

BHARAT HEAVY PLATE & VESSELS LIMITED.,  
(A Subsidiary Bharat Heavy Electricals Limited)  
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**NOTICE INVITING TENDER( NIT)**

**Category of Tender: TWO BID  
(PRICED + UN - PRICED)**

**SUB: Design, Manufacture, Supply, Testing and  
Commissioning of 20 Ton Gantry Crane**

Our Ref: **MM/2/10/3155/CAP/W-106/5110**

**DATE: 10.08.2012**

Sealed quotations in duplicate are invited from suppliers on **or before 18.09.2012** **SUPERSCRIBING OUR REFERENCE AND CATEGORY OF TENDER** on the cover, for supply of the under mentioned stores within the above due date, otherwise send **REGRET LETTER**, strictly subject to the Terms & Conditions attached herewith.  
**LATE TENDERS ARE NOT ACCEPTABLE.**

ITEM No.	DESCRIPTION / SPECN. / SIZE	QTY
1.	Design, Manufacture, Supply, Testing and Commissioning of 20 Ton Gantry Crane	1 No 's
	<div>Encl:</div> <div><div><div>1. Qualifying Criteria PART A</div><div>2. Technical Specifications PART B</div><div>3. ANNEXURE 1</div><div>4. ANNEXURE 2</div><div>5. General Terms/ commercial terms and conditions (INCLUDING CHECK LIST)</div></div><div><div>.....</div><div>.....</div><div>.....</div><div>.....</div><div>.....</div></div><div><div>4 pages</div><div>11 Pages</div><div>1 page</div><div>3 pages</div><div>9 pages</div></div></div>	

**For BHARAT HEAVY PLATE & VESSELS LIMITED,**

**For Dy. GENERAL MANAGER (MM)**

**SECTION-I: -QUALIFYING CRITERIA**

**The BIDDER/VENDOR (OEM) has to compulsorily meet the following requirements to get qualified for consideration of the technical offer for the SUPPLY OF GANTRY CRANE**

<b>S. No.</b>	<b>PARTICULARS</b>	<b>VENDOR'S RESPONSE</b>
<b>1.0</b>	<p>Only those Bidder/vendor (OEM), who have supplied and commissioned at least <b>One</b> 20 Ton capacity Gantry crane class-3 with minimum span of 25 Mtrs or higher and should have supplied frequency converter drive for similar capacity crane in the past five years and such crane 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 crane has been supplied to BHPV / BHEL, then it should be presently working satisfactorily for more than six months after its commissioning and acceptance (on the date of opening of Tender) in BHPV.</p> <p>Performance certificate from the customers (minimum 1) regarding satisfactory performance of machine supplied to them in attached format should be enclosed along with technical offer.</p>	
<b>2.0</b>	BHPV reserves the right to verify the information provided by vendor (including visit by a team of BHPV Officials to the Customer Works of the Vendor). In case the information provided by vendor is found to be false/ incorrect, the offer shall be rejected.	
<b>3.0</b>	The bidding FIRM should have 'in-house' or 'self-owned' facility for FABRICATION and TESTING at 125 % of the rated capacity	
<b>4.0</b>	The vendor should have minimum 10 years experience in design, fabrication and supply of Gantry cranes of this capacity or more capacity.	
<b>5.0</b>	<p><b>DELIVERY</b> - The bidder shall quote the best possible delivery. However the delivery shall not exceed 9 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. The delivery period shall be reckoned from date of purchase order to dispatch from the vendor works.</p>	

**SECTION – II**

The vendors are requested to provide the following details

<b>S. No.</b>	<b>PARTICULARS</b>	<b>VENDOR'S RESPONSE</b>
<b>6.0</b>	Number of Years of Experience of the BIDDER/ VENDOR (OEM) in the field of design, manufacture, supply, erection & commissioning of cranes	
<b>7.0</b>	Number of cranes supplied, installed and commissioned till date	
<b>8.0</b>	Number of cranes supplied, installed and commissioned till date in the QUOTED MODEL	
<b>9.0</b>	Number of cranes supplied, installed and commissioned till date for the following category of CUSTOMERS a) Power Utility Boiler Manufacturer b) Equipment Supplier for Process Industries [Heavy Engineering Companies] c) Research Establishments	
<b>10.0</b>	Details on SERVICE-AFTER-SALES Set-Up in India including the Addresses of Agents / Service Centers in India. [Details on the number of trained personnel with field of experience to handle the service needs of BHPV in time]	
<b>11.0</b>	Any Additional Data to supplement the manufacturing capability of the BIDDER for the subject equipment.	

**SECTION – III**

Bidder / Vendor (OEM) to note the following

<b>S.No.</b>	<b>REQUIREMENTS</b>	<b>VENDOR'S RESPONSE</b>
<b>12.0</b>	The BIDDER / VENDOR shall submit the offer in TWO PARTS - Technical [ <b>with PART A &amp; PART B</b> ] & Commercial and Price Bid.	
<b>13.0</b>	The Offer shall contain a comparative statement of Technical Specifications given by BHPV and the Offer Details submitted by the Bidder, against each clause. Where details are required, a mere 'CONFIRMED' or 'COMPLIES' or 'YES' or 'NO-DEVIATION' or similar words in the technical comparative statement may lead to disqualification of the Technical Offer.	
<b>14.0</b>	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	
<b>15.0</b>	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	
<b>16.0</b>	BIDDER has to indicate the Country of Origin for the supply of equipment.	

**PERFORMANCE CERTIFICATE**

(On Customer's Letter Head)

1. Supplier of the Equipment :
2. Make & Model of the Equipment :
3. Month & Year of Commissioning :
4. Application :
5. a) Crane Type: :  
b) Crane Capacity (Metric Tons) :  
c) Crane span :  
d) Mechanism class :
6. Performance of the Equipment : Satisfactory / Not Satisfactory  
(Strike of whichever is not applicable)
7. Any other remarks:
8. Contact Details :  
Name of the Contact Person :  
Phone No. :  
Fax No. :  
E-mail ID :

Date:

Signature & Seal of the Authority  
Issuing the Performance Certificate

**PART B.**

**TECHNICAL SPECIFICATIONS FOR 20T GANTRY CRANE WITH DOUBLE GIRDERS**

<b>S.No.</b>	<b>PARTICULARS</b>	<b>BHPV SPECIFICATIONS</b>	<b>VENDOR's OFFER</b>
<b>1.0.0</b>	<b>APPLICATION</b>	a. The crane is meant for the purpose of handling small to large(within the lifting capacity of the crane) components, bundles of steel sections and sheets & plates [13 Mtr.long] etc., in a large steel storage yard. b. The crane will be put to use for continuous duty with CT, LT and Hoist movements, which may occur simultaneously (within the operating parameters specified under Clause Nos. – 3.1.0, 3.4.0 and 3.5.0). c. The storage yard environment will be open outdoor area and ambient temperature going up to 50 ° C.	
<b>2.0.0</b>	<b>SCOPE OF SUPPLY</b>	a. Design as per Tender Specifications b. Detailed Design, Manufacture, Assembly and Testing before dispatch c. Supply in Modules / Sub-Assemblies d. Commissioning and Performance Prove-Out at BHPV Works e. Performance Guarantee for 12 months, from the date of commissioning.	
<b>3.0.0</b>	<b>TECHNICAL SPECIFICATIONS</b>		
<b>3.1.0</b>	<b>CAPACITY</b>	Lifting Capacity	
<b>3.1.1</b>	Main Hoist	20 Metric Tons	
<b>3.1.2</b>	Auxiliary Hoist	10 Metric Tons	
<b>3.2.0</b>	SPAN	Wheel Centre to Wheel Centre Dimensions to suit existing track.	
<b>3.2.1</b>	Length of track	The proposed crane to be installed on existing rails (250000m length approx).	
<b>3.2.2</b>	Cross Travel (CT)	Maximum possible.	Vendor to specify
<b>3.3.0</b>	Height of Lift	9,000 mm [Height of Lift for both the HOISTS]	
<b>3.3.1</b>	Details of existing track on which proposed crane is to be run	a) Centre to centre of track: 40.15 mtrs approx. (However exact dimension shall be indicated at the time of placement of clear P.O.) b) Rail size : As per ISCR60 of IS 3443 – 1980, Table 2 clause 8.1	Vendor to note

# **TECHNICAL SPECIFICATION FOR GANTRY CRANE 20 T (40 M SPAN) PART B**

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S.No.	PARTICULARS	BHPV SPECIFICATIONS	VENDOR's OFFER
<b>3.4.0</b>	<b>DUTY CYCLE</b>	Related to Drive Motor & Mechanisms	
<b>3.4.1</b>	Hoists	40 % CDF (Cyclic duration factor).	
<b>3.4.2</b>	Long Travel	40 % CDF (Cyclic duration factor).	
<b>3.4.1</b>	Cross Travel	40 % CDF (Cyclic duration factor).	
<b>3.5.0</b>	<b>SPEED</b>	Operating / Working Speed [Maximum]	
<b>3.5.1</b>	Main Hoist	7.5 mtrs. / minute.	
<b>3.5.2</b>	Auxiliary Hoist	15.0 mtrs. / minute.	
<b>3.5.3</b>	Cross Travel (CT)	30.0 mtrs. / minute.	
<b>3.5.4</b>	Long Travel (LT)	60.0 mtrs. / minute.	
<b>3.6.0</b>	<b>MOTOR RATINGS</b>	Electric Motor Ratings & Frame Sizes shall be as per IS-325 and IS-1231 and also suitable for 300 starts per hour. Motor shall be of crane duty & shall be suitable for outdoor installation and with VVVF drive control.	
<b>3.6.1</b>	Main Hoist	Motor ratings shall be specified by vendor and shall submit motor sizing calculations.	Vendor to specify
<b>3.6.2</b>	Auxiliary Hoist		Vendor to specify
<b>3.6.3</b>	Cross Travel (CT)		Vendor to specify
<b>3.6.4</b>	Long Travel (LT)		Vendor to specify
<b>3.7.0</b>	<b>GEAR BOX</b>	Gear Box Size	
<b>3.7.1</b>	Main Hoist	Vendor to choose gear box as per requirement & shall submit the calculations.	Vendor to specify
<b>3.7.2</b>	Auxiliary Hoist		Vendor to specify
<b>3.7.3</b>	Cross Travel (CT)		Vendor to specify
<b>3.7.4</b>	Long Travel (LT)		Vendor to specify
<b>3.8.0</b>	<b>ACCELERATION</b>		
<b>3.8.1</b>	Cross Travel (CT)	300 mm / sec.sq.	
<b>3.8.2</b>	Long Travel (LT)	300 mm / sec. sq.	

# **TECHNICAL SPECIFICATION FOR GANTRY CRANE 20 T (40 M SPAN) PART B**

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S.No.	PARTICULARS	BHPV SPECIFICATIONS	VENDOR's OFFER
<b>3.9.0</b>	<b>HOIST ROPE DETAILS</b>	Size and Number of Falls of Rope	
<b>3.9.1</b>	Main Hoist	Falls – 8; Dia – Vendor to specify	
<b>3.9.2</b>	Auxiliary Hoist	Falls – 4; Dia – Vendor to specify	
<b>3.10.0</b>	<b>CONTROL</b>	Cabin Operation and Remote Control	
<b>3.11.0</b>	Type of Control	Master Control and Radio Remote Control	
<b>3.12.0</b>	Control Voltage	110 V AC	
<b>3.13.0</b>	Input Power Supply	415 V with $\pm 10\%$ , 50HZ with $\pm 3\%$ , 3 Phase- AC	
<b>3.14.0</b>	Duty Class	<b>Class – 3 [Outdoor Service]</b>	
<b>3.15.0</b>	Mechanism Group Classification	<b>M 6</b>	
<b>3.16.0</b>	DESIGN STANDARD	IS – 807 & 3177 / 2006	
<b>3.17.0</b>	<b>Runway Rail Size</b>		
<b>3.17.1</b>	Cross Travel (CT)	Vendor to specify	
<b>3.17.2</b>	Long Travel (LT)	Gantry will run on existing rails (Centre to centre of track: 40.15 mtrs approx )	Vendor to note
<b>3.18.0</b>	<b>Wheel Size</b>		
<b>3.18.1</b>	Cross Travel (CT)	Diameter	Vendor to specify
<b>3.18.2</b>	Long Travel (LT)	8 Nos. wheels	Vendor to specify dia.
<b>3.19.0</b>	<b>Brake Drum Size</b>	Hoist Brake Drum Sizes	
<b>3.19.1</b>	Main Hoist	Vendor to specify	
<b>3.19.2</b>	Auxiliary Hoist	Vendor to specify	
<b>3.19.3</b>	Cross Travel (CT)	Vendor to specify	
<b>3.19.4</b>	Long Travel (LT)	Vendor to specify	
<b>3.19.5</b>	Parking brake	Vendor to specify	
<b>4.0.0</b>	<b>MAIN FEATURES</b>	Crane Operational Features	
<b>4.1.0</b>	Control System	Conventional master control for all motions	
<b>4.2.0</b>	Remote Control	Radio Remote Control for all motions	



# **TECHNICAL SPECIFICATION FOR GANTRY CRANE 20 T (40 M SPAN) PART B**

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S.No.	PARTICULARS	BHPV SPECIFICATIONS	VENDOR's OFFER
4.3.0	Crane Operation	Through Cabin Control and Radio Remote Control with option for control selection	
4.4.0	Operator Cabin	Totally enclosed outdoor type cabin located on one end of the crane	
5.0.0	<b>STRUCTURAL FABRICATION</b>	Crane Structure Constructional Details( Construction shall be similar to the existing crane)	
5.1.0	Bridge / Leg/ End Carriage/ Bogie	PLATE FORMED Box type Construction (Refer photographs of existing crane at <b>Annx.- II</b> )	
5.2.0	Raw Material	IS: 2062 Only steel plates, tested and certified for quality by reputed inspection authorities, shall be used. Test Certificates to be produced for BHPV verification and form part of the documentation.	
5.3.0	Welded Joints	To be followed for Bridge/leg Fabrication	
5.3.1	Number of Joints allowed	For Span upto 23 mtrs. - Two joints. For Span 23 mtrs. to 40 mtrs. - Three joints	
5.3.2	Corrosion allowance	Cranes working in outdoors are in corrosive condition and a corrosion allowance of 2mm shall be added to the thickness of the members required to resist all calculable stresses and the minimum thickness of the member shall be not less than 10mm.	
5.3.3	Welding Electrodes	For all Horizontal Welding E 7018 /ER70S-6 (MIG) Electrode only should be used. For all Vertical Welding E 7048 / ER70S-6 (MIG) Electrode only should be used.	
5.3.4	Welded Joint Testing	All Butt Welded Joints (both compression / tension and flanges / web joints) shall be subjected to 100% X-Ray Testing and X-Ray Films to be produced for BHPV verification and form part of the Documentation.	
5.4.0	Splice Joints	NO SPLICE JOINT IS ALLOWED IN GIRDER FABRICATION [Girder has to be of SINGLE PIECE only].	
5.5.0	Leg connection	Leg to bridge connection shall be designed for shear at one end and side shall be of pin connection.	
5.6.0	Platform on Girders	The Platforms provided on both the Girders shall be fixed through BOLTED JOINTS using fit bolt only.	

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S.No.	PARTICULARS	BHPV SPECIFICATIONS	VENDOR'S OFFER
5.7.0	Wheel Assembly	The Wheel Assembly coming for Cross Travel (CT) & Long Travel (LT) shall be of LIVE AXLE SYSTEM with L-Type Bearings. [Refer to BHPV Drawing No. <b>3-M-02R-0011993</b> . Drawing is enclosed and given as <b>ANNEXURE -1</b> ].	
5.8.0	Heat Treatment & NDT Examination	The Trolley shall be Stress Relieved if required after welding and NDT examinations. All welding shall be tested by NDT means [MPI, LPI & RT].	
5.9.0	Machining Operation	All mechanical mating surfaces and wheel seating areas are to be machined to the required finish and protected	
5.10.0	Surface Cleaning	Both the Girders, legs, end-carriages and the Trolley are to be thoroughly cleaned after completion of all operations but prior to painting.	
5.11.0	Painting	The crane parts are to be painted as follows : a. One coat of Primer with 25 microns of DFT (Dry Film Thickness) and 48 hours of compulsory curing after painting. b. Two coats of Epoxy Paint (Colour – Golden yellow) each with a DFT of 25 microns and intermittent curing of minimum 16 hours.	
6.0.0	<b>MECHANICAL ELEMENTS</b>		
6.1.0	Gears	Gears in all the Stages shall be helical in design and to be of machined, lapped/ground and hardened.	
6.2.0	Gear Box Casing	Shall be of fabricated type and stress relived by thermal heat-treatment process, prior to machining.	
6.3.0	Gear & thruster oil	Required grade oil should be supplied	
6.4.0	Rope Drum	Shall be of fabricated type and stress relieved. The circumferential weld joints shall be tested by 100 % X-Ray for quality assurance. Or seamless pipe to suit the requirement	
6.5.0	Type of Coupling	Only GEARED COUPLING to be used a. between Electric Motor and Gear Box b. between Gear Box and Rope Drum c. between Gear Box and Trolley Wheels	
6.6.0	Wheels	The Wheels shall be of Forged and Wheel Tread hardened to 300/350 BHN. Wheels shall be fitted with L-Type Bearings	

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S.No.	PARTICULARS	BHPV SPECIFICATIONS	VENDOR's OFFER
6.7.0	Mechanical Joints	Fit Bolts as per IS 3640-1982 for all joints coming in main members and platform with reamed holes	
6.8.0	Pulley Dimension	Rope Pulley diameter shall be 23 times that of Rope diameter	
6.9.0	Hook	"C – type" Hook latch shall be provided for both hooks	
6.10.0	Wind Clamp	Wind clamp shall be provided in all four corners	
6.11.0	Roof Covering	Single Roof cover shall be provided for trolley and long travel mechanisms	
6.12.0	Buffer	Spring loaded buffer shall be provided for Crab and bogies	
6.13.0	Tools	Tools of TAPARIA or equivalent make shall be supplied along with each crane	
6.13.1	List of Tools	<ol style="list-style-type: none"> <li>1. Double end spanner - one set</li> <li>2. Ring spanner - one set</li> <li>3. Hammer 2lbs - one no</li> <li>4. Screw driver - one set</li> <li>5. Screw spanner - one set</li> <li>6. Cutting pliers - one set</li> <li>7. line tester - one no</li> <li>8. Grease gun - one no</li> </ol>	
7.0.0	<b>ELECTRICAL ELEMENTS</b>		
7.1.0	Operational Controls	<p>The Crane shall be provided with the following controls :</p> <ol style="list-style-type: none"> <li>a. Cabin Control [Master Control]</li> <li>b. Radio Remote Control</li> </ol> <p>[Two step Push Button type]</p>	
7.2.0	Control Voltage	110 V AC	
7.3.0	Type of Brakes	<ol style="list-style-type: none"> <li>a. Main Hoist - DC Brake</li> <li>b. Auxiliary Hoist - DC Brake</li> <li>c. Cross Travel - Thruster Brake</li> <li>d. Long Travel - Thruster Brake</li> <li>e. Parking brake - DC brake</li> </ol>	Vendor to specify

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S.No.	PARTICULARS	BHPV SPECIFICATIONS	VENDOR's OFFER
<b>7.4.0</b>	Protection	All Panels, Limit-Switches and Motors shall have IP 54 protection. (Outdoor Service)	
<b>7.5.0</b>	Electric Contactors	All Panels shall have only SIEMENS Contactors and shall be suitable for AC3 Duty Class.	
<b>7.6.0</b>	Contactors Rating	The rating of all Contactors shall be at least 50% higher than the respective electric motor full load current, at the specified duty cycle.	
<b>7.7.0</b>	Resistance	Stainless steel punched grid resistance of continuous rating if necessary.	
<b>7.8.0</b>	Long Travel Motion	A Four corner Drive Mechanism shall be provided for Long Travel Motion of synchronous speed.	
<b>7.9.0</b>	Illumination	a. 4 nos. of 250 Watts HPSV Lamps shall be provided in bridge connecting member and shall be suitable for outdoor installation (weather proof). b. All Electric Panels shall be provided with suitable illumination (door switch type) for visibility and trouble shooting.	
<b>7.10.0</b>	Controller Steps	4-Step 40amps master Controller with two neutral inter lock has to be provided for a. Main Hoist b. Auxiliary Hoist c. Long Travel d. Cross Travel	
<b>7.11.0</b>	Load Cell for Main Hoist	a. Load Weighing System with LOAD CELL to be fixed / provided at the equalizer pulley. b. The display shall be of 100 mm size (JUMBO)	
<b>7.12.0</b>	Crab Wiring	The CRAB shall be fully wired without junction box.	
<b>7.13.0</b>	Hoist Limit	Each hoist shall be provided with both rotary and counter weight limits.	
<b>7.14.0</b>	Cabin	Electric Light, Fan, Warning Bell and Emergency Stop Push Button shall be provided in the Operator Cabin	
<b>7.15.0</b>	Limit Switches	Location of limit switches, type of limit switches & make of limit switches.	Vendor to specify
<b>7.16.0</b>	Remote buttons	Push buttons to be provided. List to be submitted.	Vendor to specify
<b>8.0.0</b>	<b>SELECTION of BOI and COMPONENTS</b>	The makes of Components or Bought-Out-Items shall be strictly as per the list given below.	

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S.No.	PARTICULARS	BHPV SPECIFICATIONS	VENDOR's OFFER
8.1.0	Hoist Hooks	HERMAN MOHTTA / HERCULES / SILPA UDYOG / SMRITI FORGINGS / KARACHIWALA	
8.2.0	Wire Rope	USHA MARTIN / FORT WILLIAM / RA WIRE ROPE/BHARAT WIRE ROPES	
8.3.0	Electric Motors	GEC / BHARAT BIJLEE / SIEMENS / KEC/ ALSTHOM	
8.4.0	DC Brake Unit	Only BCH make	
8.5.0	Radio Remote Control	Tele crane make(F24-10D) Ittowa make (winner)	
8.6.0	Thruster Brake Unit	ELECTROMAG / SPEED-O-CONTROL / OMEGA	
8.7.0	Limit Switch (Gravity Type)	SIEMENS / INDUSTRIAL SYNDICATE / BCH / SKC / SOC	
8.8.0	Contactors	SIEMENS	
8.9.0	Over-Load-Relay	SIEMENS / L&T (THERMAL TYPE)	
8.10.0	HRC Fuses	GE / L&T /SIEMENS	
8.11.0	Rotary limit switch	SIEMENS / OMEGA / SOC / INDUSTRIAL SYNDICATE	
8.12.0	Switch fuse unit	L&T / SIEMENS / GEC	
8.13.0	Moulded case CB	SIEMENS / L&T	
8.14.0	Pneumatic Time Delay	Only BCH make	
8.15.0	Push – Buttons	SIEMENS / L&T /AIRON	
8.16.0	Connectors	ELMAX	
8.17.0	Couplings	WMI / FENNER / ALFEX/REPUTED	
8.18.0	Bearings	SKF / NBC / ZKL	
8.19.0	Cables	Makes	
8.20.0	Bridge Light Fittings	PHILIPS / GE / CROMPTON	
8.21.0	Load Cell	IPA make	
8.22.0	Resistance box	OHMARK / BCH	
8.23.0	VVVFD	ABB/SIEMENS/ROCKWELL	
9.0.0	<b>DOCUMENTS/DET AILS for APPROVAL</b>	The following documents and details are to be submitted for BHPV Approval, prior to taking up the manufacture of the crane.	

# **TECHNICAL SPECIFICATION FOR GANTRY CRANE 20 T (40 M SPAN) PART B**

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S.No.	PARTICULARS	BHPV SPECIFICATIONS	VENDOR's OFFER
9.1.0	Drawings and Documents	<p><b>Set I:</b></p> <ul style="list-style-type: none"> <li>a. Calculations for Selection of Electric Motors, Gear Reducers, Brakes, Couplings, etc.</li> <li>b. Calculations for Bridge Girder, Legs, Crab, End - Carriage and their connections.</li> <li>c. GA Drawing of the Crane.</li> <li>d. GA Drawing of Trolley</li> <li>e. GA Drawing of Individual Mechanisms.</li> </ul> <p><b>Set II:</b></p> <ul style="list-style-type: none"> <li>a. Drawings of Bridge, Legs, End-Carriage bogies and their connection.</li> <li>b. Sub-Assembly Drawing for Wheels, Hook Blocks, Gear Boxes, Hoist rope drums and all brake Drums.</li> <li>c. Wiring Diagram with Logic Circuits.</li> <li>d. Cable Selection based on Current Rating.</li> </ul> <p>Initially Set I drawings to be submitted in one lot and approval to be obtained from BHPV. Based on this, set II drawings to be submitted for approval.</p>	
9.2.0	Technical Details	<ul style="list-style-type: none"> <li>a. Total Weight of the Crane including all Electrical Equipment</li> <li>b. Total Weight of Trolley including all Electrical Equipment</li> <li>c. Weight of each Bridge assembled and ready for erection with and without Mechanical and Electrical Equipment.</li> <li>d. Weight of End-carriage assembled and ready for erection</li> <li>e. Total Weight of Structural, Mechanical and electrical Equipment and indicated separately also.</li> <li>f. Weight of Operator's Cabin together with all Equipment mounted in it.</li> </ul>	
10.0.0	<b>INSPECTION</b>	The following Schedule of Stage Inspections is to be strictly adhered to, prior to dispatch from the Supplier's Works	

# **TECHNICAL SPECIFICATION FOR GANTRY CRANE 20 T (40 M SPAN) PART B**

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S.No.	PARTICULARS	BHPV SPECIFICATIONS	VENDOR's OFFER
10.1.0	STAGE – I	<ul style="list-style-type: none"> <li>a. Verification of Test Certificate for Raw Materials used for Girders, legs, End-Carriages, Trolley, Gear Box Casings,etc.</li> <li>b. Verification of X-Ray Report of Butt- Joints coming in the Girders and Random Testing on the Welds, by physical examination.</li> <li>c. Box Girder setting before closing of the Bottom Flanges – for inspecting the quality of welding and presence of waviness</li> <li>d. Trolley Frame Fabrication before setting the Mechanisms</li> <li>e. End–Carriage Fabrication before closing of the Bottom Flanges</li> </ul>	
10.2.0	STAGE – II [Final Inspection] At BHPV	<ul style="list-style-type: none"> <li>a. Inspection of Bridges, legs, End–Carriages and platform fabrication.</li> <li>b. Verification of Span &amp; Diagonal Dimensions, Checking of Wheel Alignment, Mechanical Assemblies and Total Alignment.</li> <li>c. Free running of all the Mechanisms.</li> <li>d. Measurement of CAMBER in the Bridges.</li> <li>e. Full / Rated Load Test for bridges and trolley and Deflection Test</li> <li>f. Deflection and Permanent Set Measurement.</li> <li>g. 25% OVER-LOAD Lifting Ability Check.</li> </ul>	
11.0.0	<b>CRANE ERECTION &amp; COMMISSIONING</b>		
11.1.0	Mechanical Erection	Erection of the Crane will be done by Vendor, <b>as per the guidelines furnished in the Erection Manual given by the supplier.</b>	Vendor to confirm
11.2.0	Crane Commissioning	Commissioning of the Crane and Performance Prove –Out for 125% of Crane's Capacity and Smooth Functioning of the Crane (at BHPV Works) shall be the RESPONSIBILITY of the supplier.	
12.0.0	O & M MANUALS	Each Crane shall be provided with THREE Copies of Erection, Operation & Maintenance Manual hard copy as well as soft copy in CD, containing the following technical details	

# **TECHNICAL SPECIFICATION FOR GANTRY CRANE 20 T (40 M SPAN) PART B**

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S.No.	PARTICULARS	BHPV SPECIFICATIONS	VENDOR's OFFER
<b>12.1.0</b>	Drawings & Details	<ul style="list-style-type: none"> <li>a. Crane GA Drawing</li> <li>b. Crab Assembly Drawing</li> <li>c. Total Crane Wiring Schematics</li> <li>d. Detailed Wiring Diagrams for Sub-Systems / Panels</li> <li>e. Wheel Assembly Drawings</li> <li>f. Bottom Block Assembly Drawing</li> <li>g. Gear Box Assembly Drawings</li> <li>h. Coupling Drawing and Details</li> <li>i. Specifications/Ratings of All Bought-Out-Items</li> <li>j. Warranty / Guarantee Card for all Bought-Out-Items</li> <li>k. Trouble Shooting Chart for Main and all Sub-Systems</li> </ul>	
<b>13.0.0</b>	PERFORMANCE GUARANTEE	The Performance of the Total Crane and / or the Components / Sub-Assemblies / Bought-Out-Items shall be guaranteed for a minimum period of twelve months from the date of performance acceptance at BHPV Works or 18 months from the date of completion of supply whichever is earlier.	
<b>14.0.0</b>	Price Format	Vendor to quote his offered price as indicated below in Price bid: <ul style="list-style-type: none"> <li>1. Design, Fabrication &amp; Supply</li> <li>2. Erection, Testing &amp; Commissioning &amp;</li> <li>3. 2 Years operational Spares</li> </ul>	

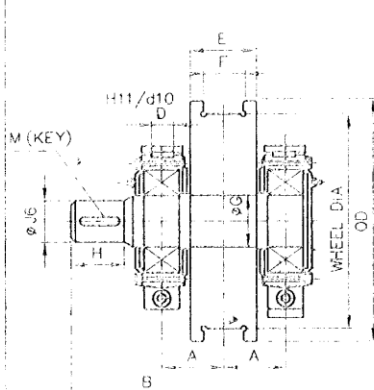


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TRIPURBARI - 680 014

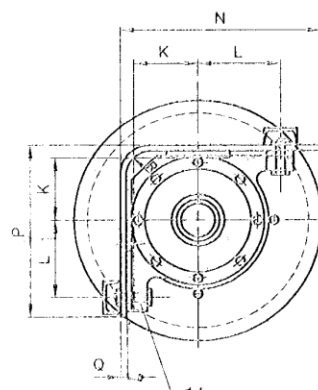
ALL DIMENSIONS ARE IN MM

SL. No.	W.D. (WHEEL DIA) IN MM	RAIL SIZE	A	B	D	E	F	ØG	H	ØJ	K	L	Ød	M (KEY)	N	P	Q	S	R	COUPLING No.	SKF BRG No. & BRG. SIZE	TOTAL WEIGHT IN Kg. FOR DRIVE & IDLE
16	800/850	CR-100 CR-120	190	450	80	210	150	152	140	130	212	255	32	32x18x130	687	588	20	150	80	107	22330 150x320x108	870.00 845.00
15		CR-80	168	420	80	180	110	152	125	110	212	255	32	28x16x115	687	588	20	150	80	106	22330 150x320x108	796.00 775.00
14		CR-100 CR-120	190	450	80	210	150	152	140	130	212	255	32	32x18x130	642	588	20	150	80	107	22330 150x320x108	808.00 784.00
13	710/750	CR-100 CR-120	180	420	71	210	150	132	125	110	180	224	32	28x16x115	607	517	20	130	80	106	22326 130x280x93	728.50 711.50
12		CR-80	180	400	71	180	110	132	125	110	180	224	32	28x16x115	607	517	20	130	80	106	22326 130x280x93	653.00 636.00
11	630/680	CR-80/CR-100 & CR-120	180	420	71	210	150	132	125	110	180	224	32	28x16x115	567	517	20	130	80	106	22326 130x280x93	629.00 611.50
10		90-105 Lbs/Yd CR-80	150	365	60	180	105	111	110	90	160	190	26	25x14x100	547	462	20	120	60	105	22322 110x240x80	448.00 434.50
9		CR-80 CR-100	160	375	60	180	125	111	110	90	160	190	26	22x14x100	482	462	20	120	60	105	22322 110x240x80	253.00 245.50
8	500/550	CR-80	150	360	50	180	125	91	105	80	125	160	26	22x14x90	445	395	20	100	50	104	22318 90x190x64	389.00 378.00
7		60/75/90 & 105 Lbs/Yd	150	360	50	180	105	91	105	80	125	160	26	22x14x90	445	395	20	100	50	104	22318 90x190x64	301.00 294.00
6	400/450	CR-80 CR-100	150	360	50	180	125	91	105	80	125	160	26	22x14x90	395	395	20	100	50	104	22318 90x190x64	253.00 245.50
5		90 Lbs/Yd 105 Lbs/Yd	145	315	40	180	105	76	85	70	112	140	22	20x12x75	375	345	16	90	50	103	22315 75x160x55	197.00 192.00
4	320/370	75 / 90 & 105 Lbs/Yd CR-80	145	315	40	180	105	76	85	70	112	140	22	20x12x75	345	345	16	90	50	103	22315 75x160x55	182.00 157.00
3		50 SO.BAR 60 Lbs/Yd 75 Lbs/Yd	112.5	260	40	125	85	61	65	55	85	112	17	16x10x55	312	287	16	80	50	102	22312 60x130x46	118.50 113.00
2	250/280	50 SO.BAR 40 / 90 & 105 Lbs/Yd	105	250	32	125	85	61	65	55	76	100	17	16x10x55	254	249	12	60	40	102	22212 60x110x28	68.00 63.00
1	200/230	50 Lbs/Yd 50 SO.BAR 80 Lbs/Yd	95	220	32	100	67	46	55	40	71	95	17	12x8x45	239	232	12	65	40	101	22309 45x100x36	51.00 50.00

DIMENSIONS



DRIVING WHEEL ASSY



IDLE WHEEL ASSY

MATERIAL:- SHAFT - 45CB/IS:3283.  
WHEEL - 55CB/IS:5515.  
FORGED.  
TREAD PORTION WHEEL HARDNESS 500 TO 550 (BHN)

No. of Pieces	DESCRIPTION	MATERIAL	STANDARD	NET WT. IN KGS.	DRAWING No.	ITEM No.
REFERENCE	COMPONENT CODE: 29	EQUIPMENT CODE: 00	ALTERATIONS	DCN. REF	DATE	SIGN.
SCALE	DRAWN	CHECKED	APPROVED	DATE		
				20-10-2000		
MACHINE: CRANE WHEEL ASSY				TYPE: GENERAL		
TITLE: STANDARD CRANE WHEEL ASSY				DRAWING No. 3-M-02R-11993		
Sheet No.				Sheet No.		









**COMMERCIAL TERMS AND CONDITIONS FOR SUBMISSION OF OFFER****1.0 QUOTATIONS**

Bidders shall submit the offer in TWO INNER ENVELOPES as indicated below which shall be sealed in one outer envelope.

**Envelope I:** This sealed envelope should contain all the copies of technical bid together with un-priced commercial bid. This envelope should be clearly marked “**Part I – Technical and Un-priced commercial bid**” Indicating Tender No., Due Date and Address & Reference of the Bidder.

**Envelope II:** This sealed envelope should contain price details this envelope should be clearly marked “**Part II - Price bid**” indicating Tender No., Due Date and Address & Reference of the Bidder.

Both the envelopes (Part I & II) shall be put in one cover, duly sealed, super scribing as Part I and Part II of Tender No., due date of opening and the address and reference of the Bidder

The above offer should reach this office on or before the due date by 14.00 Hrs (IST)  
Tender should not be addressed to any Individuals name but only designation to

**Dy. General Manager (MM)**  
**BHARAT HEAVY PLATE & VESSELS LIMITED**  
**VISAKHAPATNAM - 530 012 (A P), INDIA.**

Tenders should be free from CORRECTION AND ERASURES. Corrections if any must be attested. All amounts shall be indicated both in words as well as in figures. Where there is difference between amount quoted in words and figures, amount quoted in words shall prevail.

Offers should be in ENGLISH and accompanied by technical literature catalogue and detailed dimensional drawings in ENGLISH or otherwise the offers will not be considered.

**2.0 PART I (TECHNICAL & UN-PRICED COMMERCIAL BID)****2.1 Technical**

This part shall include / indicate the following:

- 2.1.1. Offer should contain complete scope of supply with all technical details, specifications, delivery and other commercial terms and conditions.
- 2.1.2. Point by point confirmation for the Technical Specification enclosed is to be provided. If there are any deviations the same should be clearly specified. Offers received without conformation to our specification will be rejected.
- 2.1.3. List of customers to whom same or similar equipment have been supplied along with performance certificates to be enclosed.
- 2.1.4. Relevant catalogue to be attached.
- 2.1.5. List of spares parts (with part numbers) for two years operation and maintenance should be attached.
- 2.1.6. Information on shipping weight and cubage (length, width & height) to be provided
- 2.1.7. In case of foreign bidder offer, the Principal's technical offer only should be enclosed.

**2.2 Un-Priced Commercial**

This part shall include / indicate the following

- 2.2.1. Port of shipment / Station of dispatch
- 2.2.2. Terms of payment



- 2.2.3. FOB/FCA price along with freight charges up to Chennai port (for foreign bidders) Ex-works/FOR Dispatch Station price along with freight charges up to BHPV Visakhapatnam (for Indian bidders)
- 2.2.4. Taxes, Service tax & duties including Cess applicable.
- 2.2.5. Delivery Schedule
- 2.2.6. Filled-in check list to be enclosed
- 2.2.7. Offer validity
- 2.2.8. Country of origin
- 2.2.9. Percentage of agency commission if any along with a copy of Agency agreement The FOB/FCA/CFR Prices quoted shall include the agency commission.
- 2.2.10. A copy of "Un-Priced Part II 'i.e., a copy of the Price Bid without the price details to be enclosed.
- 2.2.11. BHPV is eligible for availing CENVAT / VAT credit on both inputs and capital inputs. The suppliers invoice should separately indicate the amount of duty / taxes and should invariably mention the following details:
  - 1. The Central excise registration number, range division and commission rate of the supplier's jurisdiction.
  - 2. The rate of duty and 8 digit central excise tariff heading of the item supplied.
  - 3. The TIN, VAT, CST registration number of the supplier.

The duplicate copy of the invoice is required for availing CENVAT credit and original copy for availing VAT credit, if purchased within the state.

In case of foreign bidders the duplicate copy of the electronic Bill of Entry along with TR6 challan should be made available for availing CENVAT credit on CVD, Cess (S) and SAD.

### 3.0 **PART II (PRICE –BID)**

This part should contain the schedule of price particulars and to be co-related to the technical details provided in Part-I

### 4.0 **OPENING OF TENDERS**

The Part I – Technical & un-priced commercial bid alone would be opened on the Tender opening date.

The Part II – Price bid of technically suitable Bidders alone would be opened. The Technically suitable Bidders would be informed about the Price Bid opening date. Clarifications if any required by BHPV FOR Technical evaluation / commercial evaluation would be sought from Bidders before opening of Part II – price bid.

#### GENERAL

- 5.1 Incomplete offers will not be considered.
- 5.2 **Fixed priced:** Prices quoted by the bidder shall be fixed and not subject to any escalation whatsoever during the period of bid validity and execution of the Purchase Order A bid submitted with an adjustable price will be treated as non- responsive and rejected Prices shall be written in words and figures. In the event of difference, the price in words shall be valid and binding. Unit prices shall be considered correct in the event of any discrepancy with regards to total price.
- 5.3 **Bid currency:** Indian bidders should submit the prices only in Indian Rupees. Foreign bidders may submit their bid in their home currency, which should be clearly indicated in the un-priced commercial bid as well as in the price bid.
- 5.4 **Terms of Delivery:** Bidders are required to quote their best delivery period. Foreign Bidders should submit their offer for net FOB/ FCA – Nearest Sea Port / Air Port as well as CFR / Chennai Seaport/ Airport. Freight charges up to Chennai port to be indicated separately. Indian Bidders should submit their offer for Dispatching station as well as FOR BHPV Visakhapatnam basis. Freight charges from works to BHPV Visakhapatnam to be indicated separately. Delivery from the date of Letter of Intent to be mentioned in the offer.

5.5 **Taxes and Duties:** All Taxes and Duties payable as extra to the quoted price should be specifically stated in offers along with CST & TIN No/ Tariff No. etc, failing which the purchaser will not be liable for payment of such Taxes and Duties (Our TIN No.28280189432, APGST No. VSP/04/1/1023 dated 24.08.1968. CST No.VSP/04/1/1012 dated 24.08.1968 & BHPV ECC No AAA CB 7076 N-XM001. Assessment circle Visakhapatnam.)

5.6 **Validity:** The offers for main equipment and spares shall be kept open for acceptance for a period of 120 days (one hundred and twenty days) from the dates of opening of the tender (part I)

**5.7 Terms of Payment:**

**5.7.1 Indian Bidders:**

5.7.1.1 BHEL, Trichy on behalf of BHPV (Subsidiary of BHEL) will arrange for an irrevocable, usance Letter of Credit (60 days from date of dispatch) after receipt of Inspection release note and against presentation of documents for 80% of payment (80% of basic price + 100% Taxes). And balance 20% of payment will be made after acceptance of material/commissioning of the equipment at BHPV, Visakhapatnam and on submission of Performance Bank Guarantee.

**5.7.1.2 Documents to be submitted by Indian Bidders for negotiating LC:**

1. Original Invoice in triplicate in the name of BHPV.
2. Original LR in the name of the LC issuing Bank
3. Original packing list in triplicate in the name of BHPV.
4. Original Test certificate in triplicate in the name of BHPV.
5. Inspection release Note.
6. One original Bank guarantee, if applicable in favour of BHPV.
7. Certificate issued by the beneficiary certifying that the materials dispatched and shown in the packing list are not less than that invoiced.
8. Insurance for 100% of the commercial invoice value made out in the name of LC issuing bank, covering all risks.
9. Any other conditions/documents as mentioned in the Purchase Order.

**5.7.1.3 Additional conditions for Indian Bidders:**

1. **Liquidated damages:** Delivery of the goods specified in the purchase order should be made within the time prescribed. Failure to dispatch the materials in the time as per the delivery quoted in our Purchase Order would make the supplier liable to an un-conditional penalty at the rate of ½% of the value of goods for each week of delay subject to a maximum of 10% of the Purchase Order value.
2. In the event of delayed presentation of documents beyond the validity for negotiation(Subject to acceptance of documents by Applicant), 5% of invoice value will be retained towards demurrage and other charges and the difference if any between actual charges and recovery will be settled between BHPV and beneficiary outside the purview of LC terms.

**5.7.2 Foreign Bidders**

An Irrevocable letter of Credit shall be established by BHEL, Trichy on behalf of BHPV (Subsidiary of BHEL) for 80% of FOB/FCA/CFR/ (excluding Indian Agent's commission) 2 months prior to shipment with a validity of 3 months and negotiation after shipment against shipping documents. Letter of Credit shall be opened through an authorized bank of BHEL in India. Balance 20% of FOB/FCA/CFR value shall be paid through sight draft on Commissioning & acceptance of the equipment at BHPV Visakhapatnam, against submission of 10% performance bank guarantee. All Bank charges outside India are to supplier's account. Lump sum erection and commissioning charges if any shall be payable after satisfactory erection & commissioning of the equipment by sight draft against certificate issued by the competent authority.

**5.7.2.1 Documents to be submitted by Foreign Bidders for negotiating LC:**

1. Original Invoice in triplicate in the name of BHPV.
2. Original bill of lading in triplicate in the name of the LC issuing bank.
3. Original packing list in triplicate in the name of BHPV.
4. One original certificate of origin.
5. Original Test certificate in triplicate in the name of BHPV.
6. Inspection release Note.
7. One original Bank guarantee, if applicable in favour of BHPV.
8. Certificate issued by the beneficiary certifying that one copy of non-negotiable documents comprising Bill of Lading, Invoice, Packing List, Certificate of country of origin and Test certificate sent to Port consignee.
9. Certificate issued by the beneficiary certifying that the materials shipped and shown in the packing list are not less than that invoiced.
10. Insurance for 110% of the commercial invoice value made out in the name of LC opening bank, covering all risks, clearly mentioning the name of claim settling agent in India. The claims will be settled in the same currency as that of LC.
11. Any other conditions/documents as mentioned in the Purchase Order.

**5.7.2.2 Additional conditions for Foreign Bidders:**

1. **Liquidated damages:** Delivery of the goods specified in the purchase order should be made within the time prescribed. Failure to dispatch the materials in the time as per the delivery quoted in our Purchase Order would make the supplier liable to an un-conditional penalty at the rate of ½% of the value of goods for each week of delay subject to a maximum of 10% of the Purchase Order value.
2. In the event of delayed presentation of documents beyond the validity for negotiation (Subject to acceptance of documents by Applicant), 5% of invoice value will be retained towards demurrage and other charges and the difference if any between actual charges and recovery will be settled between BHPV and beneficiary outside the purview of LC terms.

**5.7.3 Common to both India & Foreign Bidders.**

Erection & Commissioning (E&C) charges will be released after deduction of Income Taxes as per the Govt. of India rules. The TDS certificate will be issued by BHPV. Applicable service tax on E&C charges will be payable extra. The liability of depositing the same to the Govt. will be of the supplier.

- 5.7.4 Loading criteria common to both Indian and foreign bidders:** Vendor should accept the payment terms specified above. However for any deviation to the payment terms offered with reference to the above criterion will be loaded with prime lending rate of SBI prevailing on date of opening of price bid + %, which shall be computed for the differential period between BHPV terms of payment and the offered payment terms by vendor.



- 5.8 DUNS number (allotted by M/s. DUN & Bradstreet) shall be mentioned in your offer.
- 5.9 **Guarantee:** The equipment shall be guaranteed for a period of 18 months from the date of supply or 12 months from the date of commissioning and acceptance whichever is earlier.  
**Offers from vendors not accepting to the requested guarantee period will be rejected.**
- 5.10 **Contract Execution Bank Guarantee (CEBG):** The successful tenderer shall furnish a Bank Guarantee from any Nationalized Bank for 5% of Purchase Order value (FOR Dispatching station value – Excluding taxes, duties, freight & insurance – for Indian bidders) & (FOB/FCA value – excluding freight & insurance – for foreign bidders) confirming that the order will be executed as per the terms and conditions and this should be valid till final dispatch date (LR/GR/BL/AWB) with additional 2 months claim period. Letter of Credit will be processed only after receipt of CEBG. The CEBG is to be furnished within 3 weeks from the date of Purchase order.  
**Offers from vendors not accepting to submit CEBG will be rejected.**
- 5.11 **Performance Bank Guarantee (PBG):** The supplier shall furnish a Bank guarantee from any Indian Nationalized Bank approved by BHPV in the format, given by BHPV along with purchase order for 10% of the Purchase Order value (FOR Dispatching station value – Excluding taxes, duties, freight & insurance – for Indian bidders) & (FOB/FCA value – excluding freight & insurance – for foreign bidders) valid for period of guarantee with additional claim period of 2 months.  
**Offers from vendors not accepting to submit PBG will be rejected.**  
The CEBG & PBG shall be obtained from any Indian Nationalized Bank
- 5.12 **Liquidated damages:** Delivery of the goods specified in the purchase order should be made within the time prescribed. Failure to dispatch the materials in the time as per the delivery quoted in our Purchase Order would make the supplier liable to an un-conditional penalty at the rate of ½% of the value of goods for each week of delay subject to a maximum of 10% of the Purchase Order value.
- 5.12.1 **Loading Criteria for Liquidated Damages:** Any deviation from above LD Clause to the extent for which LD is not agreed by the vendor i.e., differential % value will be loaded on basic price, e.g. If some vendor agrees for say maximum of 6% LD then his price will be loaded by 4% (10 – 6) of his quoted basic price.
- 5.13 **Risk purchase:** If the supplier fails to deliver the goods within the delivery specified in the Purchase Order, BHPV will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the supplier has failed to deliver or dispatch within the delivery period mentioned in the Purchase Order.  
**Offers from vendors not accepting the above Risk Purchase terms will be rejected.**
- 5.14 **Indian Agent & Agency commission:** An Indian Agent can represent only one Foreign Manufacturer against a particular Tender. The FOB/FCA/CFR price quoted by the Foreign bidder shall include the agency commission. However, the agency commission component payable to their Indian Agents shall be shown separately in the offer. This will be paid by BHPV in India Rupees, on satisfactory commissioning & acceptance of the equipment. Copies of current Agency Agreement / Authorization Letter in respect of Agency Commission shall be furnished along with offer. For calculation of Rupee equivalent of Agency Commission exchange rate as prevailing on the date of Purchase Order will be taken.
- 5.15 **Short shipment / Warranty replacement:** In case of any short shipment in the main equipment / spares, customs duty levied on such supplies, shall be borne by the supplier. Any warranty replacement during the warrantee period shall be on FOR, BHPV - Visakhapatnam, basis.

- 5.16 **Inspection & Testing:** All goods shall be subject to inspection by BHPV or its authorized representatives at supplier's works or at BHPV stores. The supplier will not charge for the facilities provided for inspection of goods. In case of machine tools the machine would be inspected and proved at supplier's works prior to dispatch however, final inspection and acceptance of the machine will be carried after installation of the machine at BHPV, Visakhapatnam.
- 5.17 **Operating and Maintenance manuals:** The Bidders shall clearly mention in their offer that Operating Maintenance Manuals as called for in the Technical Specification in the required number of copies will be provided.
- 5.18 **Cenvat & VAT credit. (for Indian Bidders only):** The quotation must indicate Tariff item number and rate of Excise Duty applicable. The original Excise Duty Gate Pass will be required to be furnished in case charges to us. If the bidder is availing Cenvat credit for his input materials, the effect of proforma credit should be passed on to the purchaser.
- 5.19 **Packing:** The Supplier shall arrange for packing suitably in all respects considering the peculiarity of the material involves for normal transport by sea / air / rail road and suitably protected against effect of tropical salt laden atmosphere in the event of shipment being delayed at ports.
- 5.20 **Salient Points of HSE** (Health, Safety & Environment) that are to be considered while submissions of offer are:
- 5.20.1 Consumption benchmarks related to output shall be provided wherever applicable for key input resources (energy/fuels/chemicals)
- 5.20.2 Competency requirements for operation, maintenance and calibration, if any, shall be communicated
- 5.20.3 If any Hazardous chemicals as per MSIHC (Manufacturing, Storage and import of Hazardous Chemicals) Rules 1989/94/2000 are used, the MSDS shall be provided, along with on site & OFF site emergency plan (as applicable).
- 5.20.4 The noise level at operator level shall be within 90 DbA
- 5.20.5 OH&S (Occupational Health and Safety) control measures for safe working of machine as applicable shall be specified
- 5.20.6 The machine/equipment shall be fitted with guard for rolling and moving parts and shall comply with applicable OH&S legislations and Factories Act 1948
- 5.20.7 The supplier shall submit the layout drawing of operating controls, displays etc and operating instructions to enable ergonomics evaluation and approval
- 5.20.8 The recommended PPE (Personal Protective Equipment) for the equipment shall be furnished
- 5.20.9 Alarm System (both visual and audible) and Automatic switch off of the equipment shall be provided for any intrusion, overloading, short circuiting or any malfunctioning of the equipment.
- 5.20.10 Details of all hazardous / harmful substances discharges as by-products / wastes during operations of the machine / equipment, such as fumes, gases, dust particles, aerosols UV./IR (Ultra violet / Infra red) radiations, etc shall be furnished, along with their concentrations and their TLV, (Threshold Limit Value)

- 5.20.11 Appropriate pollution control measures shall be proposed to keep the emissions from the machinery / processes within the prescribed limit as stated in Environment Protection Rules 1986.
- 5.20.12 All furnaces, process units, DG sets, paint booths, shot blasting chambers, etc shall be provided with stack(s) of sufficient height as per guidelines laid down in the Environment Protection Rules 1986.
- 5.20.13 wherever industry specific standards are not available for control of pollutants, general emission standards shall be used
- 5.20.14 Chemicals banned due to their negative impact on the environment shall not be used on the process
- 5.20.15 Fuels with sulphur content less than 0.05% shall be proposed.
- 5.20.16 Details regarding nature of waste generated and appropriate disposal practices available shall be provided, along with the operation procedure of the plant / process.
- 5.20.17 Hazardous chemicals and flammable substances shall be transported only through authorized transporters and all safety practices as laid down in applicable legislative requirements such as Central Motor Vehicle Rules, Manufacture, Storage and Import of Hazardous Chemical 1989, etc. shall be followed.
- 5.20.18 Primary materials used in the equipment shall be specified and they shall be eco - friendly.
- 5.21 Evaluation of offers shall be on the basis of delivered cost (Net cash outflow to BHPV).
- 5.22 BHPV also reserves its right to allow to the Public Sector Enterprises ordering and price preference facilities as admissible under the existing policy.
- 5.23 BHPV reserves its right to reject a tender due to unsatisfactory past performance in the execution of a contract at another project / unit.
- 5.24 BHPV shall be at liberty to reject or accept any tender, part or in full, at their own discretion and any such action is not liable for any question or claim against BHPV.
- 5.25 BHPV reserves the right to go for a Reverse Auction (RA) instead of opening the submitted sealed bid, which will be decided after technical evaluation. Information and general terms and conditions governing RA are given below.

### **GENERAL TERMS AND CONDITIONS OF RA (REVERSE AUCTION)**

Against this enquiry for the subject item/system with detailed scope of supply as per enquiry specifications. BHPV may resort to “REVERSE AUCTION PROCEDURE” i.e., ON LINE BIDDING ON INTERNET.

1. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
2. BHPV will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.
3. BHPV will inform the vendor in writing in case of reverse auction, the details of service provider to enable them to contact & get trained.

4. Business rules like event date, time, start price, bid decrement, extensions etc. also will be communicated through service provider for compliance.
5. Vendors have to fax the Compliance form in the prescribed format (provided by Service provider) before start of Reverse auction. Without this, the vendor will not be eligible to participate in the event.
6. BHPV will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at "Total Cost to BHPV like Packing & Forwarding charges, taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for non-compliance to BHPV standard Commercial terms & conditions) for each of the vendor to enable them to fill-in the price and keep it ready for keying in during the Auction.
7. Reverse auction will be conducted on scheduled date & time.
8. At the end of Reverse Auction event, the lowest bidder value will be known on the network.
9. The lowest bidder has to Fax the duly signed Filled-in prescribed format as provided on case-to-case basis to BHPV through Service provider within 24 hours of Auction without fail.
10. Any variation between the on-line bid value and the signed document will be considered as sabotaging the tender process and will invite disqualification of vendor to conduct business with BHPV as per prevailing procedure.
11. In case BHPV decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHPV shall be opened as per BHPV's standard practice.

- 5.26 **Force Majeure clause:** If at the time during the continuance of this contract the performance in whole or in part by either party of any obligations under this contract shall be prevented or delayed by reason, of any war, hostilities, acts of the public enemy, civil commotion, sabotage, fires, explosions epidemics, quarantine, restrictions or acts of GOD (hereinafter referred to as events) then provided notice of happening of any such events is given by either party to other within twenty one days from the date of occurrence thereof neither party shall reason of such events be entitled to terminate this contract nor shall either party have any such non performance and delay is resumed as soon as practicable after such events has come to an end or ceased to exist, if the performance in whole or part of any obligation under this contract is prevented or delayed by reason or any such event claims for extension of time shall be granted for period considered reasonable by the purchaser subject to prompt notification by the seller to the purchaser of the particulars of the events and supply to the purchaser if required of any supporting evidence. Any waiver of time in respect of partial installment shall not be deemed to be a waiver of time in respect of remaining deliveries.

**CHECK LIST**

Bidder's acceptance to BHPV's Standard Commercial Terms & Conditions.

**Applicable for Indian bidders**

(To be submitted along with the offer – please do not change the format)

<b>BHPV Tender No: &amp; Date:</b>	<b>Bidders Confirmation / response</b>
Prices have been quoted on "FIRM PRICE" basis only.	Yes / No
Prices have been quoted on "F.O.R BHPV" basis only.	Yes / No
P & F and Freight (To be Included in Vendor's Scope)	
Insurance ( <b>Please confirm whether included or not</b> )	
Validity of offer (we require a minimum period of 120 days from the date of Tender Opening – <b>please Specify</b> )	
Sales Tax ( <b>please Specify</b> )	
Excise Duty ( <b>please Specify</b> )	
Delivery period from the date of Purchase Order ( <b>please Specify</b> ). A loading @ ½ % of the Purchase Order value per week will be done for the grace period requested. For evaluation 4 weeks will be considered as one month. Vendors quoting a delivery period beyond the 'the requested delivery plus the allowed grace period' is liable for rejection.	
Liquidated damages as per clause 5.12 (we require acceptance to @ ½% per week subject to a maximum of 10%).	
Risk Purchase as per clause 5.13 ( <b>Offers from vendors not accepting the Risk Purchase terms will be rejected</b> )	Yes / No
Payment terms (As per Clause No. 5.7.1)	
Contract Execution Bank Guarantee (CEBG) as per Clause 5.10 ( <b>Offers from vendors not accepting to submit CEBG will be rejected</b> )	Yes / No
Performance Bank Guarantee (PBG) as per Clause 5.11 ( <b>Offers from vendors not accepting to submit PBG will be rejected</b> )	Yes / No
Guarantee as per clause 5.9 (The equipment shall be guaranteed for a period of 18 months from the date of supply or 12 months from the date of commissioning and acceptance whichever is earlier). ( <b>Offers from vendors not accepting to the guarantee period will be rejected</b> )	Yes / No
Inspection ( <b>please Specify</b> )	
Erection & Commissioning/ Installation/ Training ( <b>Please confirm whether charges are included in the total cost or not</b> )	
Approximate Net Weight of the total Consignment	
Approximate Gross Weight of the total Consignment	

**Signature & Office Seal of the bidder**

**CHECK LIST**

Bidder's acceptance to BHPV's Standard Commercial Terms & Conditions.

**Applicable for foreign bidders** (To be submitted along with the offer – please do not change the format)

<b>BHPV Tender No: &amp; Date:</b>	Bidders Confirmation / response
Prices have been quoted on "FIRM PRICE" basis only.	Yes / No
Prices have been quoted on "F.O.R BHPV" basis only.	Yes / No
P & F and Freight	
Insurance ( <b>Please confirm whether included or not</b> )	
Validity of offer (we require a minimum period of 120 days from the date of Tender Opening – <b>please Specify</b> )	
Currency in which quoted ( <b>please Specify</b> )	
Port of loading ( <b>please Specify</b> )	
Country of Origin ( <b>please Specify</b> )	
Sales Tax ( <b>please Specify</b> )	
Excise Tax ( <b>please Specify</b> )	
Delivery period from the date of Letter of Intent ( <b>please Specify</b> )	
Liquidated damages as per clause 5.12 (we require acceptance to @ ½% per week subject to a maximum of 10%)	
Risk Purchase as per clause 5.13 ( <b>Offers from vendors not accepting the Risk Purchase terms will be rejected</b> )	Yes / No
Payment terms (As per Clause No. 5.7.2)	
Agency commission (refer clause 5.14)	Acceptable / Not acceptable
Contract Execution Bank Guarantee (CEPG) as per Clause 5.10 ( <b>Offers from vendors not accepting to submit CEBG will be rejected</b> )	Yes / No
Performance Bank Guarantee (PBG) as per Clause 5.11 ( <b>Offers from vendors not accepting to submit PBG will be rejected</b> )	Yes / No
Guarantee as per clause 5.9 (The equipment shall be guaranteed for a period of 18 months from the date of supply or 12 months from the date of commissioning and acceptance whichever is earlier). ( <b>Offers from vendors not accepting to the requested guarantee period will be rejected</b> )	Yes / No
Inspection ( <b>please Specify</b> )	
Erection & Commissioning/ Installation/ Training ( <b>Please confirm whether charges are included in the total cost or not</b> )	
Approximate Net Weight of the total Consignment	
Approximate Gross Weight of the total Consignment	

**Signature & Office Seal of the bidder**