by the bidder.
- c. To assist in the examination, evaluation and comparison of the bids, and qualification of bidders, the committee may, at its discretion ask any bidder for a clarification of its bid. The committee's request for clarification and the response shall be in writing through e-procurement mode only. No other mode shall be entertained. Any clarification submitted by a bidder that is not in response to a request shall not be considered.
- d. If any bidder fails to provide the requested clarification/information within the stipulated date and time given by the Institute, the bid shall be technically disqualified.
- e. The request for clarification and the response shall be in writing, without any alterations in the price or substance of the bid submitted.

7.2 Financial Bid Evaluation

- a. Financial bids of those bidders whose techno-commercial bids are found technically qualified shall be opened by the Committee on the specified date & time. The same shall be communicated to the prospective bidders through e-mail by NIC.
- b. Splitting of items is not admissible. Bidder have to quote for all the items mentioned as per Annexure – I.**
- c. L1 shall be arrived by considering only the basic cost of the equipment. While AMC is an optional and not considered for calculating L1 price.**
- d. Being L1 will not be the sole criterion for eligibility for the award of a contract. The Feasibility of the lowest quote by the bidder will be examined by the committee with reference to relevant rules in vague, terms & conditions of the tender and the decision of the committee in this regard shall be final & binding on all concerned.
- e. After evaluation, the work shall be awarded to the supplier who quoted the lowest price (L1) after complying with all the Acts/provisions stated/referred to for adherence in the tender. In case two or more agencies are found to have quoted the same price, the Committee shall decide on the L-1 Agency based on the following tie-breaking criteria:
 - i. The turnover for the financial year 2023-24 shall be considered.
 - ii. If further required for tie-breaking the turnover for the financial year 2022-23 shall be considered.
 - iii. If further required for tie-breaking the turnover for the financial year 2021-22 shall be considered.
 - iv. Further, if the tie persists then the L1 will be decided by a draw system in the presence of the concerned bidders. The decision in this regard by the committee shall be final and binding on all concerned.
- f. If a tenderer quotes predatory pricing / abnormally low bids, the tender evaluation committee may ask for written clarification from the tenderer for detailed price analysis/ price break-up/price justification of its bid price in relation to scope, schedule allocation of risks and responsibilities, any other requirements of the bid documents during the financial evaluation.
- g. If, after the evaluation of the price analysis/price justification, the bidder fails to demonstrate the basis of the quoted price with substantiating documents/evidence/calculation, the committee at its sole discretion shall reject the bid.

- h. Preference under MSE (Micro and Small Enterprises) policy, as admissible from time to time under Govt. of India policy shall be applicable during evaluation. In case the agency with the lowest rate at any stage after the award of the contract fails to execute/perform successfully / satisfactorily, the contract shall be terminated with forfeiture of the Bid security/performance security and the Bid security exempted bidders will be suspended from the future tenders of NIT Rourkela as decided by the competent authority.
- i. If required, negotiation will be held with L-1 tenderer only. However, all the tenderers may be required to explain /justify the basis of their quoted price as and when asked for. In case, any tenderer fails to justify his quoted price or refuses to co-operate in this regard, the bid shall be disqualified and the bids shall not be considered during retendering.

8. Make in India (MII)

In case the bidder is a Class-I / Class-II in line with the Public Procurement (Preference to Make in India) Order 2017 No. P45021/2/2017-PP (BE-II) dated 04 Jun 2020 as amended from time to time, there shall be a preference to local suppliers towards preference to make in India. A Self Declaration Certificate regarding "Class-I/Class-II" for the tendered items as per the **Annexure – VI** is to be submitted by the bidder.

As per the OM of Department of Promotion for Industry and Internal Trade No. P-45021/102/2019-BE-II-Part (1) dated: 04.03.2021. The bidders can't claim themselves as Class-I local suppliers/Class-II local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training and after sales service support like AMC/CMC etc. as local value addition.

- a. 'Local Content' means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all custom duties) as a proportion of imported content in the item (including all custom duties) as a proportion of the total value, in percent.
- b. 'Class-I local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50% as defined under this order.
- c. 'Class-II local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has minimum local content of 20% but less than 50%, as defined under this order.
- d. 'Non-local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content less than 20%, as defined under this order.
Complaint redressal mechanism: In case any complaint received by the procuring agency or the concerned Ministry/Department against the claim of a bidder regarding local content/domestic value addition in an electronic product, the same shall be referred to STQC.
- e. The bidder shall be required to furnish the necessary documentation in support of the domestic value addition claimed in an electronic product to STQC. If no information is furnished by the bidder, such laboratories may take further necessary action, to establish the bonafides of the claim.
- f. A complaint fee of Rs. 2 lakh or 1% of the value of the domestically manufactured products being procured (subject to a maximum of Rs.5 lakh), whichever is higher, to be paid by Demand Draft to be deposited with STQC. In case, the complaint is found to be incorrect, the complaint fee shall be forfeited. In case, the complaint is upheld and found to be substantially correct, deposited fee of the complainant would be refunded without any interest.

False declarations will be in breach of the Code of Integrity under Rule 175 (1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

9. Purchase Preference to Make in India

- a. Subject to the provisions of this Order and to any specific instructions issued by the Nodal Ministry or in pursuance of this Order, purchase preference shall be given to 'Class-I local supplier' in procurements undertaken by procuring entities in the manner specified here under.
- b. In the procurements of goods or works which are divisible in nature, the Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure:

- i. Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local supplier', the contract for full quantity will be awarded to L1.
- ii. If L1 bid is not a 'Class-I local supplier', 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the 'Class-I local supplier' will be invited to match the L1 price for the remaining 50% quantity subject to the Class-I local supplier's quoted price falling within the margin of purchase preference, and contract for that quantity shall be awarded to such 'Class-I local supplier' subject to matching the L1 price. In case such lowest eligible 'Class-I local supplier' fails to match the L1 price or accepts less than the offered quantity, the next higher 'Class-I local supplier' within the margin of purchase preference shall be invited to match the L1 price for remaining quantity and so on, and contract shall be awarded accordingly. In case some quantity is still left uncovered on Class-I local suppliers, then such balance quantity may also be ordered on the L1 bidder.
- c. In the procurements of goods or works, which are not divisible in nature, and in procurement of services where the bid is evaluated on price alone, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure:
 - i. Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local supplier', the contract will be awarded to L1.
 - ii. If L1 is not 'Class-I local supplier', the lowest bidder among the 'Class-I local supplier', will be invited to match the L1 price subject to Class-I local supplier's quoted price falling within the margin of purchase preference (L1+ 20%), and the contract shall be awarded to such 'Class-I local supplier' subject to matching the L1 price. iii. In case such lowest eligible 'Class-I local supplier' fails to match the L1 price, the 'Class-I local supplier' with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and contract shall be awarded accordingly. In case none of the 'Class-I local supplier' within the margin of purchase preference matches the L1 price, the contract may be awarded to the L1 bidder.
- d. "Class-II local supplier" will not get purchase preference in any procurement, undertaken by procuring entities.
- e. **Margin of Purchase Preference: The margin of purchase preference shall be 20%.**

10. Purchase Preference to Micro and Small Enterprises (MSEs)

Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail the Purchase preference, the bidder must be the manufacturer of the offered product in case of bid for supply of goods. Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered product or service.

- i. In case L1 is not an MSE and MSEs quoting price within the band of L1+15% shall also be allowed to supply a portion of requirement by matching their price to L1 price in a situation where L1 price is from someone other than an MSE. Such MSEs shall be allowed to supply at least 25% of total tendered value in case of divisible item (or 100% in case order quantity is not divisible).
- ii. In case L1 is not an MSE and there is more than one MSE within the range of L1+15%, only the lowest MSE shall be considered for 25% order in case of divisible item (or 100% in case order quantity is not divisible), subject to matching the L1 prices. Only on refusal of such lowest MSE to accept L1 price, second lowest MSE within the range of L1+15%, shall be considered. This process shall be continued till a MSE in the range accepts the L1 price or the MSEs in the L1+15% range are exhausted. In case no MSE accepts the L1 price or there is no MSE available, in L1+15% range, then the order shall be placed without applying this principle.

SECTION – II: COMMERCIAL TERMS AND CONDITIONS

1. Code of Integrity

All bidders are required to adhere to the Code of Integrity for Public Procurement in accordance with the regulations issued by the Government of India. Any violation of this code may lead to punitive actions, including contract cancellation, banning, blacklisting, or other actions initiated by NIT Rourkela as per extant rules.

2. Inspection and Site Visit

The Tenderer is encouraged to conduct a site visit and thorough inspection of the project site before submitting the tender. The Tenderer shall make arrangements with the Employer/Client to visit the site at a mutually agreed time prior to the tender submission deadline. All costs associated with the site visit, including travel and accommodation, shall be borne by the Tenderer.

3. Prices

The price should be quoted in net per unit and must include all packing, delivery, installation, commissioning, demonstration, training and all charges required to set up the Equipment at CRF, NIT Rourkela

If, in the price structure quoted for the required goods, there is a discrepancy between the unit price and total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail, and the total price corrected accordingly.

If there is an error in a total corresponding to the addition or subtraction of the sub-totals, the sub-total shall prevail, and the total shall be corrected.

4. Payments

Unless otherwise stipulated in the Purchase Order, the NITR shall make payment within thirty (30) Days of the later of:

- a. 100% payment shall be made against successful delivery, installation, commissioning, training and acceptance of the goods to NITR as confirmed by the consignee, endorsed by the indenter and approved by the indenters' Head of Department / Section.
- b. Receipt of shipping documents and any other documents specified in the Contract; and Receipt of the original tax invoice issued by the Contractor.
- c. Original Tax invoices (in triplicate) shall be in original and shall contain the NITR Purchase Order number, and a description, the quantities, unit and total price(s) of the Goods delivered. The currency of the invoice and payment shall be as specified in the Purchase Order.
- d. Payments shall be made in the currency stated in the Contract / PO, on the basis of the equivalent value of INR on the day of payment and paid directly into the nominated bank account.
- e. The NITR shall not pay any charge for late payments.
- f. No advance payment of any type (Mobilization, secured advances etc.), shall be made by the Institute to the contractor.

5. Delivery period

The goods are required to be delivered and successfully installation & commissioning at CRF NIT, Rourkela within **120 days** from the date of placement of Purchase 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.

6. Delivery and take-over of goods

The Contractor shall deliver the Goods at the Place(s) of Delivery. On behalf of the NIT Rourkela, a duly authorized representative(s), shall take-over the Goods upon delivery. Take-over of the Goods by the NITR shall not be deemed acceptance of the Goods by the NITR. The time of delivery as specified in the Contract / PO shall be strictly adhered to, and time shall be of the essence.

7. Installation, Demonstration and Training

The supplier is required to install, demonstrate and provide the training of the equipment within four weeks of the arrival of materials at the NIT Rourkela site of installation, otherwise the penalty clause will be the same as per the supply of materials.

In case of any mishappening / damage to the items and supplies during the carriage of supplies from the origin of equipment to the place of installation, the supplier has to replace it with new equipment/supplies immediately at his own risk and cost. Supplier will settle his claim with the insurance company as per his convenience. NIT Rourkela shall not be liable to any type of losses in any form.

8. **Application Specialist:** The Tenderer should mention in the Technical bid the availability and names of Application specialist and Service Engineers in the nearest regional office.
9. **Spares:** The supplier is required to provide state of availability of spares for ten years, if required.

10. Packing

- a. The Goods shall be packed and marked in a proper manner and in accordance with the Contract and any statutory requirements and any requirements of the carrier(s). In particular, the Goods shall be marked with the NITR Purchase Order number and the net, gross and tare weights, the name of the contents shall be clearly marked on each container and all containers of hazardous goods (and all documents relating thereto) shall bear prominent and adequate warnings.
- b. The Contractor shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination. The packing shall be sufficient to withstand, without limitation, rough handling during transit. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the final destination and the absence of appropriate handling facilities at all points in transit.
- c. All packaging materials shall be non-returnable.

11. Delivery and Documents

Delivery of the goods should be made within 120 days from the date of the issue of Purchase Order. Within 24 hours of shipment, the supplier shall notify the purchaser and the insurance company by email of the full details of the shipment, including contract number, railway receipt number/ AAP, etc. and date, description of goods, quantity, name of the consignee, invoice, etc. The supplier shall mail the following documents to the purchaser, with a copy to the insurance company:

- a. 2 Copies of the Supplier Tax Invoice showing contract number, goods' description, quantity, Unit price, total amount;
- b. Insurance Certificate, if applicable;
- c. Manufacturer's/Supplier's warranty certificate, if applicable;
- d. Inspection Certificate issued by the nominated inspection agency, if any;
- e. Supplier's factory inspection report; and
- f. Two copies of the packing list identifying the contents of each package.

The above documents should be received by the Purchaser before arrival of the Goods (except where the Goods have been delivered directly to the Consignee with all documents) and, if not received, the Supplier will be responsible for any consequent expenses.

12. Warranty

- a. The Contractor warrants that the Goods furnished under the Contract conform to the technical specifications, description and standards specified in the Contract, and are new and unused, and free from defects in design, workmanship and/or materials.
- b. The Contractor shall provide a comprehensive warranty for the Goods for a period of **five (05) year** from the date of acceptance of the Goods by the NITR, unless the standard manufacturer's warranty period is longer in which case the longer period shall apply.

13. Liquidated Damages

The liquidated damages shall be levied, for delay in supply beyond the contractual delivery date at the rate of 0.5% per week of delay or part thereof on delayed supply of goods and / or services until actual delivery or performance subject to a maximum of 10% of the contract price of the equipment the delivery of which is delayed, for each month or part of a month.

14. Acquaintance with Local Conditions and Factors

The Bidder, at his own cost, responsibility, and risk, is encouraged to visit, examine, and familiarize himself with all the site/ local conditions and factors. The Bidder acknowledges that before the submission of the bid, he has, after a complete and careful examination, made an independent evaluation of the Site/ local conditions, the legal, environmental, infrastructure, logistics, communications and any other conditions or factors of which would have any effect on the price to be quoted by him or affecting performance/ completion of the contract.

All expenses incurred by the bidder in connection with obtaining information for submitting this tender including their sites visit or efforts in compiling the tender shall be borne by the bidder and no claims for reimbursement thereof shall be entertained.

Bidders shall themselves be responsible for compliance with Rules, Regulations, Laws and Acts in force from time to time at relevant places. On such matters, the Procuring Entity shall have no responsibility and shall not entertain any request from the bidders in these regards.

15. Bid Validity

Bids shall remain valid for a period not less than **120 days** from the date of opening of technical bid. Bid valid for a shorter period shall be rejected as nonresponsive.

In case the day up to which the bids are to remain valid falls on/ subsequently declared a holiday or closed day for the Procuring Entity, the bid validity shall automatically be deemed to be extended up to the next working day.

In exceptional circumstances, before the expiry of the original time limit, the Procuring Entity may request the bidders to extend the validity period for a specified additional period. The request and the bidders' responses shall be made in writing or electronically.

16. Modification, Resubmission and Withdrawal of Bids

Once submitted in e-Procurement, Bidder cannot view or modify his bid since it is locked by encryption. However, resubmission of the bid by the bidders for any number of times superseding earlier bid(s) before the date and time of submission is allowed. Resubmission of a bid shall require uploading of all documents, including financial bid afresh. The system shall consider only the last bid submitted as the valid bid.

No bid should be withdrawn after the deadline for the bid submission and before the expiry of the bid validity period. If a Bidder withdraws the bid during this period, the Procuring Entity shall be within its right to enforce Bid Securing Declaration (in lieu of forfeiture of the Bid Security), in addition to other punitive actions as decided by Institute for such misdemeanour.

17. Cartel Formation / Pool Rates

Unless the Procuring Entity decides this to be a case of Cartel/ Pool Rates, if more than one bidder quote the same total evaluated price, then the Procuring Entity reserves its right to distribute unequal quantities among the bidders - excluding one or more bidders, based on considerations like performance/ financial capabilities, the distance of destination godowns from the location of the factories, production capacities, any extra features/ benefits offered etc.

If Procuring Entity decides this to be a case of Cartel/ Pool Rates, leading to “Appreciable Adverse Effect on Competition” (AAEC) as identified in Competition Act, 2002, as amended from time to time, it reserves its rights to:

- a. order any quantity on any one or more bidders without assigning any reason thereof.

And/ or

- b. consider it as a violation of the Code of Integrity and reject the bid(s) as nonresponsive in addition to other punitive actions as decided by Institute. In addition to such remedies, the Procuring Entity also reserves the right to refer the matter to the Competition Commission of India (CCI) for obtaining necessary relief. In addition, the attention of the bidders is drawn to Chapter VI of the “The Competition Act 2002”, which deals with Penalties. Such actions shall be in addition to other rights and remedies available to the Procuring Entity under the contract and Law.

18. Price Negotiation

Usually, there shall be no price negotiations. However, the Procuring Entity reserves its right to negotiate with the lowest acceptable bidder (L-1), who is techno-commercially suitable for supplying bulk quantity and on whom the contract would have been placed but for the decision to negotiate.

19. Letter of Award (Acceptance – LoA)

The Bidder, whose bid has been accepted and documents verified (at the discretion of Procuring Entity), shall be notified of the award by the Procuring Entity before the expiration of the Bid-Validity period by written or electronic means. The Letter of Award (LoA) shall constitute the legal formation of the contract, subject only to the furnishing of performance security as per the provisions of the sub-clause below. The Procuring Entity, at its discretion, may directly issue the contract subject only to the furnishing of performance security, skipping the issue of LoA.

20. Performance Security / Security Deposit

Successful bidder will have to deposit 5% of tender contract value after AOC drawn, within 15 days through ONLINE mode using NET-BANKING / NEFT / RTGS / IMPS or payment online in an acceptable form. Performance Security will remain valid for period of 60 days beyond the date of completion of all contractual obligations of the suppliers including warranty obligation. Earnest Money Deposit (EMD) shall be returned the after submission of PS / SD, in case of award of contract to the successful bidder.

SECTION – III: GENERAL TERMS AND CONDITIONS

21. Definitions

1. **Approved** means approved in writing, including confirmation of previous verbal approval.
2. **Competent Authority** means the Director, NIT Rourkela or any officer authorized in this regard.
3. **Contract** means the Invitation to Tender, Instructions to Tenderers, General Conditions of Contract, Special Conditions of Contract, Scope of Work showing approximate quantities, tender submitted by the tenderer including his price offer, Performance Guarantee Bond and other Bonds, Letter of Acceptance, Work Order and any communication having the effect of amendment of the contract, and the contract agreement, unless otherwise specified.
4. **Contract Rate / Price** means the sum named in the tender that has been accepted subject to such additions thereto or deductions therefrom as may be made during the tender evaluation or thereafter.
5. **Contractor or Agency or Firm or Company** means “The Tenderer” whose tender has been accepted and includes the Contractor’s authorized representative, successors, permitted assignees and legal heirs.
6. **Director** means and includes the Director of NIT Rourkela or his authorized representative.
7. **Duration of Contract / Contract Validity** means the period stipulated in the contract or work order and includes any extended period thereof, if any made through a written communication.
8. **NITR** means National Institute of Technology, Rourkela represented through an authorized officer for this contract or Director as the case may be.
9. **Authorized officer / Representative** means and includes Asst. Registrar, Deputy Registrar, Registrar, Dean and Warden, HOD of NIT authorized or designated for this contract.
10. **Institute** means National Institute of Technology Rourkela. (in short NITR).
11. **Notice in writing or written notice** including notice in digital mode means a notice in written, typed, or printed characters sent or emailed (unless delivered personally or otherwise proved to have been received) by registered post/courier (with POD) to the notified address or the Registered office of the addressee, or the contractor’s site office and shall be deemed to be sufficient service if so sent or left at that address.
12. **Terms and Conditions** means the General terms and Conditions of the Contract (GCC) herein mentioned and other stipulations incorporated in any part of the tender document and/or agreement.

13. **Tender** means an offer against enquiry/advertisement/Notice Inviting Tender submitted by the tenderer in a single part or multiple parts like Techno-commercial part, price bid part.
14. **Tenderer** means and includes the person or firm or company who has submitted a valid tender and also includes its authorized representatives, heirs, executors, administrators, successors, and assignees as approved by the employer.
15. **Work** means all work given in the Scope of Work in the tender documents and includes any associated work required for the fulfillment of the Scope of Work and as set forth and required by the specifications and such additional instructions issued from time to time during the progress of the work.

22. Contract Documents

1. Documents mutually explanatory: The several documents forming the contract are to be taken as mutually obligatory of one another, and interpreted harmoniously, and in case of ambiguities or discrepancies, the same shall be clarified by NIT who shall thereupon issue to the contractor instructions / directions indicating the manner in which the work is to be carried out.
2. Further instructions: The representative of NIT shall have full power and authority as delegated to him to issue to the contractor, from time to time during the progress of the work, such further instructions as shall be necessary for the purpose of proper and adequate execution of the work and the Contractor(s) shall carry out and be bound by such further instructions

23. Force majeure

On the occurrence of any unforeseen event, beyond the control of either Party, directly interfering with the delivery of Services arising during the currency of the contract, the affected Party shall, within a week from the commencement thereof, notify the same in writing to the other Party with reasonable evidence thereof.

If the force majeure condition(s) mentioned above be in force for 90 days or more at any time, either party shall have the option to terminate the contract on expiry of 90 days of commencement of such force majeure by giving 14 days' notice to the other party in writing. In case of such termination, no damages shall be claimed by either party against the other, save and except those which had occurred under any other clause of this contract before such termination.

24. Assignment and Sub-contracting

1. The Contractor shall not assign, transfer, pledge or make other disposition of the Purchase Order or any part thereof or of any of the Contractor's rights, claims or obligations under the Purchase Order except with the express written consent of the NITR. Any assignment made without such consent shall be void and of no effect.
2. The NITR may require the Contractor to furnish particulars of the proposed subcontract as the NITR deems necessary. The NITR's approval of any subcontracting shall not relieve the Contractor from any liability or obligation under the Contract. In any subcontract, the Contractor agrees to bind the subcontractor by the same terms and conditions by which the Contractor is bound under the Contract / PO.

25. Termination of Default and Damages

1. The NITR shall have the right to terminate the Purchase Order or any of the provisions thereof at any time by serving a three days' notice to the Contractor.
2. If due to reasons attributable to the Contractor, the Contractor fails or refuses to:
 - a. deliver any or all of the Goods under the Purchase Order.
 - b. comply with any or all of the terms and conditions set out in the Purchase Order; or
 - c. deliver any or all of the Goods under the Purchase Order on or before the Delivery Date; the NITR may hold the Contractor in default under the Purchase Order.
3. When the Contractor is thus in default, the NITR may, by written notice to the Contractor, immediately terminate the Purchase Order in whole or in such part or parts thereof in respect of which the Contractor is in default.
4. The NITR may, at its discretion, impose penalties upon the Contractor calculated in accordance with clause 9 of Section - II for each Day the Contractor is late in delivering the Goods past the Delivery Date initially specified in the Purchase Order.

5. If the Contractor does not remedy its default within the period accorded under clause 9 of Section - II, the NITR may, by written notice to the Contractor, terminate the Purchase Order with immediate effect.
6. Upon any termination of the Purchase Order, in whole or such part(s) thereof in respect of which the Contractor is in default, the NITR may engage another contractor to deliver the Goods and recover any difference in price and any additional costs from the Contractor.
7. The Contractor shall indemnify the NITR for all losses, charges, costs and expenses, which the NITR may suffer or incur as a result the Contractor's default, including those resulting from engaging another contractor pursuant to this clause.

26. Discretion and Confidentiality

The Contractor is required to exercise the utmost discretion in all matters relating to the Contract / Purchase Order. Unless required in connection with the performance of the Purchase Order or expressly authorized in writing by the NITR, the Contractor shall not disclose at any time to any third party any information which has not been made public and which is known to the Contractor by reason of its association with the NITR. The Contractor shall not, at any time, use such information to any private advantage. These obligations do not lapse upon any completion, expiration, cancellation or termination of the Contract / PO.

27. **Fall Clause:** In case the supplier supplies or quoted the same product at a lower rate to other Governments, public sector or private organizations, the supplier would reimburse the excess to NIT Rourkela.

28. Acceptance and Rejection of Bids

The Committee or the Institute reserves the rights to cancel / reject any or all bids, or cancel the tender process, or issue another identical tender for similar service without assigning any reason thereof.

29. Arbitration

All disputes or differences of any kind whatsoever arising out of or in connection with the contract work during the subsistence of the contract or otherwise, shall be governed by the provisions of ARBITRATION AND CONCILIATION ACT, 1966 and any statutory rules/amendments thereof.

30. Cancellation of Tender

Notwithstanding anything specified in this tender document, NIT Rourkela at its sole discretion without assigning any reasons, reserves the rights.

- a. To accept or reject the lowest bidder or any other bidder or all the bidders.
- b. To accept any bid in full or in part.
- c. Float/ initiate a parallel tender for identical requirements.
- d. Cancel the tender at any stage.

31. Jurisdiction and Right to Amend Rules

1. The Institute reserves the right to amend the rules whenever and wherever considered necessary & appropriate. The same shall be intimated to the firm in due course of time which shall be final and binding on the firm.
2. The Institute rules shall be binding for the execution of the contract. If differences persist ever after arbitration & there are compelling reasons to go to the court, it will be decided in the Courts having jurisdiction over Rourkela.

**Supply, Installation, Demonstration and Training for Set up of Multiport Chemisorption
/ Physisorption / Micropore Analyzer at CRF, National Institute of Technology,
Rourkela, Odisha – 769008**

| S.No. | Description | |
|-------|---|--|
| 1 | The instrument should be capable of carrying out following analyses on three samples simultaneously | <ul style="list-style-type: none"> • Single point and multi points BET / Langmuir Surface area • Total pore volume at a pre-determined pressure point • Meso-pore size distribution using known adsorption models • High resolution micro-pore size distribution on at least one port using commonly acceptable models for N₂ and/or Argon gas • Density functional Theory (DFT) data reduction regimes for advanced data reductions. • The system should have the capability to perform vapor sorption |
| 2 | Desirable Hardware Features | <p>Sample pressure measurement, independently, using (i) 0-1000 mm Hg or better range transducers individually on all the three ports, and (ii) 0-10 mm Hg and 0-1 mm Hg or better range on micro pore port</p> <ul style="list-style-type: none"> • Manifold dosing pressure measurement, using (i) 0-10 mm Hg and 0-1000 mm Hg or better range transducers • Saturation measurement port: 0-1000 mm Hg or better range pressure transducer on saturation measurement port • Servo valve /Proportional valve control for dosing and evacuation • Temperature control for manifold, sample ports and ambience • 25-bit/32-bit A/D conversion • Cryogen level control around sample tube with/without level sensor • Dedicated port for measurement of saturation pressure in addition to three sample ports, with a dedicated 0-1000 mm Hg or better range transducer • Vacuum system comprising of turbo-molecular drag pump in series with diaphragm pump • Dual cold cathode/micro-pirani vacuum gauge placed near the sample port/degassing port • In-situ degassing for three samples at the sample ports/dedicated degas ports prior to analysis |
| 3 | Desirable Software features | <p>Four Free-Space Modes - Entered, Measured, Measured Post Analysis, and Calculated</p> <ul style="list-style-type: none"> • Standard library of adsorption properties to include at least 30 fluids • Software should allow automated method development to create analysis conditions, report options and degas conditions • Software to allow diagnostics for system monitoring and performance • Routine event monitoring to include: Diaphragm pump life; saturation pressure; manifold out-gas rate etc. |

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| 4 | Performance | <p>A. Analysis station Transducers: Total No. 6 or more positioned as under:</p> <p>(i) 0-10 mm Hg and 0-1 mm Hg or better on one micro pore sample port</p> <p>(ii) 0-1000 mm Hg or better on all the three ports</p> <p>(iii) 0-1000 mm Hg or better on saturation measurement port</p> <p>B. Transducer accuracy</p> <p>(i) 0-1000 mm Hg or better: 0.15% of reading or better</p> <p>(ii) 0-10 mm Hg : 0.15% of reading or better</p> <p>(iii) 0-1 mm Hg: 0.15% of reading or better</p> <p>C. Vacuum system</p> <p>(i) Ultimate vacuum: $\leq 4 \times 10^{-9}$ torr</p> <p>D. Lowest measured P/P0: better than 10^{-8} for Nitrogen adsorptive</p> <p>E. Cryogenic dewar of appropriate size such that length of experiment without refilling the dewar > 70 hrs with three sample tubes and P0 tube. (3 Sample tubes and Po tube to be provided)</p> |
| 5 | The following analysis should be possible | <ul style="list-style-type: none"> • Adsorption isotherm • Desorption isotherms • Langmuir surface area • BJH mesopore volume and area distribution • Micropore volume • Micropore area (micropore size: 2 nm to 0.35 nm) • Active metal area • Crystallite size • Strong and weak chemisorptions • Active metal dispersion |
| 6 | Chemisorption | <p>Furnace - Programmable to attain a temperature ramp in the range of 2 to 50 °C /min</p> <p>Maximum attainable temperature: 1100 °C</p> <p>Mass Flow Controller / Rotameter: Standard, Flow up to 200 cm³/min, $\pm 1\%$ of set point accuracy</p> <p>Standard External Dedicated Port: Heated port for connection of external detectors</p> <p>Total no. of Pressure Transducers: 7 or more</p> <p>Cryogen Free Space Control: Isothermal Jacket/coolant level sensor</p> <p>Reports: The software should be able to develop the reports based on the advanced data reduction models.</p> |
| 7 | TCD | <ul style="list-style-type: none"> • Pulse Chemisorption (Dynamic) – TPD / TPR / TPO Analysis should be possible • Should include injection port cold trap, and analysis protocols in software to support dynamic chemisorption analysis. |

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| | | <ul style="list-style-type: none"> • Should also include loop valve in addition to four gas inlets restrictor to flow control and local temperature measurement / control at loop injection • Software to include signal processing tools like peak deconvolution (curve fitting), and calculation of active surface area, crystallite size, and dispersion. |
| 8 | Computer | Windows-10/11 based computer for data acquisition and software installation should be provided. Minimum 13 th Gen i5 /i7 processor, Minimum 16/32 GB RAM, 1 TB SSD hard drive and 64 bit operating system. |
| <p>Note: It is not mandatory to provide a single instrument capable of performing both physisorption and chemisorption analyses. The supplier may alternatively offer two separate instruments—one dedicated to physisorption and the other to chemisorption—provided that there is no compromise in analytical capabilities / hardware / software provided for either technique as per the specification in Sr. no. 1-8.</p> <p>For the physisorption system, it must be capable of measuring and analyzing the following:</p> <ul style="list-style-type: none"> • Adsorption isotherms • Desorption isotherms • Langmuir surface area • BJH mesopore volume and area distribution • Micropore volume (micropore size: 2 nm to 0.35 nm) • Micropore area (micropore size: 2 nm to 0.35 nm) <p>For the chemisorption system, it must be capable of analyzing:</p> <ul style="list-style-type: none"> • Active metal area • Crystallite size • Strong and weak chemisorption • Active metal dispersion • Pulse chemisorption (Dynamic): TPD, TPR, and TPO <p>In the case of two separate systems, each system must be provided with its own computer for data acquisition and software installation. These computers must meet the following minimum specifications:</p> <ul style="list-style-type: none"> • Minimum 13th Gen i5 /i7 processor • Windows 10 or 11 (64-bit operating system) • 16 GB or 32 GB RAM • 1 TB SSD <p>All additional parts / items to be supplied are listed below. In case of separate equipments for Physisorption studies and chemisorption studies are quoted, all the items listed below applies for both equipments separately.</p> | | |
| 9 | All connections/tubings to be provided by the vendor. | |
| 10 | Comprehensive warranty of total 5 years | |
| 11 | Additional cryogenic dewar of appropriate size such that length of experiment without refilling the dewar > 70 hrs with three sample tubes and P0 tube. | |
| 12 | Additional 6 sample tubes and 3 P0 tube to be provided as spares. Note: If the P ₀ tube incorporated in the instrument is made of metal (e.g., stainless steel), it is acceptable to supply only one P ₀ tube, provided it is integrated into the instrument. However, if the P ₀ tube is made of glass, the supplier must provide a minimum of five (5) P ₀ tubes. | |
| 13 | UPS of 5 kVA with atleast 3 years of warranty (To provide a power backup of atleast 30 minute to the equipment). | |
| 14 | Reference material for TPR, BET micropore/mesopore, and chemisorption should be provided. | |
| 15 | 20 ltr. LN2 container | |
| 16 | All reference gas cylinders (47 ltr. Water capacity) for which analysis to be done that includes pure H ₂ , 10% NH ₃ in He, 10% O ₂ in He, 10% H ₂ in Nitrogen, Pure O ₂ , N ₂ , CO ₂ cylinders) along with their double-stage gas regulators, which should be provided by the vendor. | |

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| 17 | The vendor should provide a laser printer. |
| 18 | All tubing connections are to be provided by the vendor. |
| 19 | Instrument operators/students should be trained for the given characterizations: 1. BET micropore and mesopore; 2. Hydrogen Temperature programmed reduction (H ₂ -TPR); 3. Ammonia temperature programmed desorption (NH ₃ -TPD); 4. CO ₂ -TPD. 5. TPO |
| 20 | The installation report should include all the characterization results mentioned in point 19 above. The recipe for various characterizations should be saved as a part of history and how to change a recipe should be conveyed properly to the operator / student. Online technical support should be provided 24*7 in case of some doubt raised by the operator / student. |
| 21 | The supplier should quote separately the AMC for 5 years after the completion of five years comprehensive warranty. The supplier should mention the projected yearly AMC price breakdown considering the rise of inflation and other factors. |
| 22 | Delivery period: 120 days (Includes Installation and Commissioning of Instruments) |
| 23 | <p><i>Installation in India:</i></p> <p>(i) The Bidder must be authorised partner of their original equipment manufacturer (OEM) or shall be authorised on behalf of their OEM. Letter of Authorization from OEM on the same and specific to the tender should be enclosed. Reference details of the equipment installed by the bidder & OEM must be attached to prove the credibility and reliability of the vendor and to ascertain the experience of installation, commissioning as well as after sales service support.</p> <p>(ii) Installation, complete interfacing of the system with its subsystems, and commissioning are to be carried out by the vendor's factory-trained engineers, followed by a demonstration of the system's performance to the user's complete satisfaction.</p> <p>The bidder/OEM must have successfully commissioned at least 3 numbers in last 5 years of similar/higher capacities in India in the premier institutions of India such as IIT's /NIT's/IISER's/IISc/ CFTI's/PSU's/ Government institutions etc. The installed reference equipment should be running condition. Proof in this regard with contact details of the user should be provided. All certificates should be attached in the technical bid to evaluate the credibility of the bidder.</p> |
| 24 | Pre-dispatch: The supplier should arrange the pre-dispatch inspection prior to packing & dispatching the item for the supplies as an Optional point. |
| 25 | Downtime: During the warranty period not more than 5% downtime will be permissible. For every day exceeding permissible downtime, penalty of 1/365 of the 5% item value will be imposed. Downtime will be counted from the date and time of the filing of complaint with in the business hours. |

COMPLIANCE SHEET

| S.No. | Description | | Compliance (Yes / No) |
|-------|--|--|--------------------------|
| 1 | The instrument should be capable of carrying out following analyses on three samples simultaneously | <ul style="list-style-type: none"> • Single point and multi points BET / Langmuir Surface area • Total pore volume at a pre-determined pressure point • Meso-pore size distribution using known adsorption models • High resolution micro-pore size distribution on at least one port using commonly acceptable models for N₂ and/or Argon gas • Density functional Theory (DFT) data reduction regimes for advanced data reductions. • The system should have the capability to perform vapor sorption | |
| 2 | Desirable Hardware Features | <p>Sample pressure measurement, independently, using (i) 0-1000 mm Hg or better range transducers individually on all the three ports, and (ii) 0-10 mm Hg and 0-1 mm Hg or better range on micro pore port</p> <ul style="list-style-type: none"> • Manifold dosing pressure measurement, using (i) 0-10 mm Hg and 0-1000 mm Hg or better range transducers • Saturation measurement port: 0-1000 mm Hg or better range pressure transducer on saturation measurement port • Servo valve /Proportional valve control for dosing and evacuation • Temperature control for manifold, sample ports and ambience • 25-bit/32-bit A/D conversion • Cryogen level control around sample tube with/without level sensor • Dedicated port for measurement of saturation pressure in addition to three sample ports, with a dedicated 0-1000 mm Hg or better range transducer • Vacuum system comprising of turbo-molecular drag pump in series with diaphragm pump • Dual cold cathode/micro-pirani vacuum gauge placed near the sample port/degassing port • In-situ degassing for three samples at the sample ports/dedicated degas ports prior to analysis | |

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| 3 | Desirable Software features | <p>Four Free-Space Modes - Entered, Measured, Measured Post Analysis, and Calculated</p> <ul style="list-style-type: none"> • Standard library of adsorption properties to include at least 30 fluids • Software should allow automated method development to create analysis conditions, report options and degas conditions • Software to allow diagnostics for system monitoring and performance • Routine event monitoring to include: Diaphragm pump life; saturation pressure; manifold out-gas rate etc. | |
| 4 | Performance | <p>Analysis station Transducers: Total No. 6 or more positioned as under:</p> <p>(i) 0-10 mm Hg and 0-1 mm Hg or better on one micro pore sample port</p> <p>(ii) 0-1000 mm Hg or better on all the three ports</p> <p>(iii) 0-1000 mm Hg or better on saturation measurement port</p> <p>Transducer accuracy</p> <p>(i) 0-1000 mm Hg or better: 0.15% of reading or better</p> <p>(ii) 0-10 mm Hg : 0.15% of reading or better</p> <p>(iii) 0-1 mm Hg: 0.15% of reading or better</p> <p>Vacuum system</p> <p>(i) Ultimate vacuum: $\leq 4 \times 10^{-9}$ torr</p> <p>Lowest measured P/P₀: better than 10^{-8} for Nitrogen adsorptive</p> <p>Cryogenic dewar of appropriate size such that length of experiment without refilling the dewar > 70 hrs with three sample tubes and P₀ tube. (3 Sample tubes and P₀ tube to be provided)</p> | |
| 5 | The following analysis should be possible | <ul style="list-style-type: none"> • Adsorption isotherm • Desorption isotherms • Langmuir surface area • BJH mesopore volume and area distribution • Micropore volume • Micropore area (micropore size: 2 nm to 0.35 nm) • Active metal area | |

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| | | <ul style="list-style-type: none"> • Crystallite size • Strong and weak chemisorptions • Active metal dispersion | |
| 6 | Chemisorption | <p>Furnace - Programmable to attain a temperature ramp in the range of 2 to 50 °C /min</p> <p>Maximum attainable temperature: 1100 °C</p> <p>Mass Flow Controller / Rotameter: Standard, Flow up to 200 cm³/min, ± 1% of set point accuracy</p> <p>Standard External Dedicated Port: Heated port for connection of external detectors</p> <p>Total no. of Pressure Transducers: 7 or more</p> <p>Cryogen Free Space Control: Isothermal Jacket/coolant level sensor</p> <p>Reports: The software should be able to develop the reports based on the advanced data reduction models.</p> | |
| 7 | TCD | <ul style="list-style-type: none"> • Pulse Chemisorption (Dynamic) – TPD / TPR / TPO Analysis should be possible • Should include injection port cold trap, and analysis protocols in software to support dynamic chemisorption analysis. • Should also include loop valve in addition to four gas inlets restrictor to flow control and local temperature measurement / control at loop injection • Software to include signal processing tools like peak deconvolution (curve fitting), and calculation of active surface area, crystallite size, and dispersion. | |
| 8 | Computer | Windows-10/11 based computer for data acquisition and software installation should be provided. Minimum 13 th Gen i5 /i7 processor, Minimum 16/32 GB RAM, 1 TB SSD hard drive and 64 bit operating system. | |
| <p>Note: It is not mandatory to provide a single instrument capable of performing both physisorption and chemisorption analyses. The supplier may alternatively offer two separate instruments—one dedicated to physisorption and the other to chemisorption—provided that there is no compromise in analytical capabilities / hardware / software provided for either technique as per the specification in Sr. no. 1-8.</p> <p>For the physisorption system, it must be capable of measuring and analyzing the following:</p> <ul style="list-style-type: none"> • Adsorption isotherms • Desorption isotherms • Langmuir surface area • BJH mesopore volume and area distribution | | | |

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| | <ul style="list-style-type: none"> • Micropore volume (micropore size: 2 nm to 0.35 nm) • Micropore area (micropore size: 2 nm to 0.35 nm) <p>For the chemisorption system, it must be capable of analyzing:</p> <ul style="list-style-type: none"> • Active metal area • Crystallite size • Strong and weak chemisorption • Active metal dispersion • Pulse chemisorption (Dynamic): TPD, TPR, and TPO <p>In the case of two separate systems, each system must be provided with its own computer for data acquisition and software installation. These computers must meet the following minimum specifications:</p> <ul style="list-style-type: none"> • Windows 10 or 11 (64-bit operating system) • 16 GB or 32 GB RAM • 1 TB SSD • Minimum 13th Gen i5 /i7 processor. <p>All additional parts / items to be supplied are listed below. In case of separate equipments for Physisorption studies and chemisorption studies are quoted, all the items listed below applies for both equipments separately.</p> | |
| 9 | All connections/tubings to be provided by the vendor. | |
| 10 | Comprehensive warranty of total 5 years | |
| 11 | Additional cryogenic dewar of appropriate size such that length of experiment without refilling the dewar > 70 hrs with three sample tubes and P0 tube. | |
| 12 | Additional 6 sample tubes and 3 P0 tube to be provided as spares. Note: If the P ₀ tube incorporated in the instrument is made of metal (e.g., stainless steel), it is acceptable to supply only one P ₀ tube, provided it is integrated into the instrument. However, if the P ₀ tube is made of glass, the supplier must provide a minimum of five (5) P ₀ tubes. | |
| 13 | UPS of 5 kVA with atleast 3 years of warranty (To provide a power backup of atleast 30 minute to the equipment). | |
| 14 | Reference material for TPR, BET micropore/mesopore, and chemisorption should be provided. | |
| 15 | 20 ltr. LN2 container | |
| 16 | All reference gas cylinders (47 ltr. Water capacity) for which analysis to be done that includes pure H ₂ , 10% NH ₃ in He, 10% O ₂ in He, 10% H ₂ in Nitrogen, Pure O ₂ , N ₂ , CO ₂ cylinders) along with their double-stage gas regulators, which should be provided by the vendor. | |
| 17 | The vendor should provide a laser printer. | |
| 18 | All tubing connections are to be provided by the vendor. | |
| 19 | Instrument operators/students should be trained for the given characterizations: 1. BET micropore and mesopore; 2. Hydrogen Temperature programmed reduction (H ₂ -TPR); 3. Ammonia temperature programmed desorption (NH ₃ -TPD); 4. CO ₂ -TPD. 5. TPO | |
| 20 | The installation report should include all the characterization results mentioned in point 19 above. The recipe for various characterizations should be saved as a part of history and how to change a recipe should be conveyed properly to the operator / student. Online technical support should be provided 24*7 in case of some doubt raised by the operator / student. | |
| 21 | The supplier should quote separately the AMC for 5 years after the completion of five years comprehensive warranty. The supplier should | |

| | | |
|----|--|--|
| | mention the projected yearly AMC price breakdown considering the rise of inflation and other factors. | |
| 22 | Delivery period: 120 days (Includes Installation and Commissioning of Instruments) | |
| 23 | <p><i>Installation in India :</i></p> <p>(i) The Bidder must be authorised partner of their original equipment manufacturer (OEM) or shall be authorised on behalf of their OEM. Letter of Authorization from OEM on the same and specific to the tender should be enclosed. Reference details of the equipment installed by the bidder & OEM must be attached to prove the credibility and reliability of the vendor and to ascertain the experience of installation, commissioning as well as after sales service support.</p> <p>(ii) Installation, complete interfacing of the system with its subsystems, and commissioning are to be carried out by the vendor's factory-trained engineers, followed by a demonstration of the system's performance to the user's complete satisfaction.</p> <p>The bidder/OEM must have successfully commissioned at least 3 numbers in last 5 years of similar/higher capacities in India in the premier institutions of India such as IIT's /NIT's/IISER's/IISc/ CFTI's/PSU's/ Government institutions etc. The installed reference equipment should be running condition. Proof in this regard with contact details of the user should be provided. All certificates should be attached in the technical bid to evaluate the credibility of the bidder.</p> | |
| 24 | Pre-dispatch: The supplier should arrange the pre-dispatch inspection prior to packing & dispatching the item for the supplies as an Optional point . | |
| 25 | Downtime: During the warranty period not more than 5% downtime will be permissible. For every day exceeding permissible downtime, penalty of 1/365 of the 5% item value will be imposed. Downtime will be counted from the date and time of the filing of complaint with in the business hours. | |

CHECK LIST FOR BIDDERS

| Sl. No. | Particulars | Yes / No |
|----------------|--|-----------------|
| 1 | Have you filled and signed the details and enclosed relevant documents? | |
| 2 | Have you read and understood various conditions of the tender and willing to abide by them? | |
| 3 | Have you submitted a tender fee of INR 500/- through online mode using NET-BANKING or payment online in an acceptable form? | |
| 4 | Have you submitted a EMD of INR 3,00,000/- through online mode using NET-BANKING or payment online in an acceptable form? | |
| 5 | Have you taken a print of all the sections & annexures of the tender in the prescribed paper size and signed on all pages of the tender document and submitted it in the e-Procurement module of the CPP Portal? | |
| 6 | Have you attached proof of having met the eligibility criteria? | |
| 7 | Have you attached a self-attested copy of the documents to show the financial status? | |
| 8 | Have you attached a copy of the registration certificate with Government bodies like Factory License, OEM authorization, IT, GST, EPFO, ESIC, Labour license, or Legal Entity? | |
| 9 | Have you attached a copy of the self-attested purchase order along with satisfactory supplied & installation report (as applicable) issued by the organizations / Govt. Departments or any other reputed PSUs? | |
| 10 | Have you attached all the supporting documents along with the technical bid as per clause no. 6 of Section – I? | |
| 11 | Have you attached the proof of authorization to sign on behalf of the Bidder? | |
| 12 | Has your techno-commercial bid been submitted as per the requirements of the tender? | |
| 13 | Is your Price Bid (BOQ) submitted as per the prescribed MS Excel format in the e-Procurement module of the CPP Portal? | |
| 14 | Have you submitted the tender documents in two parts with the respective cover in the e-Procurement module of the CPP Portal? | |
| 15 | Have you filled and signed the Tender Acceptance Letter (Annexure – III) | |
| 16 | Have you filled and signed the Self – Declaration for Non-Blacklisting (Annexure – IV) | |
| 17 | Have you filled and signed the Self-Declaration for Local Contents (Annexure – V) | |
| 18 | Have you filled and signed the Certificate By The Bidder for sharing land border (Annexure – VI) | |

(On The Letter Head of the Bidder)

(TENDER ACCEPTANCE LETTER)

To,

The Registrar,
National Institute of Technology Rourkela
Rourkela – 769008
Odisha

Sub: Acceptance of all the terms & conditions of tender.

Ref.: Supply, Installation, Demonstration and Training of Multiport Chemisorption / Physisorption / Micropore Analyzer at NIT Rourkela.

1. I/We have downloaded/ obtained the tender document(s) for the above mentioned “Tender/Work” from the CPP Portal or NIT Rourkela web site(s).
2. I/We have carefully read and understood all the terms and conditions of the tender and undertake to abide by them.
3. The information/documents furnished for this tender are authentic to the best of my knowledge and belief.
4. The corrigendum(s) issued from time to time by your department/ organization too have also been taken into consideration, while submitting this acceptance letter.
5. I/We hereby unconditionally accept the tender conditions of above-mentioned tender document(s)/ corrigendum(s) in its totality/entirety.
6. I / We/ are aware of the fact that furnishing of any false information / fabricated documents would lead to rejection of my / our tender at any stage besides any liabilities towards prosecution under the appropriate law.

Date:
Place:

Signature of Authorized person

Full Name:
Designation:
Seal

(On The Letter Head of the Bidder)

SELF DECLARATION – NON-BLACKLISTING

To,
The Registrar,
National Institute of Technology Rourkela
Rourkela – 769008
Odisha

Ref: Supply, Installation, Demonstration and Training of Multiport Chemisorption / Physisorption / Micropore Analyzer at NIT Rourkela.

Dear Sir,

I / We, Proprietor / Partner(s) / Director(s) of M/s., hereby declare that the Firm / Company namely M/s has not been blacklisted or debarred / no Police Case or Vigilance inquiry pending or ever been punished by any Hon'ble Court / no due towards Income Tax declared ineligible for corrupt & fraudulent practices either indefinitely or for a particular period as on the date by NIT Rourkela or any other Govt. Organization / PSU / Central Autonomous Body from taking part in tenders.

We further declare that presently our Firm / Company M/sis not blacklisted or debarred and not declared ineligible for any reason by any State / Central Government / PSU / Autonomous Body on the date of bid submission including violation of relevant Labour Laws.

If this declaration is found to be incorrect then without prejudice to any other action than may be taken, our Performance Security may be forfeited in full and the bid, if any to the extent accepted may be cancelled at any stage and the contract may be terminated and we shall be debarred from bidding in future against any other tender.

Date:

Place:

Signature of Authorized person
Name
Designation with agency seal

(On The Letter Head of the Bidder)

BID SECURITY DECLARATION

To,
The Registrar,
National Institute of Technology Rourkela
Rourkela – 769008
Odisha

Ref: Supply, Installation, Demonstration and Training of Multiport Chemisorption / Physisorption / Micropore Analyzer at NIT Rourkela.

Dear Sir,

We, the undersigned declare that

1. We understood that, according to the tender conditions, bids must be supported by a Bid Security Declaration.
2. We accept that we will automatically be suspended from being eligible for bidding in any contract with the Institute for the period of 3 years or as per decided by the NIT Rourkela starting from the bid closing date, if we are in breach of our obligation(s) under the bid conditions, because we;
 - a. have withdrawn our bid during the period of bid validity specified in the letter of bid; or
 - b. having been notified of the acceptance of our bid by the institute during the period of bid validity, (i) fail or refuse to execute the contract, or (ii) fail or refuse to furnish the performance security, in accordance with the tender conditions.

Date:

Place:

Signature of Authorized person
Name
Designation with agency seal

(On The Letter Head of the Bidder)

SELF DECLARATION

[For Local Content of Products]

To,
The Registrar,
National Institute of Technology
Rourkela- 769008, Odisha.

Concerning Order, no P.-45021/2/2017 PP (BE-II) dated 04.06.2020 and No. P-45021/2/2017- PP(BE-II) dated 16-09-2020 of DPIIT, Ministry of Commerce and Industry, Govt. of India, we fall under the following category of supplier (please tick the correct category) for the items for which this tender has been floated and being bided.

Class I local supplier – has local content equal to more than 50%. Local contents added at (name of location local contents are added).

Class II local supplier – has local content of more than 20% but less than 50%. Local contents added at (name of location local contents are added).

Non-local supplier – has local content less than or equal to 20%. Local contents added at..... (name of location local contents are added).

We are solely responsible for the above mentioned declaration concerning the category of supplier. False declarations will be in breach of the Code of Integrity under Rule 175(1) (i) (h) of the General Financial Rules for which we may be debarred for up to 2 years as per Rule 151(iii) of the General Financial Rules along with such other actions as may be permissible under law.

Signature & seal of the company

Name, Designation and address of the organization
.....

Date: