

Addendum to the Advertisement of Tender Invitation

Tender Notification No.: **NITR/MM/HD/14/M/1247** Dated: **28/10/2014**



National Institute of Technology, Rourkela-769 008, Odisha
Department of Metallurgical & Materials Engineering

Tender Notification No.: **NITR/MM/HD/14/M/1247** Dated: **28/10/2014**

Name of the component : **X-Ray Diffractometer for Phase Identification, Residual Stress and Texture Analysis**

Quantity required : 1 No.

EMD Amount : **Rs.2,00,000/-**

Delivery : Within 12 months from the date of order

Last Date of submission of Tender : 12/01/2015, 3.00 p.m.

Address for submission of Tender : The Director National Institute of Technology Rourkela – 769 008, Odisha, India **With Kind Attention to:** Prof. S. C. Mishra, H.O.D, Department of Metallurgical & Materials Engineering

Date of opening of technical bid : 12/01/2015, 4.00 p.m

Date of opening of price bid : *Technically and commercially qualified bidders will be intimated later.*



National Institute of Technology, Rourkela-769 008, Odisha
Department of Metallurgical & Materials Engineering

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NOTICE INVITING TENDER

The National Institute of Technology, Rourkela (NITR) is an autonomous body under MHRD, GOI, imparting Technical Education and engaged in Research Activities. It is proposed to procure the following component for the departmental academic/research activities.

Sealed Quotations under **two cover system** are invited for the following component subject to the following terms and conditions from the reputed manufacturers or their authorized dealers so as to reach this office on or before scheduled date and time. The technical cover will be opened on the same day in the presence of bidders or their authorized agents who may choose to be present.

Name of the component : **X-Ray Diffractometer for Phase Identification, Residual Stress and Texture Analysis**

Quantity required : 1 No.

EMD Amount : **Rs.2,00,000/-**

Delivery : Within 12 months from the date of order

Performance Security to be given by : Nil

Successful bidder after release of purchase order (in Rupees)

Warranty : Two years of comprehensive warranty from the date of installation, commissioning and acceptance by NITR.

Minimum numbers of orders within last 5 years in Indian institutes: Minimum 10 of similar equipment.

Last Date of submission of Tender : 12/01/2015; 3.00 p.m.

Address for submission of Tender : The Director, National Institute of Technology, Rourkela 769 008 **With Kind Attention to:** Prof. S. C. Mishra, H.O.D, Department of Metallurgical & Materials Engineering.

Place, Date and time of opening of technical bid: Department of Metallurgical & Materials Engineering; 12/01/2015, 4.00 p.m

Opening of price bid: *Technically and commercially qualified bidders will be intimated later.*

Note : The Institute shall not be responsible for any postal delay about non-receipt / non delivery of the bids or due to wrong addressee.

SECTION: 1 INSTRUCTIONS TO BIDDER

1. The bidder should give details of their technical soundness and provide list of customers of previous supply of similar items to Universities, Institutes or Government Departments/Undertakings/public sectors with contact details. The details of the agency/profile should be furnished along with the copy of all related documents.

1.1 Bids should be divided into two parts:

Cover 1: Cover 1 should contain the following:

a. EMD by Demand Draft drawn on any scheduled bank in favor of "The Director, NIT, Rourkela" payable at Rourkela should be submitted. EMD shall bear no interest. Any bid not accompanying with EMD is liable to be treated as non-responsive and rejected.

b. Technical pamphlets

c. Detailed technical specifications

d. The agency should furnish copy of license certificate for manufacture/supply of the item.

e. The agency should furnish Income Tax PAN number

f. Warranty period offered for the tendered item to be specified. If the warranty period is not conforming with the schedule of requirements given in the bid document, the bid is liable to be treated as non-responsive and rejected.

g. Duly filled up technical questionnaire, if any

h. Duly filled up deviation schedules to technical specification

i. Copy of orders completed during the last five years along with the list of customers.

j. If the prices are revealed in the cover 1, the offer will be summarily rejected

k. Commitment for quick service in case of any break down.

l. List of spares and consumables to be supplied

m. Details about service centers and number of service engineers available in each center in India.

1.2 The cover 1 shall be superscribed as "Technical Bid" duly indicating the Tender reference No. and the due date of opening.

1.3 Cover 2: Cover 2 should contain the following

Cover 2 shall contain Price only and shall be superscribed as "Price Bid" duly indicating the Tender Reference No. and the due date of opening.

Each Cover shall be sent in a double sealed cover. The inner covers (Cover 1 and Cover 2) should be sealed individually with the sellers distinctive seal and superscribed with the tender reference no. and due date of opening. Both the inner covers shall be placed in a common outer cover which shall also be sealed with seller's distinctive seal and superscribed with the tender reference no. and due date of opening.

Mention "Kind Attention: Prof. S. C. Mishra", and submit at the address given in the Notice Inviting Tender.

Cover 1 will be opened on the scheduled date and time mentioned in the tender enquiry. Cover 2 of the technically and commercially **qualified bidders** alone will be opened on a date **which will be intimated later to those bidders only.**

2. The agencies should submit their rate as per the format given in Section 3 of the Notice Inviting Tender in this cover. Rate should be quoted in foreign currency for imported items and in Indian Rupee for indigenous items. The rate should be quoted both in words and figures. All the pages of the bid should be signed affixing the seal. All corrections and overwriting should be initialed.

3. The tender will be acceptable only from the manufacturers or its authorized supplier.

4. The bid shall be in the format of price schedule given in Section 3. The contract form as per format given in section 4 shall be submitted. Incomplete or conditional tender will be rejected.

5. Details of quantity and the specifications are mentioned in technical specifications appended to this Tender.

6. The item to be used is strictly according to the specification and subject to test by the Institute/concerned authorities. It must be delivered and installed in good working condition.

7. The Institute reserves the right to cancel or reduce the quantity included in the schedule of requirements at any time after acceptance of the tender with a notice. The Contractor/Supplier shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the work/supply in full but he did not derive in consequence of the foreclosure of the whole or part of the works.

8. Performance Security of nil of the contract value in terms of Bank guarantee of any scheduled banks shall be given by the successful bidder for the total period up to three months beyond the warranty period.

9. **Release of EMD:** The EMD shall be released after receipt of performance security from successful bidder.

10. **Validity of bids:** The rate quote should be valid for a minimum of 90 days. No claim for escalation of rate will be considered after opening the Tender.

11. **Imports:** In case, goods are to be imported, the Indian agent should furnish authorization certificate by the principles abroad for submission of the bid in response to this Notice Inviting Tender.

12. **Clarification of Tender Document:** A prospective bidder requiring any clarification of the Tender document may communicate to the contact person given in this notice inviting tender.

13. **Amendment of tender document:** At any time prior to the last date of receipt of bids, Institute may for any reason, whether at its own initiative or in response to a clarification requested by prospective bidder, modify the Tender document by an amendment.

14. L. D. of the institute (Bank side of POs)

15. This institute is liable to pay Customs Duty in concessional rate under Notification No. **39/96 dated 23rd Jul 1996 & Amended by 60/96 dt 22nd Aug 1996** and exempted of Excise Duty under Notification No. **10/97 Central Excise dated 01 Mar 1997**. However, prices should be quoted indicating clearly customs/Excise Duties. If agreed, the necessary exemptions certificate may be provided.

16. ***The Institute may at its own discretion extend the last date for the receipt of bids.***

17. The bids shall be written in English language and any information printed in other language shall be accompanied by an English translation, in which case for the purpose of interpretation of the bid, the English translation shall govern.

18. The Institute reserves the right of accepting any bid other than the lowest or even rejecting all the bids without assigning any reasons therefore. The decision of the Director is final in all matters of tender and purchase.

19. The bidder should give the following declaration while submitting the Tender.

20. Any other details required may be obtained from the contact person given in the notice inviting tender during the office hours.

DECLARATION

I/we have not tampered/modified the tender forms in any manner. In case, if the same is found to be tampered/modified, I/we understand that my/our tender will be summarily rejected and full Earnest Money Deposit (EMD) will be forfeited and I/we am/are liable to be banned from doing business with NIT, Rourkela and /or prosecuted.

Signature of the Bidder :.....

Name and Designation :.....

Business Address :

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.....

Place:

Date:

Seal of the Bidder's Firm

SECTION: 2 CONDITIONS OF CONTRACT

1. The rates should be quoted in Indian Rupee FOR NIT, Rourkela for supply within India.
2. In case of import both CIF and / or FOB rate should be quoted.
3. The Institute is eligible for excise duty exemption and concession customs duty.
4. The rate quoted should be on unit basis. Taxes and other charges should be quoted separately, considering exemptions if any.
5. Rate quoted should be inclusive of Testing, commissioning and installation of equipment and training. In this bid the components should be shown categorically.
6. Payment: No advance payment will be made. Payment will be made only after the supply of the item in good and satisfactory condition and receipt of performance security (if applicable) by the supplier. In case of imports, the payment will be made through LC and performance security need to be submitted before LC commitment (if applicable).
7. Guarantee and Warrantee period should be specified for the complete period mentioned in this tender document.
8. Period required for the supply and installation of item should be mentioned in this tender document.
9. In case of dispute, the matter will be subject to Rourkela, Orissa Jurisdiction only.

SECTION: 3 PRICE SCHEDULE

[To be used by the bidder for submission of the bid]

- 1. Component Name :
- 2. Specifications (confirming to Section 5 of Tender document – enclose additional sheets, if necessary) :
- 3. Currency and Unit Price :
- 4. Quantity :
- 5. Item cost (Sl.No.3 & Sl.No.4) :
- 6. Taxes and other charges :
 - (i) Specify the type of taxes and duties in percentages and also in figures :
 - (ii) Specify other charges in figures :
- 7. Warranty period should be mentioned in Technical and Financial bid :
- 8. Delivery Schedule :
- 9. Name and address of the firm for placing purchase order :
- 10. Name and address of Indian authorized agent (in case of imports only) :

Signature of the Bidder :

Name and Designation :

Business Address :

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Place:

Date:

Seal of the Bidder's Firm

SECTION: 4 CONTRACT FORM

[To be provided by the bidder in the business letter head]

1. (Name of the Supplier) hereby abide to deliver the by the delivery schedule mentioned in the tender document for supply of the items if the purchase order is awarded.
2. The item will be supplied conforming to the specifications stated in the tender document without any defect and deviations.
3. Warranty will be given for the period mentioned in the tender document and service will be rendered to the satisfaction of NIT, Rourkela during this period.

Signature of the Bidder :

Name and Designation :

Business Address :

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Place:

Date:

Seal of the Bidder's Firm

SECTION: 5 DETAILED TECHNICAL SPECIFICATION

X-ray Diffractometer for Phase Identification, Residual Stress and Texture analysis

Goniometer

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|---------------------------|---|
| Geometry | Vertical. |
| Scan Speed | Between 0.001 to 1.25 deg/sec or better |
| Slew speed | 9 deg / sec or higher |
| Min step size | 0.0001 ⁰ or better. |
| Diameter | High Precision Goniometer with theta-theta configurations with a minimum diameter of 500 mm. Variable goniometer radius without major alignment procedure will be preferred for better resolution. Goniometer having Higher diameter will be preferred. Angle positioning: Stepper motors with optical encoders for optimum scanning speed and positioning precision. |
| 2 theta measurement range | -10 to 165 deg |
| Operation mode | Theta - Theta |
| Data quality guarantee | Manufacturer must submit data quality guarantee certificate from the factory on the angular position (≤ 0.01 deg 2theta over the entire angular range) to be carried out on NIST sample. The same NIST sample should be in the scope of supply for evaluation. The supplier must provide an instrument alignment guarantee for selected configurations. |

X-Ray Generator

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|---|--------------------|
| Power | 2.2 KW or higher |
| Input voltage range | 208 – 240 V |
| Frequency | 50 Hz +/- 1% |
| Maximum high voltage | 50 KV or better |
| Maximum current | 50 mA or better |
| Voltage increment | 1KV |
| Current increment | 1mA |
| Stability for 10% input voltage variation | <0.005% |
| Cooling | water / Air cooled |

Safety

The XRD system must be fully radiation protected as per the international radiation safety norms.

The offered XRD system must comply with the requirements of the Machinery Directive 2006/42/EC for European Manufacturer or equivalent norm for non European Manufacturer.

- The system must display an up-to-date CE marking, accompanied by a correct EC Declaration of Conformity as well as all required documentation.

X-Ray Tube

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| Insulation | Ceramic |
| Anode material | Co. |
| No. of windows | Minimum 2 (Line focus & point focus). The point focus should be achieved at the source, that is, X-ray tube. Easy swapping of line to point focus, without any further alignment. |
| Maximum high voltage | 50 KV or better |
| Maximum current | 50 mA or better |
| Voltage increment | 1KV |
| Current increment | 1mA |
| Focus | Long fine focus, one exit window for line spot and one for spot focus. Focus sizes: 0.04 x 12 mm and 0.4 x 1.2 mm respectively. Easy switch between line and point focus applications without disconnecting High Voltage cables, water lines or unscrewing the X-ray tube. |

Optics

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| Optics | Absorber, Slits, Ni Filter, Axial Soller slit, Diagonal Slit etc. |
| Incident beam Special Optics for texture/stress | Poly-capillary / half lens which provide intensity gain of a factor of several hundred if the whole beam size can be used to illuminate the surface of the sample compared to slit optics. Spot diameter: >4.0 mm |
| Collimator | Two Collimators 1mm & 2 mm diameter. |
| Fluorescence suppression | Suitable hardware/software for suppressing secondary fluorescence to be offered. |

High peak-to-background is required!

Detector

One dimensional detector which could also be used as point detector.

Sample Stages

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| Sample stage | Standard sample stage to be offered. |
| Sample stage Stress Texture Thin-film etc. | Eulerian Cradle with motorized Chi and Phi rotations. The cradle should have X, Y and Z translations. |

Software

PC based software packages to control all instrument parameters and should provide best algorithms for Solving analytical tasks. Should enable both Qualitative and Semi quantitative analysis. Easy simulation and automatic refinement / smoothing of measured data. Peak search, integrated intensity, K alpha1 and k alpha 2 separation.

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| Stress & Texture | Data collection and data evaluation Software for Stress and Texture measurement to be offered in option. |
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Computer & Printer: Suitable computer with Color LaserJet printer must be offered.

Water Chiller: Suitable Indian make external water chiller for the system should be offered. The chiller should work in ambient temperature of 45°C or above.

UPS: 10KVA UPS with 30min backup should be offered.

Spares: Commitments to supply spares for at least 10 years to be ensured. Separate Spare kits for the Diffractometer should be quoted as optional items.

INSTALLATION AND COMMISSIONING :

The instrument to be installed tested and commissioned by representative of supplier in India at premises to the satisfaction of user.

AFTER SALES SERVICE:

1. Product support for period of minimum five years after warranty period, to be ensured by vendor/supplier.
2. Relevant software/hardware information in case of updating of the model of the supplied system should be provided.
3. Minimum two year comprehensive warranty should be offered.

TRAINING :

The supplier should provide the training on the site of installation.

Vendor should take all necessary responsibility to quote for configuration to suit all the above applications.

Additional Commercial Terms and Conditions

- 1) Name and address of the vendor:
- 2) Model of the XRD offered:
- 3) Offered price:
- 4) Principal and the country of origin:
- 5) Warranty (2 years comprehensive warranty) from the date of installation, commissioning and acceptance by NITR.
- 6) Minimum numbers of orders within last 5 years in Indian institutes: Minimum 10 of similar equipment.
- 7) Availability of spares (at least 10 years from the date of installation):
- 8) No. of installations of the offered model in India with the list of users (name of the end user, e-mail address etc.) should be furnished in details:
- 9) No. of trained engineers stationed at Kolkata:
- 10) Response Time to attend any breakdown (desirable: within 24 hours)
- 11) Mean Time to rectify the problem (desirable: within 5 working days)
- 12) Installation: Vendor to arrange for installation as per the specifications. NIT-R will provide empty laboratory with electrical points and air-conditioning. All the other infrastructural facilities to run the instrument, viz., UPS with 30 min backup, Chiller etc. have to be provided by the vendor. Installation of all the units as specified in the tender documents should be completed by qualified experts from the manufacturers end and not by their representatives, within 30 days of arrival of the equipment at NIT-R. During installation those experts will also train few Faculty, technical assistant, and students of NIT-R.
- 13) Installation site preparatory works like site testing, necessary electrical & civil works (if any) have to be supervised by the vendor.
- 14) Installation certificate will be signed after satisfactory observation of the performance of the installed system after complete installation.
- 15) Up gradation of the software for the next 10 years free of cost.
- 16) All the necessary documents including operation manuals of the equipment and other accessories as specified in the Tender have to be supplied in printed version and soft version.