



## Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)  
Tiruchirappalli – 620014, TAMIL NADU, INDIA

An ISO 9001  
Company

<b>TITLE</b> <b>ULTRASONIC TESTING CONTRACT at BHEL, Trichy</b>	Phone: <b>+91 431 257 5877</b> Fax : <b>+91 431 2576808</b> Email : <b>tguru@bheltry.co.in</b>
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	<b>Reference Number:</b> <b>Enquiry</b> No.BHE:TRY:Q:NDT:UT:002	<b>Enquiry Date:</b> <b>01-02-2016</b>	<b>Due date for submission of</b> <b>quotation: 27.02.2016</b>
You are requested to quote the Enquiry number date and due date in all your correspondences. This is only a request for quotation and not an order			

## ULTRASONIC TESTING CONTRACT at BHEL, Trichy

BHEL commercial terms & conditions with Price Bid formats and all annexure can be downloaded from BHEL web site <http://www.bhel.com> or from the Government tender website <http://tenders.gov.in> (public sector units)

Tenders should reach us before 14:00 hours on the due date  
Technical bid will be opened at 14:30 hours on the due date  
Tenders would be opened in presence of the tenderers who have submitted their offers and who may like to be present.

Yours faithfully,  
For **Bharath Heavy Electricals Limited**

AGM/NDTL

## PART A

### QUALIFYING CRITERIA FOR ULTRASONIC TESTING CONTRACT AT BHEL-TRICHY.

Sl. No.	PARTICULARS	VENDOR's RESPONSE
1.0	Minimum Three years of experience in the ultrasonic testing of welds & Raw materials for Power Plant equipments during Manufacturing which shall include Raw Material such as Steel Plates, castings, forgings pipe fittings & rounds ) and butt & full penetration corner & tee welds in boiler-drums, headers, piping, Tubes, Pressure vessels Heat-exchangers, Valves, Advanced technology products components as per International Codes and Standards	
2.0	Reference List of Customers and Performance Certificate from customers (Minimum one customer) with full contact details of contact person.	
3.0	Vendor shall have the valid approval from Director of Boilers (Tamil Nadu) and Copy of the same to be enclosed.	
4.0	Vendor shall have registered their firm with BHEL and got approved and Copy of the same shall be enclosed. Those firms which are not approved by BHEL, Shall also participate provided they meet all requirements of technical specifications.	
5.0	BHEL reserves the right to verify the information provided by vendor. In case the information provided by vendor is found to be false/ incorrect, the offer shall be rejected.	
6.0	The vendor shall have Ultrasonic Flaw Detectors & Transducers from Internationally recognized companies like USN35, USN 60, USN 50, EPOCH IV, EPOCH IV PLUS, Sitiescan 330/230/130, Krautkramer or Omniscan and should be in a position to deploy at least three (3) equipments at BHEL/ Trichy	
7.0	Vendor shall have at least Five (5) Level II or Level-III operators trained & Certified as per ASNT/PCN. They shall have a minimum of 2 years' experience in carrying out Ultrasonic testing	
8.0	Vendor shall submit the details of certified personal as per above clause.	
9.0	Vendor shall have to ensure that his workmen are covered under PF, ESI and miscellaneous provisions act of 1952 and accordingly produce documents to BHEL management, The employee's contribution will be recovered by the contractor from the wages of his workmen and the contractor should make equal contribution	

## PART B

### TECHNICAL SPECIFICATIONS FOR ULTRASONIC TESTING CONTRACT AT BHEL / TRICHY (Tamil Nadu).

Sl. No.	PARTICULARS	VENDOR's RESPONSE
1.0	<b>Sealed quotations are invited from well-established, reliable and experienced firms for ultrasonic testing (UT) of materials and Weldments.</b>	
2.0	<b>EXPERIENCE</b>	
2.1	Shall have experience in Ultrasonic testing of all types of raw materials (plates, pipes, tubes, sheets, castings, forgings etc..) and welds. Materials include Carbon steel, alloy steel, stainless steel and few non-ferrous materials	
2.2	Shall have experience in <b>ULTRASONIC TESTING</b> for Butt welds in piping (P91, P12,P22 & Carbon steel Materials) Diameter ranging from 88 to 711 mm with thickness ranging from 5 mm to 125mm as per BHEL procedure.	
2.3	Shall have experience in <b>ULTRASONIC TESTING OF</b> welds Full penetration corner welds (Set-on & Set Through) in piping & Pressure Vessels ,Drum etc. as per BHEL procedure in accordance with ASME Sec-V.	
2.4	Shall have experience in <b>ULTRASONIC TESTING OF</b> Tube butt welds diameter ranging from 31mm to 88mm as per BHEL procedure in accordance with ASME Sec- V.	
3.0	<b>SPECIAL CONDITIONS FOR ULTRASONIC TESTING OF WELDS AND MATERIALS</b>	
3.1	The vendor is required to operate inside the Boiler Plant premises (HPBP and Unit II).	
3.2	The vendor should make his own arrangement for stay, transportation of equipment with accessories etc. to the place of works inside.	
3.3	<b>Working Hours:</b> May be required to work in two shifts 8.00 Am to 4.30Pm and 14.00 Hours to 22.00(Hours if necessary depending on necessity of work) <b>Holidays and Sundays:</b> When required the operators should work on holidays also.	

4.0.	<b>SCOPE AND REQUIREMENTS BY THE CONTRACTOR</b>	<b>VENDOR's RESPONSE</b>
4.1	<b>Minimum No. of Flaw Detectors deployment:</b> The contractor should deploy AT LEAST THREE DIGITAL ULTRASONIC FLAW DETECTOR.	
4.2	<b>DIGITAL ULTRASONIC FLAW DETECTOR:</b> from reputed International companies like GE Inspection Technology, Olympus NDT, Sona Inspection ,etc with models such as USN35 , USN 60,USN 50,USN 52, EPOCH IV, EPOCH IV PLUS, EPOCH XT or SITESCAN 330 /230/130.	
4.3	<b>DIGITAL ULTRASONIC FLAW DETECTOR FREQUENCY &amp; GAIN RANGE:</b> Equipment shall have the frequency range from 0.5 to 15 MHz and Gain 100-110 dB with gain dB steps of 0.5/1/2 /6 <b>Battery operation:</b> The equipment shall be capable of being operated on rechargeable batteries. <b>Recording facility:</b> Digital flaw Detector should have recording facility- that stores CALIBRATION DATA and KEEP IN MEMORY OF all test data as warranted by individual tests and facility to recall such data for later review.	
5.0	<b>Equipment Calibration:</b> The equipment shall be calibrated once in three months as per requirement of codes.	
6.0	<b>Ultrasonic transducers:</b> LIST OF PROBES & CABLES (with identification No.)shall be provided: (a) <b>Probes used shall be from the same manufacturer as that of UT Flaw detector.</b> (b) The probes and cables shall be compatible with the flaw detector and the probes and blocks employed for testing should have individual identification and serial No. to distinguish from similar materials available with BHEL.	
7.0	<b>Standard Calibration Block:</b> The contractor should possess and deploy standard calibration blocks with identification No- IIW Steel Block ( VI- Type I Or Type II )& V2 Steel Block Miniature	
7.1	<b>STANDBY ULTRASONIC EQUIPMENT:</b> The contractor shall make alternate arrangement to carry out and complete the work offered. PRODUCTION WORKS SHALL NOT SUFFER due to BREAKDOWN OF EQUIPMENT/ non-availability of manpower.	

7.2	<p><b><u>Qualification and Scope of work by NDT Operators deployed at BHEL:</u></b></p> <p>(a) The operators shall be qualified NDE Personnel certified to Level-II/III for Ultrasonic Testing as per ASNT/ PCN.</p> <p>(b) The operators shall be Degree / Diploma in Mech/ Engg.</p> <p>(c) The operators should be capable of carrying-out the tests independently as per BHEL NDT procedures, Technique Sheets and issue test reports in formats approved by BHEL.</p> <p>(e) The operators should pass the tests in theory and practical conducted by BHEL to determine their capability to understand and operate the above procedure as and when needed.</p> <p>(f) The test results shall be recorded in a log book register maintained by NDTL at different work centers for further generation of reports through SAP.</p> <p>(g) The UT tested jobs shall be identified for the status of test results .In the case of welds, a punch mark / Paint mark or a sticker near the weld shall be used to indicate the acceptable / rejection / repair of the weld.</p>	
7.3	<p><b><u>Technical &amp; personnel Requirements:</u></b></p> <p>1) Name of the firm: 2) Address:</p> <p>A) <b>Details of Technical personnel employed</b> (Copies of valid certificates to be enclosed).</p> <p>B) <b>Details of Ultrasonic equipment and accessories</b> available with the firm: (Documentary proof to be enclosed)</p> <p>C) <b>Documentary proof to be enclosed</b> for the similar work carried-out by the firm during the last 5 years.</p>	
7.4	<p><b><u>Deployment of Number of UT Operators:</u></b>. The contractor shall deploy minimum five Level II/III Qualified and Experienced operator for inside shop floor testing.</p>	
8.1	<p><b><u>Arrangement for couplant, etc:</u></b></p> <p>The contractor should arrange for couplant- oil, grease etc. and possess necessary accessories such as spare battery packs, cables, probes, IIW Blocks ((with calibration certificates from National Accredited calibration centers) and Angle beam miniature blocks etc., which are required for interruption free operation. After the test, the cleaning of the couplant has to be done.</p>	
8.2	<p><b><u>BHEL SCOPE:</u></b></p> <p>A) Test blocks to be used for examination of materials and welds to establish DAC curves etc. for each test situation will be under BHEL scope.</p> <p>B) Test procedures and Technique Sheets.</p> <p>C) Witness of the calibration and Ultrasonic testing on each item.</p> <p>D) The copy of procedures by which tests shall be conducted will be issued by NDT to subcontractor,</p> <p>E) Arrange for the customer witness as per Quality plan.</p>	

## ANNEXURE-A

Open Tender No: NIT-----

ULTRASONIC TESTING OF WELDS AND MATERIALS

Name of the Supplier:

As per Offer Ref: BHE:TRY:Q:NDT:UT:002

S.No	Item Description	Unit of Measurement	Estimated Work Load for two years	Rate Per Unit of Measurement	Sub-Total
1	UT of plates using St. & Ang beam probe 100% coverage from ONE major surface of plate- Total Scanning Direction-4	Sq.Mtr	1900		
2	UT of Butt welds in Headers ,Piping ,Drums and Valve Assembly-9 scanning directions	Mtr	7500		
3	UT of Butt welds in Drum-1 scanning directions	Mtr	300		
4	UT of Full throat Nozzles-5 Scanning directions	Mtr	300		
5	UT of Full penetration corner welds in Headers, Drums and Valves-2 scanning directions	Mtr	3,000		
6	Induction Pressure Welds-N Dia-63.5mm Total scanning directions-2	Mtr	10,000		
7	NPCIL-Assembly -Butt weld scanning directions	Mtr	400		
8	Raw Material-Forged Bars-6 scanning directions	Sq.Mtr	500		
9	Stellite overlay on wedge / /seat ring-only Normal probe 2 directions	Mtr	100		
				<b>GRAND TOTAL</b>	

AGM/NDTL



Bharat Heavy Electricals Limited  
(High Pressure Boiler Plant)  
Tiruchirappalli-620014, Tamil Nadu, India

An ISO 9001 Company

Non Destructive Testing Lab

**GENERAL GUIDELINES & INSTRUCTIONS TO BIDDERS FOR SUBMITTING OFFER**

**Vendors are requested to read the following points / guidelines / instructions and ensure that the offer is prepared and submitted strictly as per the requirements. Offers with insufficient details would not be considered for evaluation. The following points / guidelines / instructions are part and parcel of the tender and non-compliance will result in rejection of offer.**

<b>1.0</b>	<b>QUOTATIONS</b>
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Considering the nature of contract which requires a good amount of technical details, etc., to be submitted along with the offer as well as the confidentiality required to be maintained during the offer evaluation process, bidders are requested to submit their offers only through sealed bids. As the part II (the price bid) would not be opened before the technical evaluation is completed, bidders are requested not to submit their bids through email / fax etc.

Bidders shall submit the offer in **TWO INNER ENVELOPES** as indicated below which shall be sealed in one outer envelope.

**Envelope I** This sealed envelope should contain all the copies of technical bid together with un-priced commercial bid. This envelope should be clearly marked "**Part I - Technical and Un-priced commercial bid**", indicating Enquiry No., Ultrasonic Testing of Welds and Raw Materials, Due Date, and Address & Reference of the Bidder.

**Envelope II** This sealed envelope should contain **price details**. This envelope should be clearly marked "**Part II - Price bid**", indicating Enquiry No., Ultrasonic Testing of Welds and Raw Materials, Due Date, Address & Reference of the Bidder

Both the envelopes (Part I & II) shall be put in one cover, duly sealed, super scribing as Part I and Part II indicating Enquiry No., Ultrasonic Testing of Welds & Raw Materials, Due Date, Address & Reference of the Bidder.

The above tender (envelope containing Part I & II) should reach this office on or before the due date by 10.00 Hrs (IST). Tenders received after 10.00 Hrs (IST) will not be considered for evaluation.

Tender should not be addressed to any Individual's name but only by designation to:

**Senior Manager/Works Contract Management  
1<sup>st</sup> floor , Bldng.No-53,  
Bharat Heavy Electricals Limited  
High Pressure Boiler Plant  
Tiruchirappalli-620014  
Tamilnadu.**

Tenders should be free from **CORRECTION AND ERASURES**, Corrections if any, must be attested. All amounts shall be indicated both in words as well as in figures. Where there is difference between amount quoted in words and figures, amount quoted in words shall prevail.

Tenders should be in **ENGLISH** and accompanied by detailed technical literature, catalogue and detailed dimensional drawings in **ENGLISH** or otherwise, the tenders will not be considered for evaluation.

**If the past performance of a vendor in any of the previous Purchase orders/contracts/in any projects, of BHEL Units, and NON-BHEL, is not satisfactory BHEL then reserves the full right to reject such offers of those vendors straightaway irrespective of their suitability and will not be considered for further processing of the tender.**

<b>2.0</b>	<b>PART I (TECHNICAL &amp; UN-PRICED COMMERCIAL BID)</b>
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<b>2.1</b>	<b>Technical</b>
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This part shall include / indicate the following:

2.1.1	Tenders should contain complete scope of supply with all technical details, specifications and other commercial terms and conditions.
2.1.2	Point by point confirmation for the Technical Specification enclosed is to be provided. If there are any deviations, the same should be clearly specified. Tenders received without confirmation to our specification will be rejected.
2.1.3	The contract is for a period of two (2) years. Approximate quantum of Ultrasonic Testing work for two years will be as per "Annexure A". There may be a variation in the estimated value of contract depending upon the production plan variation that may arise then and there. BHEL does not guarantee for the quantum of work.
2.1.4	Firms have to ensure that his workmen are covered under PF, ESI and miscellaneous provisions act of 1952 and accordingly produce documents to BHEL management, the registration/ Enrolment number before awarding of contract work. As per the provisions, every employee employed in or in connection with the work of Factory or other establishment who has not become a member already shall also be entitled and required to become a member of the fund from the date he is employed by the contractor. The employee's contribution is as notified by the PF Authority from time-to-time. The employee's contribution will be recovered by the contractor from the wages of his workmen and the contractor should make equal contribution.

<b>2.2</b>	<b>Un-Priced Commercial</b>
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This part shall include / indicate the following:

2.2.1	The testing rates should be quoted as detailed in Scope of work.
2.2.2	<b>Fixed price:</b> Prices quoted by the bidder shall be fixed and not subject to any escalation whatsoever during the period of bid validity and execution of the Purchase Order. A bid submitted with an adjustable price will be treated as non-responsive and rejected. Prices shall be written in words and figures. In the event of difference, the price written in words shall be valid and binding
2.2.3	The contractors are requested to offer 'QUOTATION' enclosing a crossed demand draft in favour of BHARAT HEAVY ELECTRICALS LIMITED for <b>Rs.60,000/-</b> (Rupees Sixty Thousand only) towards Earnest Money deposit.

<b>3.0</b>	<b>OPENING OF TENDERS</b>

The Part I - Technical & Un-priced commercial bid alone would be opened on the Tender opening date.

The Part II – The Part I would be evaluated and bidders qualifying alone will be considered for further processing. BHEL would proceed with Reverse Auction route or Price Bid opening route for finalizing the tender, which would be intimated to the qualified bidders after completion of the techno-commercial evaluation.

**BHEL reserves the right to go for a Reverse Auction (RA)** instead of Opening the Price Bid submitted, which will be decided after the techno-commercial evaluation. Information and general terms and conditions governing RA are given below.

### **GENERAL TERMS AND CONDITIONS OF RA**

- Against this enquiry for the subject item/system with detailed scope of supply as per enquiry specifications, BHEL may resort to “REVERSE AUCTION PROCEDURE” i.e., ON LINE BIDDING ON INTERNET.
- For the proposed RA, technically and commercially acceptable bidders only shall be eligible to participate.
- In case of RA, BHEL will engage the services of a service provider for conduct of the RA who will provide all necessary training and assistance to the bidders before commencement of on line bidding on internet.
- Business rules governing the RA will be communicated to the bidders through service provider for compliance.
- Vendors have to fax the Compliance form in the prescribed format (provided by Service provider) before start of RA. Without the compliance, the vendor will not be eligible to participate in the event.
- **BHEL will provide a sample calculation sheet (in EXCEL format) which would help the bidders to arrive at “Net Cash outflow to BHEL” considering various price / cost elements like Packing & forwarding charges, Taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for non-compliance to BHEL standard Commercial terms & conditions) etc. for each of the bidders to enable them to arrive at “Net Cash outflow to BHEL” which is the amount the bidder would be bidding during the RA.**
- RA will be conducted on scheduled date & time and at the end of event, the lowest bidder value will be known on the network.
- The lowest bidder has to Fax the duly signed “Price Break-up” in prescribed format as provided on case-to-case basis to BHEL through Service provider within 24 hours of Auction without fail.
- Any variation between the on-line bid value and the signed document will be considered as sabotaging the tender process and will invite disqualification of vendor to conduct further business with BHEL, as per the prevailing procedure.
- BHEL reserves the right to negotiate if need be, with the “L1” vendor of the Reverse Auction

<b>4.0</b>	<b>GENERAL</b>
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BHEL reserves its right to reject a tender due to unsatisfactory past performance in the execution of a contract at any of BHEL projects / Units.

BHEL shall be at liberty to reject or accept any tender, part or in full, at their own discretion and any such action is not liable for any question or claim against BHEL.

The correspondence exchanged against the tender between the bidder and BHEL through email are considered as valid document legally though it is not signed. It is treated as valid confirmations made on behalf of the respective company and very much comes under the legal ambit of the business transaction and hence it is binding on both the parties to the business.

Any transaction / communication pertaining to the tender carried out by the bidder and BHEL round the clock irrespective of the office or business hours of the companies, are valid legally and binding on both the parties. This applies to the extent only in such cases where deadline time for transaction is not specifically declared by either or both the parties to the business.

In case Letter of Intent (LoI) is issued through email, the computer generated time and date of mail shall be construed as the official time and date of release of LoI. In as much as this date is within the last date of validity given by the bidder the LoI is said to have been issued within the validity period and shall be binding on both the parties to the business.

Bidders participating in the tender should declare in their technical bid that whether they have been black-listed / kept on hold for a specified period / given Business holiday for a specified period by any Public sector undertaking or Government departments. The reasons for such action with details and the current status of such hold shall be clearly furnished to BHEL. If no such details are mentioned in the offer then it will be construed that the subject bidder is not under any such hold. But at a later date if it comes to the notice of BHEL about any such hold under enforcement on the subject bidder, BHEL will have every right to reject the offer of such vendors at any point of time and also under any stage of the finalisation of the subject tender irrespective of the status of the subject bidder in that tender. Such bidders will not be permitted to participate in the further tender proceedings and will be communicated suitably. They will not be also considered for any ongoing enquiries even if participated till the hold is officially lifted and confirmed in writing.

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**BHARAT HEAVY ELECTRICALS LIMITED TIRUCHIRAPALLI  
NDT LAB**

**ACCEPTANCE OF COMMERCIAL TERMS AND CONDITIONS BY THE VENDORS.**

(This should be essentially filled in and sent along with the techno-commercial offer without fail. If this check list is not filled and submitted along with techno-commercial offer or if the vendor does not confirm acceptance to the terms and conditions proposed, BHEL reserves the right to reject such offer)

**CHECK-LIST**

<b>Description:</b>	ULTRASONIC TESTING CONTRACT
<i>BHEL Tender No. &amp; Date:</i>	ENQUIRY NO. BHE:TRY:Q:NDT:UT:002 DT 01-02-2016

SI No	Description
1	<p><b>Price Bid:</b> Price Bid should contain the schedule of price particulars and to be co-related to the technical details provided in Part B. Techno-commercial bid alone without the Price Bid will be rejected. The prices contracted shall be firm till the execution of the contract in full and in all respects.</p> <p><b>Vendor's confirmation:</b></p>
2	<p><b>Validity:</b></p> <p><b>a) <u>Validity of Contract:</u></b> The contract will be valid for a period of two year from the date of award of contract with the same rates, terms &amp; conditions. depending up on the fulfillment of BHEL requirements</p> <p><b>b) <u>Validity of the offer</u></b> Offer should be 60 days from the date of tender opening. Please mention the validity period in the confirmation below.</p> <p><u>BHEL reserves the right not to consider offers from vendors with validity less than 60 days from the date of tender opening.</u></p> <p><b>Vendor's confirmation:</b></p>
3	<p><b>EMD:</b> The contractors are requested to offer 'QUOTATION' enclosing a crossed demand draft in favour of BHARAT HEAVY ELECTRICALS LIMITED for <b>Rs 60,000</b> /- (Rupees Sixty Thousand only) towards Earnest Money deposit.</p> <p>Note: <b>Without EMD the offer will not be considered for evaluation.</b></p> <p><b>Vendor's confirmation:</b></p>

4	<p><b><u>SECURITY DEPOSIT:</u></b>  Successful Contractor will have to provide a Security Deposit as per specified norms for the contract value.  a) EMD of the successful contractor shall be converted and adjusted against the security deposit.  b) The security deposit shall not carry any interest.</p>
	<p><b>Vendor's confirmation:</b></p>
5	<p><b><u>Submission of bills at NDT and terms of Payment:</u></b>  The contractor will submit bills in sufficient copies for the certified quantum of UT Test carried out.  BHEL -NDTL Executive will be the certifying authority.  Payment will be made in 30 – 45 days time.</p>
	<p><b>Vendor's confirmation:</b></p>
6	<p><b><u>Termination / Cancellation of Contract</u></b>  BHEL reserves the right to terminate the contract for any of the following reasons.  1. <b>Non-satisfactory workmanship.</b>  2. <b>Any false statement given in the tender.</b>  3. <b>Not attending the work when required.</b>  4. <b>Non availability / Irregular in work</b></p>
	<p><b>Vendor's confirmation:</b></p>
7	<p><b><u>Reverse Auction (RA):</u></b>  BHEL reserves their right to conduct on-line internet Reverse Auction for finalizing the Tender. This decision will be communicated to the technically qualified vendors after technical evaluation. Details / General terms / guidelines for conduct of RA have been given in the 'General guidelines &amp; instructions to bidders' enclosed as a part of NIT. Vendors are requested to confirm their acceptance for BHEL proceeding with RA route for finalization of the enquiry.  <u>BHEL reserves the right not to consider offers from vendors not accepting to the RA process for finalization of the enquiry.</u></p>
	<p><b>Vendor's confirmation:</b></p>
	<p>The Offer shall contain a comparative statement of Technical Specifications given by BHEL and the Offer Details submitted by the Bidder, against each clause. A just 'CONFIRMED' or 'COMPLIES' or 'YES' or 'NO-DEVIATION' or similar words in the technical comparative statement may lead to disqualification of the Technical Offer.</p>
	<p><b>Vendor's confirmation:</b></p>
8	<p><b><u>Contacts:</u></b>  Details of contact person's name, designation, department with complete postal and email address along with phone and fax numbers to be mentioned</p>
	<p>Name:  Designation:  Email ID:  Phone No.:  Fax No.:  Address:</p>

We have gone through and understood the 'General guidelines & instructions to bidders for submitting offer' enclosed as a part of the NIT and confirm that our offer has been made in line with the same.

(AFFIX OFFICIAL SEAL HERE)

M/s

Signature with date:

Name:

Designation:

Department:

(PLEASE AFFIX YOUR SIGNATURE WITH SEAL ON EACH PAGE)

AGM/NDTL