



An ISO 9001  
Company

## Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

CAPITAL EQUIPMENT/ MATERIALS MANAGEMENT

### ENQUIRY

### NOTICE INVITING TENDER

Phone: +91 431 257 70 49

Fax : +91 431 252 07 19

Email : [csguna@bheltry.co.in](mailto:csguna@bheltry.co.in)

Web : [www.bhel.com](http://www.bhel.com)

#### TWO PART BID

Tender to be submitted in two parts.

Enquiry  
Number:

**2620900178**

Enquiry  
Date:

**07.09.2009**

Due date for submission  
of quotation:

**22.10.2009**

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	<b>Hydro Test Station</b> as per the technical specification, general guidelines instructions & 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> )	<b>7 Nos.</b>

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

1. Delivery required 6 months from the date of purchase order.
2. Grace period of 2 months beyond the above delivery period will be considered.
3. Checklist to be filled and enclosed along with the offer failing which, the offer will not be considered for evaluation.

BHEL's General guidelines / instructions (refer MM/CE/GT/001) 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 Enquiry reference "2620900178".

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

Sr.Manager / MM / Capital Equipment

**PART A**  
**HYDRO TEST STATION PUMP**

**SECTION – I : QUALIFYING CRITERIA**

The BIDDER has to compulsorily meet the following requirements to get qualified for considering the technical offer:

<b>S. No.</b>	<b>REQUIREMENTS</b>	<b>VENDOR's RESPONSE</b>
1	<p>Only those vendors (<b>OEMs</b>), who have supplied and commissioned at least <b>TWO HYDRO TEST STATION PUMP</b> for operating pressure of 600kg/cm<sup>2</sup> or higher and Capacity of 20LPM or more in the past ten years (on the date of opening of Tender) and such machine is presently working satisfactorily for more than one year after commissioning (on the date of opening of Tender) should quote.</p> <p>However, if such machine had already been supplied to BHEL, then that machine should be presently working satisfactorily for more than six months after it's commissioning and acceptance (on the date of opening of Tender).</p>	
	<b>The vendor should submit following information where similar machine has been supplied for qualification of their offer.</b>	
1.1	Name and postal address of the customer or company where similar machine is installed.	
1.2	Name and designation of the contact person of the customer.	
1.3	Phone, FAX no and email address of the contact person of the customer.	
1.4	Month and Year of commissioning of the machine.	
1.5	Application for which the machine is supplied	
1.6	Along with the Technical offer, the Vendor should submit one Performance certificate from the customer for the satisfactory performance of the machine supplied to them. For obtaining the Performance certificate, a suggestive format is provided in <b>SECTION – IV</b> .	
1.7	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.	
2.0	<p><b>DELIVERY</b> - The bidder shall quote the best possible delivery. However the delivery shall not exceed 6 months with an additional grace period of 2 months. The additional grace period will attract a penalty which is explained in the commercial terms of the enquiry.</p> <p>The delivery period shall be reckoned from date of purchase order to despatch from the vendor works.</p>	

**SECTION – I I**

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

<b>S. No.</b>	<b>REQUIREMENTS</b>	<b>VENDOR's RESPONSE</b>
3.0	The BIDDER/VENDOR to furnish Reference List of Customers, with full address, details of contact person, where Hydro Test Station Pump have been supplied in the past.	
4.0	Details of Hydro Test Station Pump supplied to other BHEL units, if any. (Year of commissioning, Pressure, Capacity)	
5.0	Details on SERVICE-AFTER-SALES Set-Up in India including the Address of Agents / Service Centers in South India.	
6.0	Any Additional Data to supplement the manufacturing capability of the BIDDER for the subject equipment.	

**SECTION – III**

The BIDDER to note:

<b>S. No.</b>	<b>PARTICULARS</b>	<b>VENDOR'S RESPONSE</b>
7.0	The BIDDER / VENDOR shall submit the offer in TWO PARTS. 1. Technical Offer [with PART A & PART B] & commercial offer 2. Price Bid.	
8.0	The Technical Offer shall contain a comparative statement of Technical <b>Specifications demanded by BHEL</b> and <b>Offer Details submitted by the Bidder</b> , against each clause. A just 'CONFIRMED' or 'COMPLIED' or 'YES' or 'NO-DEVIATION' or similar words in the technical comparative statement where specific details are required may lead to disqualification of the Technical Offer.	
9.0	The Technical Offer shall be supported by product Catalogues & Data Sheets and also technical details of Bought-Out-Items with copies of Product Catalogue to the extent possible.	
10.0	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.	

**SECTION – IV**

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

**PERFORMANCE CERTIFICATE**

1. Supplier of the machine		
2. Make & Model of the M/C		
3. Month & Year of Commissioning		
4. Application for which M/C is used		
5	a) Pressure  b) Capacity	
6. Performance of the Machine (Strike off whichever is not applicable)		Satisfactory / Good / Average / Not Satisfactory
7. After sales service (Strike off whichever is not applicable)		Satisfactory / Good / Average / Not Satisfactory
8. Any Other remarks		
<div style="display: flex; justify-content: space-between; align-items: flex-end; padding-top: 20px;"> <div>Date:</div> <div>Signature &amp; Seal of the Authority Issuing the Performance Certificate</div> </div>		

**TECHNICAL SPECIFICATION FOR HYDRO TEST STATION PUMP-PART-B**

Sl.No.	DESCRIPTION	SPECIFICATION	BIDDER'S OFFER [with technical details]	DEVIATIONS / REMARKS
<b>1.0</b>	<b>PURPOSE :</b>			
1.1	To conduct hydro test in production shop floor for checking the weld quality of tubular products (coils and panels) and Headers forming pressure parts of Utility Boilers and Industrial Boilers in shop floor using water as the media.			
1.2	<b>Job Details:</b> Material :Mild Steel & Alloy Steel Configuration: Tubular Coils & Panels, Headers	Vendor to Note		
<b>2.0</b>	<b>EQUIPMENT CONSTRUCTION:</b>			
2.1	A high-pressure plunger pump coupled with Electrical Motor, Starter and Speed Reduction Gear Box all of suitable capacity along with all the accessories such as Pressure Regulator - cum - Automatic Un loader Valve, Water Inlet Valve, Water Outlet Valve, Safety valve, Bye-Pass Valve, Pressure Relief Valve and Pressure Gauges etc, interconnected with suitable piping.  The complete unit shall be mounted on a portable 4 wheel trolley with handle, lifting hooks and swiveling ( front) cast iron wheels lined with hard rubber	Vendor to Confirm		

Sl.No.	DESCRIPTION	SPECIFICATION	BIDDER'S OFFER [with technical details]	DEVIATIONS / REMARKS
<b>3.0</b>	<b>PLUNGER PUMP</b>			
<b>3.1</b>	<b>Pump Parameters</b>			
3.1.1	Max. working pressure	700 kg/cm2(g)		
3.1.2	Discharge Capacity	20 LPM		
3.1.3	Type	Horizontal, Portable		
3.1.4	Number of Stages	Single		
3.1.5	Working Media	Water		
<b>3.2.0</b>	<b>Special Features</b>			
3.2.1	A pressure regulator-cum-automatic unloader valve shall be provided at the delivery end to regulate the pressure from zero to the required pressure within the rated capacity.  Also one lockable safety relief valve for maximum pressure setting to be provided for the rated capacity.	Vendor to Confirm		
3.2.2	A pulsation dampener on the delivery line shall also be provided for continuous operation.	Vendor to Confirm		
3.2.3	All valve seats shall be stellited for long life with high efficiency and smooth functioning.	Vendor to Confirm		
3.2.4	Spring loaded stuffing box (SS304) for self-tightening of the hydraulic sealing 'V' rings in the pump shall be provided. .	Vendor to Confirm		
3.2.5	A Speed reduction gear box, externally coupled with motor both of suitable capacity shall be provided for trouble free operation of the pump.	Vendor to Confirm		
3.2.6	Cross head anti-chamber shall be provided for salvage of excess lubricant oil.	Vendor to Confirm		

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CABS-3-11&37 Hydro Test Station Pump

Sl.No.	DESCRIPTION	SPECIFICATION	BIDDER'S OFFER [with technical details]	DEVIATIONS / REMARKS
3.2.7	Flooded crank with splash lubrication system shall be provided for long life and independent front inspection cover for easy replacement of 'V' seals and plungers in the pump.	Vendor to Confirm		
3.2.8	Plunger guide bush and glands shall be provided with turcite /Teflon slide rings.	Vendor to Confirm		
<b>3.3.0</b>	<b>Material of Construction</b>			
3.3.1	Pump Body -----"A" Grade Cast Iron	Vendor to specify		
3.3.2	Pump Head-----EN-9 Steel/ C.I	Vendor to specify		
3.3.3	Plunger----- SS 304 Ground and Polished	Vendor to specify		
3.3.4	Crankshaft- -----EN-24 Forged Steel	Vendor to specify		
3.3.5	Connecting Rods----- EN-8 Forged Steel	Vendor to specify		
3.3.6	Connecting Bearings- Bi-Metal	Vendor to specify		
3.3.7	Gudgeon Pins- -----High Carbon Steel	Vendor to specify		
3.3.8	Cross heads- -----Cast Iron	Vendor to specify		
3.3.9	Valve & Valve Seating- S.S 410.Hardened and Tempered with stellited Valve Seats	Vendor to specify		
3.3.10	Sealing Elements- Reinforced Synthetic Rubber Hydraulic Sealing 'V' Rings	Vendor to specify		
3.3.11	Trolley Frame- -----M.S. Fabricated	Vendor to specify		
3.3.12	Bearings- -----Heavy Duty Ball Bearings of SKF/NBC make	Vendor to specify		
3.3.13	Glands----- Gun Metal	Vendor to specify		
3.3.14	Crankshaft Bearings- Ball/Roller brgs	Vendor to specify		

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Sl.No.	DESCRIPTION	SPECIFICATION	BIDDER'S OFFER [with technical details]	DEVIATIONS / REMARKS
3.3.15	Pressure Regulator-cum-Automatic Unloader Valve - SS 410	Vendor to specify		
3.3.16	Bye-pass Valve- ----- SS 410	Vendor to specify		
3.3.17	Pressure Relief Valve- -----SS 410	Vendor to specify		
3.3.18	Safety Valve----- SS 410	Vendor to specify		
3.3.19	Isolating Valve- ----- SS 410	Vendor to specify		
3.3.20	Suction & delivery manifold : EN 9	Vendor to specify		
3.3.21	All pipe line connections and fitting : SS410	Vendor to specify		
<b>4.0</b>	<b>Spares</b>			
4.1	All Mechanical, Electrical, Hydraulic Spare parts required for 2 years of trouble free operation to be listed (Item wise quotation to be enclosed with price bid)	Vendor to Confirm		
4.2	Availability of spares for the next 5 years to be ensured	Vendor to Confirm		
4.3	Vendor to confirm that complete list of spares for machine and accessories, along with item part no / specification / type / model, and name & address of the spare supplier shall be furnished along with documentation to be supplied with the machine	Vendor to Confirm		
<b>5.0</b>	<b>GENERAL POINTS</b>			
5.1	The Pressure Gauge shall be of Glycerene filled FIEBIG/MANOMETER makes and the dial fixing shall be of BEZEL RING type and SS bourden tube.	Vendor to Confirm		

CABS-3-11&37 Hydro Test Station Pump

Sl.No.	DESCRIPTION	SPECIFICATION	BIDDER'S OFFER [with technical details]	DEVIATIONS / REMARKS
5.2	The connector end of Pressure Gauge shall have M20 x 1.5 mm male thread and the gauge fixing shall be of bottom entry type and the gauge dial size shall be 150 mm and accuracy shall be specified.	Vendor to Confirm		
5.3	Outlet Hose Connection - Quick release coupling of ¼ inch BSP shall be provided at the outlet of the Pump.	Vendor to Confirm		
5.4	Inlet Hose Connection	Vendor to specify		
5.5	The offer shall contain a detailed general arrangement drawing with part indications with catalogues of all bought out items	Vendor to Confirm with Details		
5.6	Vendor to submit the GA drawing with major and critical dimensions and Bill of Materials and related catalogues for BHEL verification and approval before manufacturing.	Vendor to Confirm		
<b>6.0</b>	<b>ELECTRICAL POINTS</b>			
6.1	The electrical input power supply shall be 415 V with a fluctuation of $\pm 10\%$ V, 50 Hz with a fluctuation of $\pm 2\%$ Hz, 3 Phase AC supply through a 3 Wire System.	Vendor to Confirm		
6.2	BHEL will provide input power supply at one point only and the supplier has to take care of all other electrical distribution network required for the Station.	Vendor to Confirm		
6.3	All electric motors with suitable Star Delta/ DOL Starter should be provided.	Vendor to Confirm		

Sl.No.	DESCRIPTION	SPECIFICATION	BIDDER'S OFFER [with technical details]	DEVIATIONS / REMARKS
6.4	Power Rating of Electric motor shall be 25 kW (minimum). Vendor to provide actual Power Rating and Power Rating calculation detail.	Vendor to Specify		
6.5	Electric motor speed shall be 1440 rpm.	Vendor to Confirm		
6.6	All electrical motors, limit switches etc, on the machine shall be wired using PVC sheathed copper cable, running in conduits and converging to common terminal block.	Vendor to Confirm		
6.7	All components/devices/terminals are identified with numbered ferrules	Vendor to Confirm		
6.8	IP54 protection for all electrics.	Vendor to Confirm		
6.9	All Electric Motors shall be of energy efficient type any of the following makes: SIEMENS / ABB / CROMPTON/BBL/ makes conforming to IEC Standards.	Vendor to specify		
6.10	All electrical devices like contactors, relays, limit switches, push buttons etc are from SEW / Siemens/ Cutler hammer / Telemecanique / ROCKWELL-Allen Bradley / Delta.	Vendor to specify		
6.11	Speed REDUCTION GEAR BOX shall be of RADICON / ALLROYD /ELECON make.	Vendor to specify		
<b>7.0</b>	<b>SAFTY ARRANGEMENT</b>			
7.1	Following safety features in addition to other standard safety features should be provided on the machine:	Vendor to Confirm		
7.2	All the pipes, cables etc. should be well supported and protected.	Vendor to Confirm		
7.3	All the rotating/ Moving parts should be statically & dynamically balanced to avoid undue vibrations and suitably guarded.	Vendor to Confirm		

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Sl.No.	DESCRIPTION	SPECIFICATION	BIDDER'S OFFER [with technical details]	DEVIATIONS / REMARKS
8.0	<b>DOCUMENTATION</b>			
8.1	Three sets of following documents (3 Hard copies,) in English language should be supplied along with the machine	Vendor to Confirm		
8.2	Operating & maintenance Manuals of Pump	Vendor to Confirm		
8.3	The O&M Manual should contain the following			
	a. Drawing of the Pump	Vendor to Confirm		
	b. GA Drawing of Individual Mechanisms.	Vendor to Confirm		
	c. Sub-Assembly Drawings (without dimensions) for sub-systems for maintenance purpose	Vendor to Confirm		
	d. Electrical Wiring Drawings – Power & Control Circuits	Vendor to Confirm		
	e. Catalogues, O&M Manuals of all bought out items including drawings, wherever applicable.	Vendor to Confirm		
	f. Hydro-pump test certificate	Vendor to Confirm		
	g. Hydro-pump guarantee certificate	Vendor to Confirm		
	h. Test Certificate for electric motor	Vendor to Confirm		
	i. Test Certificate for gear box	Vendor to Confirm		
	j. Guarantee certificate for gear box	Vendor to Confirm		
	k. Test certificates for all materials specified			
8.4	One set all the above documents in CD	Vendor to Confirm		
9.0	<b>PAINTING:</b>			
9.1	Painting colour scheme shall be RAL 6011 IS-5 (Reside Green/Apple Green).	Vendor to Confirm		

Sl.No.	DESCRIPTION	SPECIFICATION	BIDDER'S OFFER [with technical details]	DEVIATIONS / REMARKS
<b>10.0</b>	<b>INSPECTION</b>			
10.1	The Machine shall be offered for inspection and performance trials to test the design features and capacity of the test station, by BHEL Engineers before dispatch, at Supplier's works. The tests shall be conducted using specimen test body	Vendor to Confirm		
<b>11.0</b>	<b>ERECTION &amp; COMMISSIONING</b>			
11.1	The supplier shall depute his engineer(s) for supervising the erection and commissioning of the machine at BHEL and prove-out trials.	Vendor to Confirm		
<b>12.0</b>	<b>PERFORMANCE GUARANTEE</b>			
	Equipment has to be guaranteed for its performance, for a minimum period of 12 months from the date of commissioning or 18 months from the date of supply whichever is earlier	Vendor to Confirm		