



An ISO 9001  
Company

## Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

CAPITAL EQUIPMENT / MATERIALS MANAGEMENT

<b>ENQUIRY</b>	Phone: +91 431 257 76 53 Fax : +91 431 252 00 31 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> Tender to be submitted in two Parts	<b>Enquiry Number:</b> <b>2851300036</b>	<b>Enquiry Date:</b> <b>29.11.2013</b>	<b>Due date for submission of quotation:</b> <b>02.01.2014</b>
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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	Delivery Required	Delivery Terms Required
10	<b>30 Ton Mechanized Job Rotator</b> 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> )	02 Nos.	6 months from the date of Purchase Order	F.O.R, BHEL Stores, POWER EQUIPMENT FABRICATION PLANT, BHARAT HEAVY ELECTRICALS LIMITED, Mundipar- 441804, Sakoli Taluk, Bhandara District, Maharashtra State.

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

1. The rate of EMD for this Tender will be ( INR ) : 60,000/-
2. The Compliance Form for Commercial Terms & Conditions to be filled and enclosed along with the offer failing which, the offer will not be considered for evaluation.
3. 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-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**

Engineer / Capital Equipment / MM



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**30 TON CAPACITY JOB ROTATOR****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 (OEM) shall have a minimum of TEN Years of Continuous Experience in the Design, Manufacture & Supply of “ <b>30 Ton Capacity Job Rotator</b> ” or higher capacity. Vendor shall indicate the actual no. of years of experience in the field	
1.2	<p>Only those vendors (OEMs) should quote, who have commissioned in the past (10) years (on the original date of opening of Tender) at least <b>FIVE ‘JOB ROTATORS’</b> having all the following features:</p> <ol style="list-style-type: none"> <li>1. Capacity of Job Rotator minimum 30 tons.</li> <li>2. Eccentric loading capacity upto 30%</li> <li>3. Job diameter range from 200mm to 1250mm or more.</li> <li>4. Variable Speed range: 100-1000 mm/min of surface speed</li> <li>5. AC vector motor with drive for speed control.</li> </ol> <p><b>EITHER</b> (i) in at least one country other than the country of origin to establish vendor's (OEM's) global business activity <b>OR</b> (ii) in India; and the referred Job Rotators are presently working satisfactorily for more than one year after commissioning (on the original date of opening of Tender). The name and contact addresses of the customers to whom the Job Rotator has been supplied has to be furnished with details.</p> <p>BHEL reserves the right to accept or reject the OEMs based on the assessment of their technical and financial capability.</p>	
1.3	<p>Vendor has to submit at least ONE PERFORMANCE CERTIFICATE from their customers in India or from the customers to whom the Job Rotator was supplied outside the country of origin, for satisfactory performance of the “<b>Job Rotator</b>” as given under Clause 1.2 above, for a minimum period of one year (on the original date of opening of Tender). (Original Certificate or through E-mail directly from the customer). The original performance certificate may be returned after verification by BHEL, if required.</p> <p>For obtaining the Performance certificate, a suggestive format is provided.</p>	

S No.	REQUIREMENTS	VENDOR'S RESPONSE
1.4	BHEL reserves the right to verify the information provided by the Vendor for the referred Job Rotator at their referred customer's works. It shall be the responsibility of the vendor to facilitate the visit of BHEL's team at their referred customer works .The Travel and Boarding expenses for BHEL Personnel shall be borne by BHEL. In case the information provided by vendor is found to be false/ incorrect, the offer shall be rejected.	

## **SECTION - 2**

The BIDDER / VENDOR are requested to provide the following information:-

S No.	REQUIREMENTS	VENDOR'S RESPONSE
2.1	The BIDDER / VENDOR to furnish Reference List of Customers, with complete address, details of contact person, where 30 Ton or more than 30 Ton Capacity JobRotatorhave been supplied in the past.	
2.2	Specify details of where 30 Ton or more than 30T Capacity JobRotatorsupplied to other units of BHEL, if any (Year of commissioning).	
2.3	Details on SERVICE-AFTER-SALES Set-up in India including the Address of Agents / Service Centres in India.	
2.4	Any Additional data to supplement the manufacturing capability of the BIDDER for the subject equipment.	

## **SECTION - 3**

The BIDDER to note:

S No.	REQUIREMENTS	VENDOR'S RESPONSE
3.1	The BIDDER / VENDOR shall submit the offer in TWO parts. 1. Technical Offer [ <b>with PART A &amp; PART B</b> ] 2. Commercial Offer and Price bid.	
3.2	The Technical Offer shall contain complete details against all clauses of Technical Specifications given by BHEL.	
3.3	The Technical Offer shall be supported by copies of product Catalogues, DataSheets and technical details of Bought- Out-Items.	
3.4	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.	

**Suggestive Format of Performance Certificate:**

The Performance certificate should be produced on **Customer's Letter Head** and submitted along with the offer.

**PERFORMANCE CERTIFICATE**

1.0	Job Rotator Supplied by(Manufacturer's name)		
2.0	Make & Model number of the Job Rotator		
3.0	Month & Year of Commissioning		
4.0	Application for which Job Rotator is used		
5.0	<b>Job Rotator Details:</b>		
5.1	Load Capacity		
5.2	Eccentric loading capacity		
5.3	Typical jobs Diameter Range:		
5.4	Job length		
5.5	Speed range (Surface speed) at least variable between: 100 - 1000 mm /min.		
6.0	Performance of the Job Rotator (Please tick the appropriate option)	Not Satisfactory	
		Average	
		Good	
		Satisfactory	
7.0	Service after sales (Please tick the appropriate option)	Not Satisfactory	
		Average	
		Good	
		Satisfactory	
8.0	Other remarks (if any)		
Date:		Signature & Seal of the Authority Issuing the Performance Certificate	

**PART - B: Technical Specification**

**Revision No. 00 -- 01-09-2013**

Note:-

1. The Column "Vendor's offer with Technical details" in this specification shall be filled in by the Vendor and submitted along with the offer. Inadequate / incomplete, ambiguous or unsustainable information against any of the clauses of the specifications / requirements shall be treated as non-compliance.

2. The offer and all documents enclosed with offer should be in English language only.

3. Name & Address of the Supplier:

Name & Address of the Indian agent (if any)

Telephone no.:

Fax no.:

e-mail:

**SCOPE: SUPPLY AND COMMISSIONING OF 30 TON CAPACITY JOB ROTATOR QTY: 02 nos.**

<b>SNO</b>	<b>DESCRIPTION FOR BHEL REQUIREMENT</b>	<b>SPECIFIED / CONFIRMED BY</b>	<b>OFFERED</b>	<b>DEVIATIONS</b>	<b>REMARKS</b>
<b>1</b>	<b>PURPOSE:</b> will be used for sequential & positional welding as well as during assembly / cleaning / painting operations. <b>Qty-2 Nos.</b> The job rotator is also required for the following works: 1. Pipe to Pipe Butt Joint Fit-Up Work & Inspection Clearance 2. Butt Joints 360 Deg. Root Welding by TIG and Base Welding by SMAW for two layers prior to loading to SAW Work Centre 3. Weld Defect Reworks on Circumferential Joints 4. Manual Welding of Circumferential Joints for Pipe Outer Diameter less than 273 mm. 5. Fit-Up Station for fixing the nozzles, stubs, attachments, etc. coming around the pipe periphery and along the pipe axis 6. High Pressure Welding and Dress Up of welded nozzles, stubs, attachments, etc. welded around pipe periphery & along the axis 7. NDT Examination like UT, MPI and LPI	Vendor to Confirm			
<b>2</b>	<b>SPECIFICATION:</b>				

SNO	DESCRIPTION FOR BHEL REQUIREMENT	SPECIFIED / CONFIRMED BY	OFFERED	DEVIATIONS	REMARKS
<b>2.1</b>	<b>Driver Turning Rolls</b>				
2.1.1	Load Capacity ≥ 30 ton	Vendor to confirm			
2.1.2	Concentric Vessel Turning Capacity: ≥ 30 tons	Vendor to specify & confirm			
2.1.3	Job weight 2 tons to 20 tons	Vendor to specify & confirm			
2.1.4	Eccentric loading 30%	Vendor to specify & confirm			
2.1.5	Typical jobs Diameter Range: 200mm to 1250mm	Vendor to specify & confirm			
2.1.6	Job length 4M to 12M	Vendor to specify & confirm			
2.1.7	Speed range (Surface speed) at least variable between: 100 - 1000 mm /min.	Vendor to specify & confirm			
2.1.8	Dynamic Brake and Rapid traverse to be provided.	Vendor to specify & confirm			
2.1.9	Configuration : Offset with Bends, Heavy TEES, Elbows, “Y” Piece, etc.	Vendor to specify & confirm			
2.1.10	Arrangement to avoid screwing of job (linear shifting during rotation)	Vendor to specify & confirm			
2.1.11	General Assembly drawing to be sent along with offer with complete technical specifications.	Vendor to specify & confirm			
2.1.12	The rolls shall be Polyurethane lined	Vendor to specify & confirm			
<b>2.2</b>	<b>Idler Turning Rolls</b>				
2.2.1	Load Capacity ≥ 15 ton	Vendor to confirm			
2.2.2	Typical jobs Diameter Range: same as cl. 2.1.5; length same as cl. 2.1.6	Vendor to specify & confirm			
2.2.3	Speed range: Free-Wheeling	Vendor to specify & confirm			
2.2.4	The rolls shall be Polyurethane lined	Vendor to specify & confirm			
<b>2.3</b>	<b>Wheels for Driver and Idler Turning Rolls</b>				
2.3.1	Material: Material of wheels : Alloy Steel Forging - Material Grade 55C8 (IS 1570 Part 2)	Vendor to confirm			
2.3.2	Material certificate of the wheels is to be submitted to BHEL.	Vendor to confirm			
2.3.3	Material of rolls should be suitable to withstand temperature 100 ° C	Vendor to confirm			
2.3.4	Wheel Diameter to suit job diameters : 200mm to 1250mm	Vendor to specify & confirm			
2.3.5	Wheel Width:	Vendor to specify			



SNO	DESCRIPTION FOR BHEL REQUIREMENT	SPECIFIED / CONFIRMED BY	OFFERED	DEVIATIONS	REMARKS
4.1.7	Inching of rotation	Vendor to confirm			
4.1.8	Emergency Stop Switch	Vendor to confirm			
4.1.9	All switches shall be of make: Siemens / Schneider / Teknic / ABB	Vendor to specify & confirm			
4.2	Dust tight <b>Remote control pendant</b> : The length of cable connecting the main panel shall be at least 8M long. The cable shall be housed in heavy duty metallic conduit with PVC sheath of LAPP make or equivalent. It shall have following controls:	Vendor to specify & confirm			
4.2.1	Start stop switch for Rotation	Vendor to confirm			
4.2.2	Selector Switch for rotation in clockwise and anticlockwise direction.	Vendor to confirm			
4.2.3	Rotational speed control with Speed infinitely variable at least between 150-1000 mm/min.	Vendor to confirm			
4.2.4	Inching of rotation - clockwise/ anti clockwise	Vendor to confirm			
4.2.5	Emergency Stop Switch	Vendor to confirm			
	<b>5 CONSTRUCTION:</b>				
5.1	The driving roller of the rotator block shall be motor operated through gears, worm wheel & worm shaft and bearing arrangement. Chain pulley or belt driven arrangements are not acceptable.	Vendor to specify & confirm			
5.2	Job rotator should be made to suit robust work environment, frequent handling and temperature due to welding of jobs placed on it.	Vendor to specify & confirm			
5.3	Rotator will be used for welding so proper arrangement to be provided to ensure protection of rotator and all its components for welding current leakage to its components.	Vendor to specify & confirm			
5.4	The job rotator to be designed will be normally used on one fixed position however on few occasions it may be required to be shifted, hence, should be suitable for portability. Adequate lifting and clamping arrangement to be provided for the purpose.	Vendor to specify & confirm			
5.5	The turning rolls including all the bearings gears etc to be made suitably to withstand temperature of 100 ° C, which may occur due to welding or preheating for long hrs	Vendor to specify & confirm			

SNO	DESCRIPTION FOR BHEL REQUIREMENT	SPECIFIED / CONFIRMED BY	OFFERED	DEVIATIONS	REMARKS
5.6	Gear box should be of Radicon / Elecon / Shanti Coimbatore / Bonfiglioli / Greaves make.	Vendor to specify & confirm			
5.7	The steel plates used for fabrication of rotator structure shall be min. 20mm thick.	Vendor to specify & confirm			
5.8	Steel plates used for rotator structure shall be min. 20mm thick	Vendor to specify & confirm			
<b>6</b>	<b>ELECTRICAL SYSTEM</b>				
6.1	415V ±10%, 50HZ ±3%, 3 Phase AC (3 wire system with out neutral) Power Supply Source will be provided by BHEL at a single point near the job rotator, as per layout recommended by Vendor. All types of cables, connections, circuit breakers etc. required for connecting BHEL's power supply point to different parts of the job rotator/control cabinets, shall be the responsibility of vendor.	Vendor to confirm			
6.2	All electrical & electronic control cabinets & panels should be dust, heat and vermin proof	Vendor to confirm			
6.3	Motors shall conform to IEC or Indian Standards	Vendor to specify & confirm			
6.4	Vendor should ensure the proper earthing for equipment and its peripherals.	Vendor to confirm			
<b>7</b>	<b>Safety / environmental protection of job rotator to be provided.</b>	<b>Vendor to confirm</b>			
<b>8</b>	<b>LEVELING &amp; ANCHORING SYSTEM</b>				
8.1	Complete anchoring system including foundation bolts, anchoring materials, fixators, levelling shoes etc shall be supplied for the job rotator.	Vendor to confirm			
<b>9</b>	<b>ACCESSORIES:</b>				
<b>9.1</b>	Accessories if any recommended by vendor for better functioning of equipment.	Vendor to specify & confirm			
<b>9.2</b>	Rotating earthing to be provided. (Vendor to give details)	Vendor to specify & confirm			

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<b>10</b>	<b>SPARES:</b>				
10.1	Unit price list for itemised breakup of mechanical, electrical and electronic spares used on the Job Rotator in sufficient quantity as per recommendation of Vendor for 2 years of trouble free operation on three shifts continuous running basis shall be submitted with offer by vendor. (Unit Price of each item of spare should be offered)	Vendor to specify			
10.2	All types of spares for total Job Rotator and accessories should be available for at least ten years after supply, in case the item is discontinued by the vendor then shall inform BHEL sufficiently in advance and provide drawings of parts / details of spares & suppliers to enable BHEL to procure these in advance, if required	Vendor to specify & confirm			
10.3	Recommended set of spares for all attachments are to be offered with details.	Vendor to specify			
10.4	Vendor to confirm that complete list of spares for job rotator and accessories, along with specification / type / model, name & address of the spare supplier shall be furnished along with documentation to be supplied with the job rotator	Vendor to confirm			
10.5	One set of all motors used in the equipment to be quoted seperately as OPTIONAL				
<b>11</b>	<b>DOCUMENTATION : Four sets of following documents (Hard copies) in English language should be supplied along with the job rotator</b>	<b>Vendor to confirm</b>			
11.2	Detailed O & M manual of job rotator with all drawings of job rotator assemblies/sub-assemblies/parts including electrical diagrams. All Assembly/ Sub Assembly Drawings shall be supplied with the part list also	Vendor to confirm			
11.3	Catalogues, O&M Manuals of all bought out items and supplied accessories including drawings, wherever applicable.	Vendor to confirm			
11.4	Complete Master List of parts used in the job rotator shall be submitted by the vendor.	Vendor to confirm			
11.5	One additional set of all the above documentation on CD ROM, wherever possible.	Vendor to confirm			



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14.2.2	Demonstration by actual use of all supplied attachments and accessories to their full capacity.	Vendor to confirm			
14.2.3	On Job prove out and one weeks independent operation of job rotator by BHEL	Vendor to confirm			
14.2.4	Training of BHEL operators / maintenance personnel in operation / maintenance of complete job rotator & accessories etc by the supplier's experts / engineers during their stay at BHEL works	Vendor to confirm			
15	PACKING: Sea worthy packing of complete machine and its tools, accessories, spares etc.	Vendor to confirm			
16	GUARANTEE : <b>24 months</b> from the date of acceptance of the job rotator.	Vendor to confirm			
17	GENERAL : The vendor should submit the following information:				
17.1	Floor area required (Length, Width, Height) for complete job rotator & accessories	Vendor to specify			
17.2	Total weight of the job rotator	Vendor to specify			
17.3	Detailed catalogues , sketch/ photographs of the m/c and accessories/ attachments should be submitted with the offer.	Vendor to specify			
17.4	The rotator shall be painted in polyurethane Apple green paint to shade code RAL 6011	Vendor to confirm			