



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

Advertised Tender Enquiry

Department: Mining Engineering

Tender Notice No: NITR/PW/MN/2021/255

Date: 19/03/2021

IMPORTANT DATES

To

**Bidding
Through
CPP Portal
(e- Procurement)**

<https://eprocure.gov.in/eprocure/app>

Event	Date	Time
Pre-bid meeting	31/03/2021	11:00 AM
Last date of submission of bid	16/04/2021	03:00 PM
Date of opening of techno-commercial bid	19/04/2021	11:00 AM

Dear Sir,

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

For any clarification:

Yours sincerely,

Attention:

**Prof. H.B. Sahu
Professor & Head
Department of Mining Engineering
NIT Rourkela - 769 008
Phone: 0661-2462606(O) and 9437245625
Email: hbsahu@nitrkl.ac.in**

Prof. H. B. Sahu

Encl:

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

1. Schedule of requirements

Sl. No	Description of Goods/Service	Quantity
1.	Inductively Coupled Plasma Mass Spectrometer (ICPMS) with Accessories (Detailed specifications as per Annexure – II)	1 Unit

2. Specifications and allied Technical Details:

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

3. Format of Quotation (tick appropriate box)

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

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

5. Quotations should be valid for a period of **90 days** from the date of opening of techno-commercial bid.

6. Some important dates:

i.	Pre-bid Conference	Date:	31/03/2021	11:00 AM
ii.	Last date for submission of bid	Date:	16/04/2021	03:00 PM
iii.	Date of opening of techno- commercial bid	Date:	19/04/2021	11:00 AM

7. The Pre-bid Conference will be held through offline mode in the "Dept. of Mining Engineering, NIT Rourkela- 769008" as per the schedule date & time given above for clarifying issues and clearing doubts, if any, about the specification & other allied technical details. The prospective bidders may attend the pre-bid conference on scheduled date, time and place as mentioned above.

8. **Warranty: 05 (five) years** comprehensive warranty.

9. **GST:** GST should be charged according to applicable rates.

10. **Tender Cost:** Tender cost (Non- refundable) in the shape of Demand Draft for **INR 1000/- (Rupees One Thousand only)** in favor of "**Director, NIT Rourkela**" **Payable at Rourkela** from any Scheduled Commercial Bank except Co-operative and Gramin bank. Tender Cost should reach physically through speed post/ registered post/courier, contained in an envelope & superscripted with subject, tender reference number addressed to **Registrar, NIT Rourkela- 769008, Odisha; on or before 19/04/2021 at 11:00 AM.**, failing which the bid will be summarily rejected.

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

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

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

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

15. Technical Bid Evaluation Criteria:

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

Other Qualification Criteria:

- (i.) If the supplier is not the Original Equipment Manufacturer (OEM), then it should have its own service center in India. The bidders must enclose details of their infrastructure with reference to locations and technical manpower, availability of inventory spares etc. A valid GST registration certificate of the supplier should be submitted along with bid.
- (ii.) Offers from Authorized agents of Foreign Manufacturers should accompany Principal's Authorization letter mentioning our Tender Reference Number.
- (iii.) Manufacturer should have proper website and the offered product should be available in the website.
- (iv.) The ordered goods are required to be installed within 60 days of receipt of goods at this Institute. Installation should be carried out only by expert engineers of Supplier / Manufacturer. During the course of installation, necessary training on operation and maintenance of the goods shall be imparted to Institute's Faculty/ Engineers/ Technicians. Installation and training must be free of cost
- (v.) Scanned copies of the technical brochure of the above equipment and accessories as per Annexure-II must be included in the technical bid. Point wise technical compliance along with any deviation of the mentioned specifications (**Annexure-II**) must be indicated along with the technical documents.
- (vi.) Make and model no. should be mentioned in the technical bid.
- (vii.) At least five user names and contacts from NIT/IIT/reputed Indian institute /Govt. R&D organizations must be provided where the above equipment (Annexure –II) have been supplied in last five years along with copies of purchase orders.
- (viii.) Prior installation conditions / site preparation / electrical connection required must be clearly mentioned in the quotation along with technical bidding documents
- (ix.) Prices of additional / optional items not appearing in the BOQ, if any, shall be quoted in a separate PDF file, duly signed by Bidder's authorized person/persons.
- (x.) If any component/ additional instrumental unit/consumables which is required for smooth running of instrument is made in India that must be quoted in INR. Anything which is of Indian origin must be quoted in INR.
- (xi.) The comparison between the indigenous and the foreign offers shall be made on FOB destination basis and CIF/CIP basis respectively.
- (xii.) In case optional items are specified in the tendered specifications, the Purchaser reserves the right to buy or not to buy the optional items. In case the option is exercised to buy the optional items after Bid opening, then the cost of optional items would be included to ascertain the Lowest Evaluated Responsive Bid. In case, the option is exercised not to buy the optional items, then the cost of the optional items would not be included in ascertaining the Lowest Evaluated Responsive Bid.
- (xiii.) The quotations are liable to be rejected if any of the above conditions are not complied with or there is any violation of GFR17 rules and regulations. Conditional Bids shall not be accepted.
- (xiv.) The Bidder shall bear all costs associated with the preparation and submission of its bid, and "the Purchaser", will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.
- (xv.) The supplier must have annual turnover of Rs 40 lakhs for each of the last three financial years.

- (xvi.) Warranty period: Comprehensive warranty minimum of 5 years from the date of installation (including all parts and consumables supplied by the vendor) and during this warranty period, authorized service engineer should visit at least twice in a year in addition to the break-down call.
- (xvii.) Service/Manpower: Should provide onsite instrument operation support with manpower for at least 2 years.
- (xviii.) The vendor should be able to provide all spare and parts for minimum of 10 years from the date of installation.

16. Financial Bid Evaluation Criteria:

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

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

<p>Prof. H. B. Sahu Professor & HOD Department of Mining Engineering NIT Rourkela, Odisha- 769 008 Phone: 0661-2462606 (O) Email: hbsahu@nitrkl.ac.in</p>
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NB: Please furnish your Dealership Certificate (must) and Proprietary Nature Certificate (If applicable)



NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA – 769 008, ODISHA

BID DOCUMENT

1. Instructions to the bidders

- 1.1 Bids are invited on behalf of the Director, National Institute of Technology (NIT), Rourkela – 769008, Odisha, from the intending bidders for supply of the goods/stores/equipment for the Institute as detailed in the enquiry letter.
- 1.2 The bidders should quote their offer/rates in **BOQ** in clear terms without ambiguity.
- 1.3 In Case of any discrepancy between the rate in figures and that in words, the rate in words will be accepted as correct.
- 1.4 The last date for receipt of the bid is marked in the tender document.
- 1.5 The bids should be uploaded in <https://eprocure.gov.in/eprocure/app>. Please follow the guidelines of the site.
- 1.6 If a prospective bidder requires any clarification in regard to the bidding documents, s/he may make a request the concerned officer or faculty member at least 15 days before the deadline for receipt of bids.
- 1.7 Bid received after deadline of receipt indicated in para 1.4 above, shall not be taken in to consideration.
- 1.8 Each bidder shall submit only one bid. A bidder, who submits more than one bid, shall be disqualified and considered non-responsive.
- 1.9 (In respect of high value plant, machinery etc. of a complex and technical nature). The bids may be submitted in two parts, viz., techno-commercial bid and financial bid.
- 1.10 The bidder has to sign in full at all pages of the scanned part of the bidding document. No over- writing in those pages is acceptable.
- 1.11 If any bidder does not fulfil technical specification, his/her eligibility will be cancelled even if his/her price got L1 status.
- 1.12 Bidders registered with any of the following agencies/ bodies as per Public procurement policy for Micro & Small Enterprises (MSE) order 2012 are exempted categories from payment of EMD & Tender Cost provided that the registration Certificate issued by any one of these below mentioned agencies must be valid as on close date of tender. Micro small or medium enterprises who have applied for registration or renewal of registration with any of these agencies/bodies but have not obtained the valid Certificate as on close date of tender are not eligible for exemption.
 - i) Khadi and Village Industries Commission (KVIC)
 - ii) National Small Industries Corporation (NSIC)
 - iii) Any other body specified by Ministry of MSME/GOI

2. Conditions of the bid

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

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

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

- 2.3** The goods are required to be delivered at the Department of Mining Engineering, 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 of Techno-commercial Bid. In case your offer has a different validity period that should be clearly mentioned in the quotation.
- 2.5** Conditional discount, if any, offered by the bidder shall not be considered at the time of evaluation.
- 2.6** The goods offered should strictly conform to the specification and technical details as mentioned in schedule of requirements in the tender documents.
- 2.7** The Institute may like to conduct pre-dispatch inspection of goods, where applicable.
- 2.8** Period of guarantee/warranty, where applicable, should be specified in the bid.
- 2.9** If the successful bidder, on receipt of the supply order, fails to execute the order within the stipulated period, in full or part, it will be open to the Director, NIT, Rourkela to recover liquidated damage from the firm at the rate of 1 percent of the value of undelivered goods per month or part thereof, subject to a maximum of 5 percent of the value of undelivered goods. Alternatively, it will also be opened to the Director, to arrange procurement of the required goods from any other source at the risk and expenses of the bidder.
- 2.10** The successful bidder may be required to execute a contract, where applicable.
- 2.11** The bidder has to furnish up to date GST and Income Tax Clearance Certificate along with the bid.
- 2.12** Purchase order / Work order shall be placed on the bidding firm(s). In case of deviation to this, if any, the bidding firm should produce any such sufficient documents/credentials i.e, Agreements, MOUs, Arrangements etc. with the third party/ OEM to satisfy the buyer. A consent letter from the third party/ OEM to that effect must be enclosed along with the bidding documents.
- 2.13** 70% payment will be paid through LC against shipping documents, balance 20% payment will be through wire transfer on receipt of the consignment in good condition in the Department of Mining Engineering, National Institute of Technology Rourkela. Remaining 10% payment will be released through wire transfer within 30 days after commissioning of the equipment, installation, demonstration and onsite training.
- 2.14** State Bank of India is the sole Banking partner for NIT Rourkela for operation of LC (Letter of Credit).
- 2.15** In the event of any dispute arising out of the bid or from the resultant contract, the decision of the Director, NIT, and Rourkela shall be final.
- 2.16** The bid document/resultant contract will be interpreted under Indian Laws.

BID SECURITY DECLARATION

Tender Ref. No.: _____ Dated _____

Tender ID : _____

To

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

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

a) Withdraw/modify/amend, impair or derogate the tender/bids, during the period of bid validity specified in the form of Bid; or

b) having been notified of the acceptance of our Bid by the purchaser during the period of bid validity

(i) fail or refuse to execute the contract, if required, or

(ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.

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

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

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

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

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

INVITATION FOR TENDER FOR SUPPLY OF EQUIPMENT

Inductively Coupled Plasma Mass Spectrometer (ICPMS) with Accessories

Purpose: The ICP-MS system should be capable of analyzing major, minor, trace and rare earth elements in range of ppb to ppt. Analysis of one sample should be done in a single run in a variety of matrices such as soil, rock, sediment, sludge, ash, aerosol, water, wastewater, catalysts, metal nanoparticles, polymers, oils, plastics, biological, engineered material samples, etc. The system should be capable of time-resolved analysis for single nanoparticle applications, and should possess the ability for speciation analysis (As,Cr, Hg, Se, etc.) using a coupled liquid chromatography (LC) unit.

A microwave digestion system capable of sample preparation with acid mixtures using programmable pressure-temperature ramping should be supplied with the ICP-MS system. The system should be supplied with all peripherals, and model numbers of the equipment/additional units should be clearly mentioned.

DETAILED TECHNICAL SPECIFICATIONS FOR ICP-MS WITH ACCESSORIES

1. Inductively Coupled Plasma Mass Spectrometer (ICPMS)

Basic Design: Latest technology bench-top quadrupole ICP-MS with collision/reaction cell for removal of interferences. The system should have built-in features of hardware and software compatible with components such as a liquid chromatography (LC) unit for speciation studies.

Sample Introduction: Concentric nebulizer that should be able to connect to an auto sampler and port for Argon dilution; System should have low-pulsation high precision peristaltic pump with at least 3 channels and 10 or more roller; Integrated Peltier Cooled Spray Chamber (Temp Range -5 to 20 °C), Glass and PFA Spray Chambers, PFA Nebulizer, Ni Sample and Skimmer cones. Suitable accessory to directly aspirate liquid samples with TDS having 25 % or more. HF Resistant kit is to be quoted in the offer. The IC MS should come with compatible peripheral and/or equipment for ion speciation studies.

Ion Source and RF plasma: Computer controlled RF generator operating between 27 MHz/ 40 MHz or equivalent operating from 600-1600 KW or better for automatic control and torch ignition, shutdown and system warm up. The system should be able to change over from normal Plasma conditions to cool Plasma with direct control from software. The Plasma torch should have provision for software-controlled alignment for horizontal position, vertical position and sampling depth. Standard large orifice Ni sampling and skimming cones with suitable diameters are to be provided. The ion extraction/deflection system should have efficient mechanism for removing all neutrals from the Ion path. The Ion path must be maintenance free.

Cell Technology: ICP MS shall incorporate a Cell offering operation: Standard Mode (no gas), Collision Mode with KED and Reaction mode (pre or premix gas) for interference removal. Kinetic energy discrimination (KED) facility must be available to remove interferences. Fully automated and software-controlled changeover between No gas, collision and reaction mode without any manual intervention. Separate gas lines along with dedicated MFC for Collision and Reaction gas with

automatic control must be supplied as per system requirement (i.e. He, H₂/O₂/CH₄ etc.). Vendor should provide valid application note/Data on the use of mix gases. Reaction cell should have low mass cut off feature. Cell must be Non-consumable with zero maintenance.

Quadrupole Assembly: Quadrupole based, 2.0 MHz or more; User definable resolution for improved dynamic range and abundance sensitivity; Mass calibration assessed and automatically updated; Mass range should be from 2-280 amu or better; Scan speed: 3500 amu/sec or better. System should have dynamic range of > 10⁹ (10 orders of magnitude) to address varied concentrations (from ppt to very high ppm levels) in single aspiration and detector should provide 10 orders of magnitude in a single continuous scan.

Ion Detector Assembly: The ion detector is a simultaneous dual mode discrete dynode electron multiplier, 9 order or more magnitude of dynamic range. The dual-mode detector assembly must come standard with the system.

Vacuum System: Turbo pump should be differential pumping. In the event of power failure, either high vacuum is maintained or the entire vacuum system is to be automatically back-filled by inert gas to preserve the cleanliness of the system.

Performance Specifications: Sensitivity (Mcps/ppm):

Low mass (Bi/Li): > 40; Mid mass (Y/In): > 150, High mass (Tl/Bi): > 80; Oxide production < 2%, and doubly charged species < 3% under standard operating condition; Oxide ratio (%) CeO/Ce < 2 or better; Ba⁺⁺ or Ce⁺⁺/ Ba or Ce < 3 or better; Background mass 4.5/9/220: No gas < 1 cps; Short Term Stability < 2% RSD or better; Short term precision < 3% RSD; Long Term Stability < 4% RSD over 4 hours; Isotope Ratio Precision (%RSD) < 0.2 or better.

System Controller and Operating System: Suitable Data Station with all Software controls & future upgrade controls with Instrument software. The software must be able to provide full automatic control of the process of analyzing samples. This must include acquiring data, analysis, producing a report, and the option to upgrade to an incorporated Excel like spreadsheet for report flexibility. Software should provide comprehensive functionality for analysis through fully automated process with auto tuning. The software should have data handling and data management, Data security and access control with 21 CFR part 11 environment supports, compliance management and customizable reporting etc.

2. Other Supplies included with the system:

Recirculating Chiller, NIST Certified Multi element (at least 23 elements) aqueous calibration standard (100 ml), Fume hood with accessories, Argon Gas Cylinder – 10 numbers, Helium Gas Cylinder – 1 number, Reaction Gas Cylinder like Oxygen, Hydrogen & Ammonia - 1 number each, Gas Regulator for all the gases mentioned above – 1 number each,

Auto Sampler: Auto sampler of more than 200 samples capacity.

Desktop PC: Branded PC must be factory recommended and tested. High Performance Xeon Processor based Workstation, 32 GB RAM, 2TB HDD and 500GB SSD. High Performance Professional Graphics Card with Windows 10 Professional (64 bit). One or more 32 inch High Resolution Monitor, Key board, Mouse.

AC: Bidder should also install two 1.5 ton 5-star branded inverter ACs with relay for 6-h interval for continuous cooling in the designated room.

Online UPS: Online UPS of suitable 20 KVA or more for the complete system with 30 min or more backup.

Table & Chairs: Suitable durable tables for the instrument standard operation and 04 ergonomic highback chairs of the reputed brand with wheels for rolling should be provided.

3. Liquid chromatography (LC) unit for speciation studies

Liquid chromatography (LC) unit for speciation: Fully automated LC-ICP-MS operation for speciation studies for As, Hg and Se. The LC unit should consist of a quaternary gradient, high-performance liquid chromatography (HPLC) pump (800 bar or more) with integrated degasser, auto sampler (≥ 100 vials), and column oven. Standards and columns for speciation analysis of As, Hg and Se should be provided. The chromatography software module should be integrated within the ICP-MS software and should provide real-time status information on all vital analytical parameters for both the ICP-MS and the HPLC system.

Additional Consumables: Vial & Cap 1000 Nos (02 Sets), PEEK Tubing 5mtr (4 Set), PFT Frit (20 Nos), Glass mobile phase filter (04 set), Rotor seal (2 set), pump seal (2 set), needle (02 set) & needle sheet (02 Nos).

4. Microwave digestion system for sample preparation

Microwave digestion system: capable of digesting igneous rock (particularly chromite bearing ultramafic rock), soil, sediment, sludge, aerosol, water and wastewater, biological samples, pharmaceuticals, chemicals, etc. The system should have 14 or more vessel rotor, microwave power ≥ 1600 W, vessel volume: ≥ 80 ml, maximum operating temperature: $\geq 240^\circ\text{C}$ (designed temperature $\geq 300^\circ\text{C}$), maximum operating pressure: ≥ 50 bar (designed pressure ≥ 100 bar), IR/contactless temperature sensor for temperature monitoring of each vessel, integrated keypad/touch screen control, pressure-activated venting, chemical- (especially, acid) and corrosion-resistant cavity chamber and vessels, TFM/PTFE vessels, flexibility in terms of customized method creation, compliance with international safety standards, and method compliance with US EPA 3052, US EPA 3051A, ASTM D4309-96, ASTM D-5765, ASTM D-6010-96.

Additional Consumables: Vessel cover (20 set), Vessel spring (20 set) & vessel liners (5 set)

5. Training: The supplier has to give 5 days onsite training after the installation.

6. Warranty : Comprehensive warranty minimum of 5 years from the date of installation (including all parts and consumables supplied by the vendor) and during this warranty period, authorized service engineer should visit at least twice in a year in addition to the break-down call.

7. Service/Manpower: Should provide onsite instrument operation support with manpower for at least 2 years.

Warranty and after sales technical support

The tender must be quoted with **five years** comprehensive Warranty commencing from the date of complete and satisfactory installation of the equipment against the defect of any manufacturing, workmanship and poor quality of the components. The bidder also must agree and issue a certificate stating that technical query will be responded within 7 working days and the support will be provided within 21 working days from the date of reporting of the technical failure for down time free operation of the instrument.

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

In the technical details, specify clearly about the kind of service/maintenance required for the system. Also mention that whether the service has to be carried out by a company engineer or it can be carried by trained service personnel within India.

Vendor has to give 5 days on site training after the installation.

Enclose pre-installation guide for the details on electrical power, space and other for all components and essential accessories.
