



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 76 53

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Email : skaruna@bheltry.co.in

Web : www.bhel.com

TWO PART BID

Tender to be submitted in two Parts

Enquiry

Number:

2851300034

Enquiry

Date:

27.11.2013

Due date for submission

of quotation:

31.12.2013

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	50 Ton Mechanized Job Rotator as per the technical specification & commercial conditions applicable (to be downloaded from web site www.bhel.com or http://tenders.gov.in)	01 No.	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) : 40,000/-
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



Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

CAPITAL EQUIPMENT / MATERIALS MANAGEMENT

ENQUIRY	Phone: +91 431 257 76 53 Fax : +91 431 252 00 31 Email : skaruna@bheltry.co.in Web : www.bhel.com
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Yours faithfully,
For **BHARAT HEAVY ELECTRICALS LIMITED**

Engineer / Capital Equipment / MM

50 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 “ 50 Ton capacity Job Rotator ” 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 ONE ‘JOB ROTATOR’ having all the following features:</p> <ol style="list-style-type: none"> 1. Capacity of Job Rotator minimum 50 tons. 2. Eccentric loading capacity upto 30% 3. Job diameter range from 1000mm to 4000mm or more. 4. Variable Speed range: 125-1250 mm/min of surface speed 5. AC vector motor with drive for speed control. <p>EITHER (i) in at least one country other than the country of origin to establish vendor's (OEM's) global business activity OR (ii) in India ; and the referred Job Rotator is 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	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 “ Job Rotator ” 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.	

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 50 Ton or more than 50 Ton Capacity JobRotatorhave been supplied in the past.	
2.2	Specify details of where 50 Ton or more than 50 Ton Capacity JobRotatorsupplied to other units of BHEL, if any (Year of commissioning and other details etc.)	
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 [with PART A & PART 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	Job Rotator Details:		
5.1	Load Capacity		
5.2	Self-aligning type		
5.3	Typical jobs Diameter Range:		
5.4	Type of drive used		
5.5	Variation in speed range (Surface speed)		
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

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 50 TON CAPACITY JOB ROTATOR

SNO	DESCRIPTION FOR BHEL REQUIREMENT	SPECIFIED / CONFIRMED BY	OFFERED	DEVIATIONS	REMARKS
1	PURPOSE: (Operations/Jobs involved): Rotation of cylindrical jobs up to 50 Ton weight for welding purpose at various prespecified RPM. The job rotator to be Self Aligning type . Job rotator to be used for job rotation during welding and to be suitable for heavy fabrication and continuous working. Qty-1 No.	Vendor to Confirm			
2	SPECIFICATION:				
2.1	Driver Turning Rolls				
2.1.1	Load Capacity ≥ 50 ton	Vendor to confirm			
2.1.2	Concentric Vessel Turning Capacity: ≥ 50 tons	Vendor to specify & confirm			
2.1.3	Typical jobs Diameter Range: 1.0M to 4.0M	Vendor to specify & confirm			
2.1.4	Speed range (Surface speed) infinitely variable between: 125 - 1250 mm /min.	Vendor to specify & confirm			
2.1.5	Dynamic Brake and Rapid traverse to be provided.	Vendor to specify & confirm			
2.1.6	Manual arrangement to avoid screwing of job (linear shifting during rotation)	Vendor to specify & confirm			

SNO	DESCRIPTION FOR BHEL REQUIREMENT	SPECIFIED / CONFIRMED BY	OFFERED	DEVIATIONS	REMARKS
2.1.7	General Assembly drawing to be sent along with offer with complete technical specifications.	Vendor to specify & confirm			
2.1.8	Polyurethane lined rolls	Vendor to specify & confirm			
2.2	Idler Turning Rolls				
2.2.1	Load Capacity ≥ 25 ton	Vendor to confirm			
2.2.2	Typical jobs Diameter Range: 1.0M to 4M	Vendor to specify & confirm			
2.2.3	Speed range: Free-Wheeling	Vendor to specify & confirm			
2.2.4	Polyurethane lined rolls	Vendor to specify & confirm			
2.3	Wheels for Driver and Idler Turning Rolls				
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	Vendor to specify & confirm			
2.3.5	Wheel Width:	Vendor to specify & confirm			
2.3.6	Overload discs to be provided.	Vendor to specify & confirm			
2.3.7	Bearing: Sealed type Anti friction / Tapered roller bearing per axle	Vendor to specify & confirm			
2.3.8	Bearing make: SKF / FAG / TIMKEN.	Vendor to specify & confirm			
3	Motors for Rotation / Tilting				
3.1	Type: AC Vector motor	Vendor to specify & confirm			
3.2	Make and Model: Siemens / ABB / Crompton/Bharat Bijlee/Alstom/Kirloskar	Vendor to specify & confirm			
3.3	Capacity and Rating of Motor	Vendor to specify & confirm			
3.4	Controller for Motor: AC Vector drive of Allen Bradley / Siemens / ABB / Schneider / Yashakawa	Vendor to specify & confirm			
3.5	The roller speed should remain constant (neither decrease nor overdrive) in case of eccentric weight of the job. Vendor to specify the details of transmission arrangement.	Vendor to specify & confirm			

SNO	DESCRIPTION FOR BHEL REQUIREMENT	SPECIFIED / CONFIRMED BY	OFFERED	DEVIATIONS	REMARKS
3.6	Design calculation for the selection of rollers, drive motor capacity and gear box selection for the rotation at speed 125-1250 mm/min for operating load 50 Ton with minimum 1.5 times safety factor (i.e. 75 Ton) and maximum diameter 5.0M , is to be furnished along with the offer.	Vendor to specify & confirm			
4	Operation & Control System: All the controls, switchgear and drive of the rotator shall be housed in a compact IP42 grade enclosure of RITTAL make or equivalent. It shall be preferably mounted at a convenient location on the base frame of the rotator. Controls should be 24 V DC.	Vendor to specify & confirm			
4.1	Operational Control at Control Panel	Vendor to specify & confirm			
4.1.1	Safety Disconnect switch	Vendor to specify & confirm			
4.1.2	Power On-Off switch with indication lamp.	Vendor to specify & confirm			
4.1.3	Local / Remote selector switch	Vendor to specify & confirm			
4.1.4	Start stop switch for Rotation	Vendor to specify & confirm			
4.1.5	Selector Switch for rotation in clockwise and anticlockwise direction.	Vendor to specify & confirm			
4.1.6	Rotational speed control with Speed infinitely variable at least between 150 - 1000 mm /min along with speed indicator	Vendor to specify & confirm			
4.1.7	Inching of rotation	Vendor to specify & confirm			
4.1.8	Emergency Stop Switch	Vendor to specify & confirm			
4.1.9	All switches shall be of make: Siemens / Schneider / Teknik / ABB / L&T	Vendor to specify & confirm			
4.2	Dust tight Remote control pendant: 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 specify & confirm			
4.2.2	Selector Switch for rotation in clockwise and anticlockwise direction.	Vendor to specify & confirm			
4.2.3	Rotational speed control with Speed infinitely variable at least between 125-1250 mm/min.	Vendor to specify & confirm			
4.2.4	Inching of rotation - clockwise/ anti clockwise	Vendor to specify & confirm			
4.2.5	Emergency Stop Switch	Vendor to specify & confirm			

SNO	DESCRIPTION FOR BHEL REQUIREMENT	SPECIFIED / CONFIRMED BY	OFFERED	DEVIATIONS	REMARKS
5	CONSTRUCTION:				
5.1	The job rotator shall be self aligning type				
5.2	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			
5.3	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			
5.4	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			
5.5	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			
5.6	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			
5.7	Gear box should be of Radicon / Elecon / Shanti Combatore / Bonfiglioli Chennai / Greaves make.	Vendor to specify & confirm			
5.8	Steel plates used for rotator structure shall be min. 25mm thick	Vendor to specify & confirm			
	6 ELECTRICAL SYSTEM				
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			
7	Safety / environmental protection of job rotator to be provided.	Vendor to confirm			

SNO	DESCRIPTION FOR BHEL REQUIREMENT	SPECIFIED / CONFIRMED BY	OFFERED	DEVIATIONS	REMARKS
8	LEVELLING & ANCHORING SYSTEM				
8.1	Complete anchoring system including foundation bolts, anchoring materials, fixators, levelling shoes etc shall be supplied for the job rotator.	Vendor to confirm			
9	ACCESSORIES:				
9.1	Accessories if any recommended by vendor for better functioning of equipment.	Vendor to specify & confirm			
9.2	Rotating earthing to be provided. (Vendor to give details)	Vendor to specify & confirm			

SNO	DESCRIPTION FOR BHEL REQUIREMENT	SPECIFIED / CONFIRMED BY	OFFERED	DEVIATIONS	REMARKS
10 SPARES:					
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 of the Turn Table. If Turn Table or control is likely to become obsolete in this period, the vendor should 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 separately as OPTIONAL				
11	DOCUMENTATION : Four sets of following documents (Hard copies) in English language should be supplied along with the job rotator	Vendor to confirm			
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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12	ERECTION & COMMISSIONING				
12.1	Supplier to take full responsibility for carrying out the erection, start up, testing of job rotator, it's control system & all types of other supplied equipment.. Service requirement like power, air shall be provided by BHEL at only one point to be indicated by supplier in advance. Other requirements like crane and helping personnel shall be arranged by the vendor. Details of these requirements should be informed by vendor in advance.	Vendor to confirm			
12.2	Successful proving of BHEL components by the supplier shall be considered as part of commissioning. All tests, as mentioned at clause 14 (job rotator Acceptance) shall form part of the commissioning activity.	Vendor to confirm			
12.3	Tools, instruments and other necessary equipment required to carry out all above activities should be brought by the supplier.	Vendor to confirm			
12.4	Charges, duration, terms & conditions for E&C should be furnished in detail separately by vendor along with offer.	Vendor to confirm			
13	AMBIENT CONDITIONS & THERMAL STABILITY :				
13.1	Total job rotator including all system and all supplied items should continuously work trouble free and efficiently under following operating conditions and should give specified accuracies. Ambient Conditions: Temperature = 5 to 50 degree Celsius Relative Humidity = 95% max.	Vendor to confirm			
14	JOB ROTATOR ACCEPTANCE: (Tests/Activities To be Performed by Vendor)				
14.1	Tests/Activities shall be carried out at supplier's works on the job rotator before dispatch :	Vendor to accept & confirm			
14.1.1	The job rotator shall be tested for continuous running for 8 hrs at various speeds.	Vendor to accept & confirm			
14.1.2	Demonstration of all operational features of the job rotator, and all accessories.	Vendor to accept & confirm			
14.2	Test to be carried out at BHEL works while commissioning the job rotator	Vendor to confirm			
14.2.1	Demonstration of all features of the job rotator & all accessories to the satisfaction of BHEL.	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 : 24 months from the date of acceptance of the job rotator at BHEL.	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	List of Job rotators supplied so far to various customers with machine details.	Vendor to specify			
17.4	Detailed catalogues , sketch/ photographs of the m/c and accessories/ attachments should be submitted with the offer.	Vendor to specify			
17.5	Rotator shall be painted in polyurethane apple green to shade no RAL 6011	vendor to confirm			