



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

Advertised Tender Enquiry

Department: Earth & Atmospheric Sciences

Tender Notice No: NITR/PW-SR/ER/2019/153

Date: 16.10.2019

Important Dates

To,

**Through
CPP Portal
(E-procurement)**

Event	Date	Time
Pre-bid Conference	NA	NA
Last Date of submission of bid	13/11/2019	11:00 AM
Date of opening of techno-commercial bid	14/11/2019	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:

Attn.: Dr. Sk Md Equeenuddin
Head, Department Of Earth & Atmospheric
Sciences
NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA – 769008, ODISHA
PH.NO:- 0661-2462939
E-mail: equeen@nitrkl.ac.in

Yours sincerely,

Name: Dr. SK Md Equeenuddin
PIC [Geochemistry Laboratory]

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	Purchase of Wave Length-dispersive X-ray Fluorescence Spectrometer	1 (One)

2. Specifications and allied Technical Details

For detailed specification see Annexure-I

*Preference will be given for the closest matching current at the either ends * Submit list of users along with the quotation.

3. Format of Quotation

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 closing date of the bid.

6. Some important dates:

i.	Pre-bid Conference:	Date: NA	Time: NA
ii.	Last date for submission of bid :	Date: 13/11/2019	Time: 11:00 AM
iii.	Opening date of techno-commercial bid:	Date: 14/11/2019	Time: 11:00 AM

7. **Warranty** : Warranty must be **3 years** onsite which should be clearly mentioned along with the quotation

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

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

10 (a) If the price quoted in foreign value, the prize should be CIF/CIP up to Kolkata airport.

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

11. **Bid security and Tender Cost:** - **Bid security (EMD)** in shape of DD (Demand Draft)/Banker's cheque for **INR 1,60,000/- (Rupees One lakh sixty thousand only)** and **Tender cost (Non-refundable)** in the form of DD for **INR 1,000/- (Rupees one thousand only)** in favour of **Director, NIT Rourkela** payable at **Rourkela** form any Scheduled Commercial Bank except Co-operative and Gramin Bank . And DD (Demand Draft)/Banker's cheque for the EMD (Earnest Money Deposit) should remain valid for a period of 45 days beyond the bid validity period from the date of the opening of the tender. The EMD (Earnest Money Deposit) of unsuccessful bidders should be return to them at the earliest and latest on or before the 30th days after the award of the contract. EMD (Earnest Money Deposit) and the tender cost should reach physically through speed post/ registrar post / courier, containing in an envelope & superscripted with subject ,tender reference number addressing to **Registrar, NIT Rourkela -769008,Odisha; on or before 14/11/2019 at 11:00 AM.**

- 12. Performance Security: INR 4, 00,000/- (Rupees Four lakh only)** in shape of Demand Draft (DD)/Bank Guarantee in favour of Director, NIT Rourkela and payable at Rourkela. And Performance security should remain valid for a period of 60 days beyond the date of completion of all contractual obligations of the suppliers including warranty obligation. And EMD (Earnest Money Deposit) amount of successful bidder will be return after the receipt of performance security in case of award of contract to successful bidder.
- 13.** Please go through the enclosed "bid document" carefully for other bidding instructions.
- 14.** Please send you quotation through <https://eprocure.gov.in/eprocure/app>
- 15.** For technical details, you may contact

<p>Dr. SK Md Equeenuddin Department of EARTH & ATMOSPHERIC SCIENCES National Institute of Technology, Rourkela – 769008 Phone: 0661 – 246-2939 E-mail: equeen@nitrkl.ac.in</p>
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NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA – 769 008, ODISHA

BID DOCUMENT

1. Instructions to the bidders

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

2. Conditions of the bid

- 2.1 The rates quoted should preferably be net, inclusive of all taxes and duties, packing, forwarding, freight, Insurance and all other incidental charges. 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- Central tax (Rate) dt. 14.11.2017 [vid Registration No: TU/V/RG-CDE (227)/2016, dated: 13.11.2018].

- 2.3 The goods are required to be delivered at the indenting Department of NIT, Rourkela, and must be reached within **60 days** from the date of placement of the supply of order under the risk and arrangement of the bidder and offers with delivery beyond the above period shall be treated as unresponsive. In case the delivery time is higher, the same must be mentioned clearly in the quotation.
- 2.4 The bid should remain valid for a period of **90 days** from the date of opening. In case your offer has a different validity period that should be clearly mentioned in the quotation.
- 2.5 Conditional discount, if any, offered by the bidder shall not be considered at the time of evaluation.
- 2.6 The goods offered should strictly conform to the specification and technical details mentioned in **Annexure 1**.
- 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 Income Tax Clearance Certificate along with the bid.
- 2.12 Payment (*100 percent*) will be made by Account Payee Cheque/Bank Draft, within 30 days from the date of receipt of the goods in good condition or receipt of the bill, commissioning of the equipment, where applicable, whichever is later/latest.
- 2.13 In case of Advance payment, the payment will be made on either in Foreign Demand Draft or Wire Transfer only. The proforma invoice copy need to be sent for advance payment.
- 2.14 In the event of any dispute arising out of the bid or from the resultant contract, the decision of the Director, NIT, Rourkela shall be final.
- 2.15 The bid document/resultant contract will be interpreted under Indian Laws.

SPECIFICATIONS FOR WAVE-LENGTH DISPERSIVE XRF ANALYSER

1. Applications

The fully automated computer controlled sequential **Wave Length-Dispersive X-ray Fluorescence Spectrometer** with basic operating software and all essential accessories are required for analyzing rock, soil, sediment, fly ash, mineral and ore samples. The equipment should be capable of precisely measuring the concentration of major elements (Si, Ti, Al, Fe, Ca, Mg, Na, K) at % level, and minor elements (such as As, F, S, P, Mn, Cr,V, Co, Mo, Ni, Cu, Pb, Zn, Sc, Rb, Ga, Sr, Nb, Zr,Y, Ba, Th etc) at ppm level .The WD-XRF should measure the concentration from F(9) to U(92).

Basic XRF Specifications:

H.V. Generator:

The rating of the generator should be 4KW or more, 60 KV (with 1 kW steps), minimum 150 mA or more (with 1 mA steps), stability of the generator should be better than 0.0001% per 1% mains fluctuation.

X-ray Tube:

4kW or more with Rh Target (end window) with thickness 50 micron or less beryllium window. For better X-ray tube life and precise analysis, X-Ray tube should be continuously **ON** during changeover of the samples during analysis run. X-Ray must have a protective covering/ feature to deal with accidental sample spillage and contamination. It should have minimum sample to anode distance for maximum intensity.

Optics-

Optics should be best suitable for analysing powder and solids samples. Spectrometer should have capacity to handle sample with maximum sample diameter 51 mm and maximum 40 mm height.

Motorized Primary Beam Filter-

Minimum four position, programmably changeable.

Collimator –

Minimum three position, programmably changeable.

Collimator masks –

Minimum four position, programmably changeable.

Goniometer-

High Precision, microprocessor controlled Goniometer should be with θ - 2θ independent driving mechanism. It should have facility to achieve maximum speed of 2400deg/min.

Crystal Changer-

It should have minimum eight position crystal changer. Automatic crystal changer with four crystals as follows to be offered

- Separate crystal LiF-200
- Separate crystal LiF-220
- Separate crystal PET
- Separate crystal GE Curved & suitable multilayer crystal for analysing element range O to Mg

Dust protection device shall be inbuilt with the system and should be user accessible for cleaning.

Detectors:

System should have minimum two detectors as below

1. Scintillation counter detector
2. Gas flow proportional counter

Maximum Scanning speed should be at least 2000 deg/minute or better.

All the detectors should be equidistant from the crystal mill. The precision unit should be a microprocessor controlled one.

Sample Chamber and Automatic Sample Changer-

Automatic programmable sample changer with capacity to handle 48 or more positions, samples of variable dimensions. It should be supplied with 48 position or more position tray.

Sample holders

20 number of steel sample holders to handle 36 mm or more diameter solid samples, 10 nos. of steel sample holders to handle 30 mm dia solid or pressed pellet or fused bead samples to be quoted.

Vacuum Pump-

The spectrometer should be evacuated with suitable vacuum pump operation. Vacuum pump should be built inside the spectrometer cabinet.

Data acquisition and user-friendly instrument operation and data processing and file storage software and hardware (PC/Monitor/Printer/Licensed software) should be offered.

Software-

User friendly intelligent software with following features: Spectrometer software should be compatible with latest version of Windows (or Windows 10).

Software should have following functions for qualitative & quantitative analysis.

- Multipoint background correction
- Line overlap correction

- High speed qualitative analysis
- Ratio calculation
- Auto PHD/PHA measurement
- Calibration curve (Net intensity / concentration, corrected intensity/concentration) for quantitative analysis.
- Empirical matrix correction models.
- Theoretical matrix correction models.
- Compton & Rayleigh scattering correction model
- Calculation of concentration functions
- Data storage
- Result conversion to excel sheet

The **licensed copy of the XRF software** shall be provided in **CD- ROM** along with the necessary help

All **operational manuals/Flow charts, instrument manual**, important published literature of reference should be supplied free of cost.

STANDARDLESS ANALYSIS

The instrument should be offered with calibrated standard-less analysis in various kinds of samples.

System accessories should include the following:

- P-10 gas cylinder (2 nos) with regulator (2 nos) should be offered.
- Air compressor (1 no) should be offered.
- Suitable UPS (20 KVA, minimum 45 min back up) from reputed source must be offered to run the system and any other recommended items or support system .The batteries should be maintenance free.
- Suitable branded computer (1 no) with printer,
- Suitable cooling system (water chiller – 1 no). The exhaust venting and ducting should be done by the vendor.
- A complete set of recommended spares and consumable for one year operation should be offered.
- Vendors should confirm availability of spares for at least 10 years from the date of installation

Operating Environment:

Line Voltage: 230V±10%, 50/60Hz ± 5% (without any step-up or step-down transformer) with protective RF ground. The required material for RF ground shall be provided by the supplier.

Warranty: 3(three) years standard warranty from the date of installation

Installation:

Installation & commissioning at site. All expenditures to be borne by the vendor.

Training:

- 1) 6 days training on application and maintenance at the installation site after commissioning. Dates to be agreed at least 1 month before the beginning of the training.
- 2) All expenditures for imparting training will be at no additional cost.

Additional items:

- Vendor also need to intimate all essential pre-installation requirements and utility requirements for the quoted XRF at least 1 months in advance before installation.
- Installation of dehumidifier with split A/C.
- Vendors should include their tender, provision for maintenance tools and initial stock of maintenance spares as are essential for the proper operation and maintenance of the equipment. Full particulars of spare parts should be provided along with price bid separately.
- The vendor should be fully responsible for the manufacturer's warranty in respect of proper design, quality and workmanship of all the equipment accessories etc. covered by the tender.

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