



# Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

CAPITAL EQUIPMENT / MATERIALS MANAGEMENT

An ISO 9001  
Company

<b>ENQUIRY</b>	Phone: +91 431 257 7653 Fax : Email : <a href="mailto:skaruna@bheltry.co.in">skaruna@bheltry.co.in</a> Web : <a href="http://www.bhel.com">www.bhel.com</a>
<b>NOTICE INVITING TENDER</b>	

<b>TWO PART BID</b>	<b>Enquiry Number:</b>	<b>Enquiry Date:</b>	<b>Due date for submission of quotation:</b>
Tender to be submitted in two Parts	<b>2631600045</b>	<b>08.08.2016</b>	<b>08.09.2016</b>

You are requested to quote the Enquiry number date and due date in all your correspondence. This is only a request for quotation and not an order.

**Please note that under any circumstances both delayed offer and late offers will not be considered. Hence vendors are requested to ensure that the offer is reaching physically our office before 14.00 hrs on the Date of tender opening.**

Item	Description	Quantity
10	Portable Magnetic Particle Inspection Power Source 1500 Amps as per the technical specification & commercial conditions applicable (to be downloaded from web site <a href="http://www.bhel.com">www.bhel.com</a> or <a href="http://tenders.gov.in">http://tenders.gov.in</a> )	1.00 No

### Important points to be taken care during submission of offer

1. Material shall be delivered to  
Indigenous Vendors:  
FOR, BHEL, Stores  
Power Plant Piping Unit  
Thirumayam, Pudukkottai Dist.
2. Delivery required 3 months from the date of purchase order.
3. Erection & Commissioning period required 2 Weeks from the date of intimation by BHEL to vendor for deputation of their Engineers for E&C.
4. Checklist No. TMM/IND/08 to be filled and enclosed along with the offer failing which, the offer will not be considered for evaluation.
5. All updates, amendments, corrigenda, etc., (if any), for each tender will be posted only on the above websites from time to time, as and when required, until each tender is opened. There will be no publication of such updates, amendments, corrigenda, etc., through newspapers or any other media.

BHEL's General guidelines / instructions (refer MM / CE / GENL / 001 – No EMD) including bank guarantee formats and list of consortium banks, commercial terms check-list can be downloaded from BHEL web site <http://www.bhel.com> or from the Government tender website <http://tenders.gov.in> (public sector units > Bharat Heavy Electricals Limited page) under above Enquiry reference.

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**

  
DGM / Capital Equipment / MM

**PORTABLE MAGNETIC PARTICLE INSPECTION EQUIPMENT 1500 Amps.  
RATING WITH DEMAGNETIZATION FACILITY, QTY. – 1 no.**

**PART - A**

**SECTION 1: Qualifying Criteria**

The BIDDER has to compulsorily meet the Qualifying criteria indicated in SECTION 1 to get qualified. Otherwise the technical offer will not be considered.

S. No.	REQUIREMENTS	VENDOR's RESPONSE
1.1	The BIDDER / VENDOR shall have a minimum of last FIVE Years of Continuous Experience in the Field of Design, Manufacture and Supply of <b>Magnetic Particle Inspection (MPI)</b> Units of Rating 1500 Amps and associated accessories. Vendor shall indicate the actual no. of years of experience in the field.	
1.2	Only those BIDDER / VENDOR should quote who have supplied in the last 5 years at least 2 numbers of the model quoted against this tender of "Magnetic Particle Inspection (MPI) Units of Rating 1500 Amps."	
1.3	Number of Magnetic Particle Inspection (MPI) Units of Rating 1500 Amps and above supplied, installed and commissioned till date.	
1.4	Year of Launch of the Model quoted against this tender enquiry	
1.5	The BIDDER has to submit a Performance Certificate from customers who are Heavy Engg. Fabricators like Manufacturers of Pressure Vessels and Heat-Exchangers, Off-Shore Oil Rigs, Thermal Power Plant Equipment, etc. for satisfactory performance of the quoted model against this tender, for a minimum period of one year from the date of commissioning (as on original date of opening of tender). For obtaining the Performance certificate, a suggestive format is provided.	
1.6	Details on SERVICE AFTER SALES Set-Up in India including the Addresses of Agents / Service Centres in India, to be furnished.	
1.7	BHEL reserves the right to verify the information provided by vendor. In case, it is found to be false/ incorrect, the offer shall get rejected.	

**SECTION 2**

The BIDDER / VENDOR is requested to provide the following information:

<b>S. No.</b>	<b>PARTICULARS</b>	<b>VENDOR's RESPONSE</b>
2.1	Details on the International Standards / Codes adopted for the design and supply of above specified MPI Units	
2.2	Details of Quality System followed (Kindly furnish the salient aspects of the Quality Assurance System followed)	
2.3	Comprehensive Details on Performance Testing of the Equipment quoted, to be ensured in presence of BHEL Executives, prior to dispatch from Supplier's Works.	
2.4	The BIDDER shall give details about supply of similar machines to BHEL units if any with Make, Model and Year of Supply & Commissioning etc.	
2.5	Complete reference List of Customers with full contact details of CONTACT PERSON, to whom such offered model has been supplied till date.	
2.6	Any Additional Data to supplement the manufacturing capability of the BIDDER.	

**SECTION 3:**

The BIDDER / VENDOR to note:

<b>S. No.</b>	<b>REQUIREMENTS</b>	<b>VENDOR's COMPLIANCE</b>
3.1	The BIDDER shall submit the offer in TWO PARTS - Technical [with <b>PART A &amp; PART B</b> ] & Commercial and Price Bid.	
3.2	The VENDOR's RESPONSE against each clause in PART A & B of the offer should be filled by the BIDDER compulsorily with complete details.	
3.3	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 (if applicable)	
3.4	The BIDDER shall assure a continuous support for Spares and Service for Ten Years, from the date of commissioning of the equipment at BHEL Works.	
3.5	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.	

The performance certificate should be produced **on Customer's Letter Head.**

***Suggestive Format of Performance Certificate***

*(On Customer's letter head)*

**PERFORMANCE CERTIFICATE**

1. Supplier of the Equipment :
2. Make & Model of the Equipment :
3. Month & Year of Commissioning :
4. Application for which Equipment is used :
5. a. Equipment Serial Number :  
b. Current Rating :  
c. Type of Power Transformer used :  
d. Sensitivity of Testing :  
e. List of Accessories procured with Equipment :
6. Performance of the Equipment : Satisfactory /  
(Strike off whichever is not applicable) Good /  
Average /  
Not Satisfactory
7. Feed- back on 'After Sales Service' by the Supplier :
8. Remarks / Reasons for Recommendations :

Date:

Signature & Seal of the Authority  
Issuing the Performance Certificate

**PORTABLE MAGNETIC PARTICLE INSPECTION EQUIPMENT 1500 Amps. RATING WITH DEMAGNETIZATION FACILITY****QTY. – 1 no.****PART B - Technical Specification**

S. No.	BHEL SPECIFICATION		BIDDER'S OFFER
1.0	<b>Application</b>	For magnetic particle examination of all shapes of ferromagnetic product forms in boiler components, Pressure vessels, Heat exchangers and Structural components. It includes butt joints, fillet welds coming in nozzles and attachments, air-arc gouged surfaces, etc. using copper based prods. Maximum prod spacing used for examination will be 200 mm (8") and also to use for demagnetization requirements.	
2.0	Maximum Output	1500 Amperes at the end of 2 x 5 meter cable	
3.0	HWDC Output [Half Wave DC]	Supplier to specify for 50% duty cycle and for use with 2 x 5 meter cables.	
4.0	Maximum ON & OFF Time	Adjustable to select in a range of 0 - 60 secs. (with Timer Control)	
5.0	Cable Size	Shall be a minimum of 90 sq.mm, but not more than 120 sq mm; and shall be of Copper Conductor with proper insulation.	
6.0	Current Control	Step-less Control for the specified range, with Solid State SCR /Thyristor Controls	
7.0	Ammeter	AC and HWDC Ammeters	
8.0	Trigger Control at Prod Handle	Through a low voltage control system - 24 V or less	
9.0	Weight of Equipment	Shall be of Light Weight for easy handling (preferred to be around 50 kgs.)	

S. No.	BHEL SPECIFICATION		BIDDER'S OFFER
10.0	Trolley	Suitable portable Transport trolley to accommodate and move the unit with cables. The trolley should have four wheels of revolving type and rubberized wheels of min 200 mm dia. (Sketch of trolley to be enclosed). Suitable hooking arrangement to be provided for lifting the complete unit with trolley	
11.0	Facility for Demagnetization	Suitable Control Systems with Circuitry to be provided for using the equipment for demagnetization. Bidder to provide the Technical Details of how the feature is achieved.	
12.0	Input Power Supply	Through 230 V / 50 Hz / 30 Amps Single Phase AC (Neon Pilot Lamp to be provided)	
13.0	Input power cable	Flexible Input Power Supply 3-Core Cable – 20 Meter long with multi-strand copper conductor	
14.0	kVA Rating	Bidder to specify the maximum electric power consumption in kVA, at peak loading.	
15.0	Class of Insulation	Shall be of "H" Class	
16.0	Tapping for Inspection Lamp	One number of 24 V Tapping Point shall be provided for using Hand Lamp for Inspection	
17.0	Automatic Over-Load Protection	Vendor to specify	
18.0	Cooling	Suitable Fan shall be provided to have an effective Air Cooling means.	
19.0	Over-Heat Protection	Vendor to specify	
20.0	Overall Dimensions of Equipment	Vendor to specify	

S. No.	BHEL SPECIFICATION		BIDDER'S OFFER
21.0	All Hardware components	<p>All equipment external parts like electrical components, switches, connectors, cable lugs etc which are frequently handled and used shall be sturdy and supplier shall assure that these parts are not flimsy and are reliable for trouble free operation in shop floor conditions.</p> <p>All electronic components shall be of high quality and reliable for trouble free operation in shop floor conditions.</p> <p>Vendor to give details.</p>	
22.0	<b>Operation &amp; Maintenance Manual and documentation</b>	<ol style="list-style-type: none"> <li>1. Operation and Maintenance Manuals in Hard Copies and ONE set in soft copy in CD/Pen Drive/Memory Stick.</li> <li>2. O &amp; M Manuals shall contain complete electrical/electronic circuit diagrams with Bill of Materials (indicating specification &amp; make of components used).</li> <li>3. Moreover, the O &amp; M Manuals shall also give details on Trouble Shooting, Preventive Maintenance Check-Lists, Circuit Diagrams of PCB used.</li> <li>4. Calibration Certificate for Main Equipment and Spare Ammeters as per ASTM E709, Local Centre of National Laboratory.</li> <li>5. Test Report for Internal Short Circuit Check</li> <li>6. Dimensional Report for Magnetic Particle Field Indicator as per ASTM E 1444</li> <li>7. Dimensional Report for System Performance Test Plate</li> </ol>	
23.0	<b>Spares</b>	Vendor to provide a list of essential spares for 2 years of trouble free operation of the equipment.	

S. No.	BHEL SPECIFICATION		BIDDER'S OFFER
24.0	<b>Pre Despatch Inspection</b>	The Equipment shall be offered for Inspection by BHEL, prior to despatch from the Vendor Works.	
25.0	<b>Installation, Commissioning and Performance Prove Out of the Equipment</b>	Bidder has to depute qualified Service Engineer for the Installation, Commissioning and prove out of the Equipment at BHEL Works.	
26.0	<b>Guarantee Period</b>	The Performance of the Equipment shall be guaranteed for a minimum period of 12 months from the date of commissioning or 18 months from the date of despatch whichever is earlier.	
27.0	<b>Scope of Supply:</b> The scope of supply is as follows		
27.1	Portable M P I Unit (1500 Amps. Rating) as per BHEL Spec.	1 No.	
27.2	Power supply cable as per Clause 13.0 of BHEL spec.	1 No.	
27.3	Magnetizing Copper Cables 2 x 5 meter long with cable lugs on MPI Unit side and connectors on Prod side.	2 Pairs	
27.4	Individual Contact Copper Prods with Standard Length.	1 Pair	
27.5	Trigger Switch in one Prod with 10 Meter long Remote Cable.	1 No.	
27.6	Transport Trolley as per Clause No. 10.0 of BHEL spec.	1 No.	
27.7	O & M – hard copy and soft copy and Documentation as per Clause No. 22.0 of BHEL spec.	1 Set	
27.8	<b>SPARES</b>		
27.8.1	Prod Handles Assembly (without trigger switch) connected with Copper Rod	2 Sets	
27.8.2	Prod Handles Assembly (with trigger switch) connected with Copper Rod along with 10 meter long Trigger Cable.	2 Sets	
27.8.3	Magnetizing Copper Cables of length 2x5 meters with Connectors on both ends.	2 Pairs	

S. No.	BHEL SPECIFICATION		BIDDER'S OFFER
27.8.4	Ammeter AC	1 No.	
27.8.5	Ammeter DC	1 No.	
27.8.6	Current Control PCB	1 No.	
27.8.7	Power Control PCB	1 No.	
27.8.8	Diodes	2 Nos.	
27.8.9	Thyristor	1 No.	
27.8.10	Shunt for DC Ammeter	1 No.	
27.8.11	Ultraviolet Inspection Black Light Bulbs	3 Nos.	
<b>28.0</b>	<b>OPTIONAL : Annual Maintenance Contract (AMC)</b>	Bidder to quote for AMC after the expiry of the guarantee period of the equipment at BHEL / Thirumayam Works, Pudukkottai District, Tamil Nadu.	