



An ISO 9001
Company

Bharat Heavy Electricals Limited
(High Pressure Boiler Plant)
Tiruchirappalli – 620014, TAMIL NADU, INDIA
CAPITAL PURCHASE / MATERIALS MANAGEMENT / MANUFACTURING

ENQUIRY	Phone: +91 431 257 75 75 Fax : +91 431 252 07 19 Email : rmanohar@bheltry.co.in Web : www.bhel.com
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	Enquiry Number: 2620600017	Enquiry Date: 09.05.2006	Due date for submission of quotation: 13.06.2006
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Your 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

Item	Description	Quantity	Delivery Schedule
10	AUTOMATIC HIGH ENERGY IMPACT TESTER as per the technical specification & commercial conditions applicable (to be downloaded from web site www.bhel.com)	1 No.	15.02.2007

Note:

- (1) The detailed Technical Specification along with technical point-by-point confirmation, Commercial Terms & Conditions applicable for this Enquiry, Confirmation of acceptance for BHEL commercial terms & conditions and Price Bid formats have been posted in BHEL Corporate web site www.bhel.com under Enquiry reference "2620600017". Your offer should be based on all the above documents.
- (2) Also, you are requested to fill in the Supplier Registration formats available in www.bhel.com (under Advancement – Supplier Registration) and send it along with your offer.

Tenders should reach us before 14:00 hours on the due date Tenders 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 BHARAT HEAVY ELECTRICALS LIMITED Dy. Genl. Manager / Capital Purchase / MM / Manufacturing
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PART A**QUALIFYING CRITERIA FOR THE SUPPLY OF
AUTOMATIC HIGH ENERGY IMPACT TESTER****SECTION – I**

The BIDDER / VENDOR has to necessarily provide the following details, for making an assessment of the firm's capability and competency:

[The BIDDER is expected to give complete details against each clause in the table given below and wherever necessary an additional sheet may be attached (giving clear reference number) to cover the required details]

S. No.	PARTICULARS	VENDOR's RESPONSE
1.0	Number of Years of Experience of the BIDDER/ VENDOR in the field of design, manufacture and supply of 'HIGH ENERGY IMPACT TESTING MACHINES'	
2.0	Number of impact Testers supplied, installed and commissioned till date, in the following category (in India and other Countries) a) up to 450 Joules b) up to 750 Joules	
3.0	YEAR of LAUNCH of the Model quoted against this ENQUIRY	
4.0	Is there any other model launched after the quoted Model? Otherwise, indicate the likely year in which the next model is likely to be launched	
5.0	Number of Automatic High Energy Impact Testers supplied, installed and commissioned till date in the QUOTED MODEL	
6.0	Number of Impact Testers supplied, installed and commissioned till date for the following category of CUSTOMERS (within INDIA): a) Government Organisations b) Private Sector Companies [Large Scale Industries]	

S. No.	PARTICULARS	VENDOR's RESPONSE
7.0	Number of High Energy Impact Tester supplied, installed & commissioned till date in the following Category (around the GLOBE) : a) Universities b) R&D Labs c) Reputed Heavy Engineering Works/Manufacturing Firms	
8.0	Details of Design Set-Up and Technology Back-Up assured for the PRINCIPAL Equipment Maker	
9.0	Details on International Standards followed in Design of the Equipment (including Analysis Methodology and Calibration of Equipment)	
10.0	Comprehensive Details on Performance Testing - of the Equipment quoted, to be ensured in presence of BHEL Executives , before dispatch	
11.0	Details of Quality System followed (Kindly furnish the salient aspects of the QA system followed)	
12.0	Details on SERVICE-AFTER-SALES Set-Up in India including the addresses of Agents / Service Centres in India and Asia	
13.0	Any Additional Data to supplement the manufacturing capability of the BIDDER	

SECTION – II

The BIDDER / VENDOR has to compulsorily meet the following requirements to get qualified for submitting an offer for the impact tester.

S. No.	REQUIREMENTS	VENDOR's COMMENTS
14.0	The BIDDER / VENDOR shall have a minimum of FIVE Years of Continuous Experience in the Design, Manufacture & Supply of Impact Testing Equipment. Indicate the actual experience.	
15.0	The BIDDER / VENDOR shall have supplied at least one number of Impact Tester in the last ten years in India. Indicate the number of equipments sold in India	

S. No.	REQUIREMENTS	VENDOR's COMMENTS
16.0	The BIDDER / VENDOR shall have supplied at least one number of Automatic High Energy Impact Tester (of the MODEL quoted) within the last five years. Kindly confirm and indicate the number of equipments (quoted model) sold around the world.	
17.0	Reference List of Customers and Performance Certificate from CUSTOMERS (minimum 2 Customers) with full contact details of CONTACT PERSON.	

SECTION – III

The BIDDER / VENDOR has to comply with the following, for accepting the Technical Offer for scrutiny by the Purchaser :

S.No.	REQUIREMENTS	VENDOR's COMPLIANCE
18.0	The BIDDER / VENDOR shall submit the offer in TWO PARTS - Technical [with PART A & PART B] & Commercial and Price Bid.	
19.0	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.	
20.0	The BIDDER / VENDOR shall assure a continuous support for SPARES and SERVICE for TEN Years, from the date of commissioning of the equipment at BHEL Works.	
21.0	The Technical Offer shall be supported by Product Catalogue and Data Sheets in ORIGINAL and complete technical details of 'Bought-Out-Items' with copies of Product Catalogue and Selection Criteria	
22.0	The Commercial Offer (given with the Technical Offer) shall contain the Scope of Supply and the Un-Priced Part of the Price-Bid, for confirmation	
23.0	The reference List of Customers shall be accompanied with the details (Phone Number /E-Mail ID) of the CONTACT PERSON for cross reference by BHEL	

TECHNICAL SPECIFICATIONS FOR AUTOMATIC HIGH ENERGY IMPACT TESTER

S. No.	PARTICULARS	BHEL SPECIFICATIONS	BIDDER's OFFER [with Complete Technical Details]
1.0	Area of Application	Impact Tester is meant for use in testing of Charpy Specimens prepared from Test Plates taken out for Critical Pressure Parts coming in High Pressure Boilers, Industrial Valve Components, Castings, Welding Qualification Test Plates covering a wide range of materials from Plain Carbon Steel, Low Alloy & High Alloy Steels, Quenched & Tempered Steels, Austenitic & Martensitic Stainless Steels; Nickel & Titanium Alloys	
2.0	Principle of Operation	Single Blow Charpy Notch Impact Testing	
3.0	Design Base	The equipment shall meet all the requirements specified under ASTM E23 (latest) for Charpy Impact Tester (including Mass of Pendulum, Dimensions of Striker, Anvil & Support, etc.)	
4.0	Equipment Configuration	The minimum desired features are enlisted below	
4.1	Testing Capacity	Minimum 600 Joules	
4.2	Pendulum Design	"U" Type with SHROUD for the Anvil	
4.3	Indicative / Display System	DIGITAL – both in kgf-M and Joules [OPTIONAL Requirement – ANALOGUE System in Joules]	
4.4	Interfacing Facility	Provided with RS232 Interface Port and Cable [not less than 5 mtrs. in length] for connecting to PC with software for acquisition of test data.	
4.5	Input Electric Power Supply	230 $\pm$ 10 % V, 50 Hz, Single Phase AC through a 3 wire system [Phase, Neutral & Protective Earthing]	

S. No.	PARTICULARS	BHEL SPECIFICATIONS	BIDDER's OFFER [with Complete Technical Details]
5.0	Ambient Condition	The uncontrolled ambient room conditions are : - a) Temperature : 18 to 45 ° C, b) Relative Humidity : 45 to 85 % BIDDER to specify the atmospheric conditions, as the working environment for the OFFERED Equipment to deliver precise results and serve for the prescribed life of the Equipment.	
6.0	Special Features	Following Features are to be compulsorily built-in a) Automatic Pendulum Hoisting b) Electro-mechanical brake system for the Pendulum c) Self-centering Tongs for positioning the Impact Specimen manually d) Safety Lock to hold the Pendulum in its raised position e) Vibration Free Release of the Pendulum when the Lock is released. f) Transparent Hood /Guard is to be provided around the machine for SAFETY	
7.0	Test Specimen	3 Sets (each consisting of Low Energy, High Energy and Super High Energy) of NIST, U S A - STANDARD CHARPY IMPACT SPECIMENS FOR DIRECT VERIFICATION OF EQUIPMENT shall be supplied	
8.0	Accessories	BIDDER to list down (with UNIT RATE) the various ACCESSORIES to be procured with the EQUIPMENT to enhance the Operating Efficiency and Features of the OFFERED EQUIPMENT, over and above those mentioned in the SPECIFICATIONS.	

S. No.	PARTICULARS	BHEL SPECIFICATIONS	BIDDER's OFFER [with Complete Technical Details]
9.0	Data Logging Facility – OPTIONAL ITEM	To provide a suitable PC System (Computer and Accessories) with SOFTWARE compatible to WOS XP for acquiring and compiling of test data, and printing Computer (PC) Configuration (minimum):- Intel Pentium 4 Processor 630 with HT Technology; (2MB L2 Cache, 3.00 GHz, 800 MHz FSB); Intel 915G Mother board; 512 MB DDR, 80 GB SATA Hard disk; COMBO CDRW-DVD; 17" TFT Monitor, Speakers, 56.6 KBPS Internal Modem; Multi-Media Keyboard, Optical Mouse, Laser Colour Printer, etc.	
10.0	Consumables	BIDDER has to list down the CONSUMABLES to be used in the Operation of the Equipment and QUOTE with UNIT RATE for all the listed consumables, to be procured with the equipment.	
11.0	Spares for Main Equipment & Accessories	BIDDER has to list down the SPARES (including 3 sets of striking Tups, Anvils & Supports, Printed Circuit Boards – PCBs, etc.) coming under the Category of Mechanical, Electrical & Electronic Spares for the Main Equipment as well for the essential and optional desirable Accessories. (Accessory for measurement of Lateral Expansion in impact tested samples / for evaluating percentage shear fracture, to be quoted as optional.) BIDDER to QUOTE with UNIT RATE for all the listed SPARES, to be procured with the equipment.	
12.0	Inspection	The Equipment & Accessories shall be offered for Inspection by BHEL Engineers and Performance Prove-Out, as per ASTM E23, at the Works of the Supplier, prior to dispatch.	

S. No.	PARTICULARS	BHEL SPECIFICATIONS	BIDDER's OFFER [with Complete Technical Details]
13.0	Installation and Commissioning	The Equipment with all Accessories is to be installed & commissioned at BHEL Works, FREE OF COST, by the Service Engineer of the SUPPLIER. (Machine Foundation – Civil Work & Materials are under BHEL Scope. Foundation Details & Anchoring Materials are to be given by the SUPPLIER);	
14.0	Performance Prove-Out at BHEL	The Supplier's Service Engineer has to calibrate the Equipment & Accessories by Direct and Indirect Methods as per ASTM E23 and to carry-out Performance Prove-Out as per BHEL Specifications.	
15.0	Documentation in ENGLISH Language	3 Copies of the Operation & Maintenance Manuals containing Electric Schematics, Circuit Diagrams, PCB Drawings, Trouble Shooting Charts, Mechanical Sub-Assemblies, Rating of Bought-Out Items, etc. shall be supplied, at the time of inspection by BHEL Engineers. In addition, one SOFT COPY in CD to be supplied.	
16.0	Performance Guarantee	The Equipment & Accessories (including Bought-Out Items) are to be guaranteed for its performance for a minimum period of two years from the date of performance acceptance at BHEL Works.	
17.0	Training on Operation & Maintenance	Complete Training for 2 BHEL Engineers is to be given on Operation & Maintenance of the OFFERED EQUIPMENT at SUPPLIER's Works, FREE OF COST. Similar Training has also to be provided at BHEL Works, after the successful commissioning of the Equipment & Accessories.	

S. No.	PARTICULARS	BHEL SPECIFICATIONS	BIDDER's OFFER [with Complete Technical Details]
18.0	Service Support Requirements.	Vendor shall ensure AMC service facilities in India after the guarantee period, through trained service personnel in India	
19.0	Annual Maintenance Contract - AMC	The BIDDER has to QUOTE for AMC under two patterns given below, for a period of THREE YEARS after the expiry of ORIGINAL WARRANTY period :	
19.1	AMC – CASE I	Technical Service for Preventive Maintenance, Trouble Shooting and Re- Commissioning of the Equipment excluding the Cost of SPARES and Consumables [BHEL will make available the required Spares & Consumables on demand]	
19.2	AMC – CASE II	Technical Service for Preventive Maintenance, Trouble Shooting and Re- Commissioning of the Equipment INCLUDING the Cost of SPARES and Consumables [BHEL will not be responsible for the timely availability of Spares & Consumables]	
19.3	AMC - RESPONSE	THE BIDDER HAS TO FURNISH / INDICATE THE RESPONSE TIME FOR THE SERVICE ENGINEER TO BE AT BHEL WORKS, FROM THE TIME OF REPORTING BREAKDOWN THROUGH E-MAIL or TELEFAX.	
19.4	AMC – Service Calls	The BIDDER has to furnish details on service calls for preventive maintenance (number of calls and intervals) and break-down maintenance	