

BHARAT HEAVY PLATE & VESSELS LIMITED.,
(A Subsidiary Bharat Heavy Electricals Limited)
A Government of India Enterprises
Visakhapatnam – 530 012 INDIA.
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NOTICE INVITING TENDER (NIT)

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

SUB: INDUCTION HEATING SYSTEM

Our Ref: **MM/2/10/3281/CAP/W-227/5233**

DATE: 01.12.2012

Sealed quotations in duplicate are invited from suppliers on **or before 27.12.2012** **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.	INDUCTION HEATING SYSTEM	1 No.
	Encl: 1. Qualifying Criteria PART A 4 pages 2. Technical Specifications PART B 8 Pages 3. General Terms/ commercial terms and conditions 10 pages (INCLUDING CHECK LIST)	

For BHARAT HEAVY PLATE & VESSELS LIMITED,

For Dy. GENERAL MANAGER (MM)

INDUCTION HEATING SYSTEM – QUALIFICATION CRITERIA (PART A)

SECTION – I: QUALIFYING CRITERIA

The BIDDER / VENDOR (OEM) has to meet the following requirements to get qualified for submitting an offer Induction Heating Equipment for Tube bends.

S. No.	REQUIREMENTS	VENDOR's COMMENTS
1	The Bidder / Vendor (OEM) shall have a minimum of TEN Years of Continuous Experience in the field of Design, Manufacture and Supply of Induction Heating Equipment.	
2	Only those vendors (OEMs), who have supplied and commissioned at least ONE Induction Heating Equipment of not less than 50 KW in the past ten years (on the date of opening of Tender) and such machine is presently working satisfactorily for more than one year after commissioning (on the date of opening of Tender), should quote. Performance certificate from the customers regarding satisfactory performance of such equipment supplied to them in attached format should to be enclosed along with technical offer.	
2.1	BHPV reserves the right to verify the information provided by vendor. In case the information provided by vendor is found to be false/ incorrect, the offer shall be rejected.	
3	DELIVERY - The bidder shall quote the best possible delivery. However the delivery period shall not exceed 4 months from the date of Purchase Order. A grace period of 1 month in addition is provided. However additional grace period will have a loading for arriving at the PRICE COMPETITIVENESS of the Commercial Offer (if the offer is technically acceptable on all accounts). Details are given in the Commercial Terms of this Tender. The delivery period is reckoned from the date of Purchase order to date of dispatch from the vendor works. Bidder to specify the time required for E&C. BHPV reserves the right to fix E&C period during Finalization of offer in consultation with the bidder	

SECTION – II

The BIDDER/ VENDOR (OEM) is requested to furnish the following information:

S. No.	PARTICULARS	VENDOR's RESPONSE
4	Profile of the Company bringing-out the years of Experience of the BIDDER in the field of design, manufacture and supply of Induction heating equipment.	
5	Number of Induction heating equipment supplied, installed and commissioned till date (with details on equipment type / model, configuration, customer and quantity)	
6	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]	
7	Any Additional Data to supplement the manufacturing capability of the BIDDER for the subject equipment.	

SECTION – III

The BIDDER/ VENDOR (OEM) to note the following:

S. No.	REQUIREMENTS	VENDOR'S COMPLIANCE
8	The BIDDER / VENDOR (OEM) shall submit the offer in TWO PARTS - Technical [with PART A & PART B] & Commercial and Price Bid.	
9	The Technical Offer shall be supported by Product Catalogues & description.	
10	The Offer shall contain a comparative statement of Technical Specifications given by BHPV and the Offer Details submitted by the Bidder, against each clause. A mere 'YES' or 'NO' or similar words in the technical comparative statement (without any supporting technical write-ups, photos and datasheets] may lead to disqualification of the Technical Offer.	
11	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 of the inclusion of all the accessories, toolings, attachments, auxiliary parts, spares, consumables, etc. with the main and basic equipment, to meet the technical specification requirements.	
12	BIDDER / VENDOR (OEM) has to indicate the Country of Origin for the supply of equipment.	

PERFORMANCE CERTIFICATE

(On Customer's Letter Head)

1. Supplier of the machine :

2. Make & Model of the Equipment :

3. Month & Year of Commissioning :

4. Application :

5. a. Jobs Performed in the machine : Induction heating of 180° pre-bends
b. Power rating (Min 50KW) :

6. Performance of the Machine : Satisfactory / Not Satisfactory
(Strike off whichever is not applicable)

7. Any other remarks:

8. Contact Details
Name of the Contact Person :
Phone No. :
Fax No. :
E-mail ID :

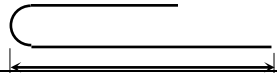
Date:

Signature & Seal of the Authority
Issuing the Performance Certificate

TECHNICAL SPECIFICATIONS FOR INDUCTION HEATING EQUIPMENT FOR TUBE BENDS

S. No.	PARTICULARS & BHPV SPECIFICATIONS					Bidder's OFFER [With Complete Technical Details]
1.0	APPLICATION					
1.1	A) The Equipment is meant for heating of 180° pre-bent seamless steel tubes, which are to be loaded on Squeezing and Sizing machine used for Boiler Applications. Tube heating shall be of Induction Heating type with suitable coil arrangement to facilitate sideways movement of tube bends in to and out of the equipment.					
2.0	TUBE OUTER DIAMETER AND THICKNESS&PRE-BEND RADII: All are OD (Outer Diameter) Controlled tubes with thickness tolerance of Max. +22 %					
2.1		S.No	OD, mm	THICKNESS, mm		Pre Bend Radius, mm
				Minimum	Maximum	
		1	31.8	2.9	5.0	48
		2	38.1	4.0	5.3	57
		3	44.5	4.0	10.0	65
		4	47.63	5.0	10.0	71.5
		5	51.0	4.5	8.0	76.5
		6	54.0	4.0	10.0	76.5
		7	57.0	5.0	7.0	85
		8	63.5	5.6	8.0	100
3.0	TUBE MATERIAL SPECIFICATIONS:					
3.1	a. Carbon Steel: SA192, SA210 Gr.A1, SA210 Gr.C b. Alloy Steel: SA209 T1, SA213 T11, SA213T22, T23, SA213T91, T92 c. Stainless Steel : SA 213 TP304H, SA 213 TP321H, SA 213 TP347H					
4.0	OPERATING PARAMETERS:					
4.1	Tube Diameter			Minimum: 31.8 mm Maximum: 63.5mm		
4.2	Tube Wall Thickness			As given in the table (Sl.No. 2.0)		
4.3	Bend Radius			Minimum: 48 mm Maximum: 100mm		

INDUCTION HEATING EQUIPMENT FOR TUBE BENDS – TECHNICAL SPECIFICATIONS (PART B)

S. No.	PARTICULARS & BHPV SPECIFICATIONS	Bidder's OFFER [With Complete Technical Details]	
4.4	Length over Pre-bend 	Minimum: 1200mm Maximum: 12000mm	
4.5	Bend heating Temperature	600°C to 1150°C	
4.6	Length of bend to be heated	Max 230 mm	
4.7	Time for Heating to desired temperature	20 to 30 seconds	
4.8	PRODUCTIVITY		
4.8.1	No. of bends per shift in OD 51 x 8mm / Alloy Steel Tubes for batch production jobs with Radius 25.5mm	150 bends in one 8 hour shift minimum	
5.0	MACHINE PARAMETERS		
5.1	Height of Lower Surface of Bent Tube as loaded on the machine has to be 1000 to 1200mm above the floor level.	Vendor to specify	
6.1	INDUCTION HEATING DEVICE		
6.1.1	The induction-heating device has to be suitably selected for heating the range of tubes mentioned in S.No. 2.0 to the required temperatures. Vendor to specify the details of the Induction heating device.	Vendor to specify	
6.1.2	The Induction heating device has to be positioned in a convenient location, to facilitate easy loading of tube into the heating device and unloading of tube.	Vendor to specify	
6.1.3	The tube bend will be kept flat on suitable job supports (BHPV Scope) and slid into the Induction heating equipment coil. The axis of the two arms of the bend will be perpendicular to the tube heating equipment. Once the set temperature is reached, the tube bend is slid out from the coil.	Vendor to Specify	
6.1.4	Detail arrangement may be elaborated by the vendor with schematic sketches.	Vendor to Specify	
6.1.5	Length x Depth x Height of the coil slot may be specified.	Vendor to Specify	
6.1.6	The coil would be empty (without load) from the time that one bend is moved out after heating to the time that another bend is moved into the coil slot for heating. There should be no adverse effect on the operation of the induction heating equipment on account of this.	Vendor to Specify	
6.1.7	There should be a provision to raise or lower the induction heating transformer with heating coil by 200mm with simple manual mechanical mechanism.	Vendor to Specify	

INDUCTION HEATING EQUIPMENT FOR TUBE BENDS – TECHNICAL SPECIFICATIONS (PART B)

S. No.	PARTICULARS & BHPV SPECIFICATIONS	Bidder's OFFER [With Complete Technical Details]
6.1.8	The induction heater coaxial cables from the solid state induction generator to the heating transformer should be suitably supported so as to facilitate the above mentioned movements	Vendor to confirm
6.1.9	The vendor has to detail out in their offer about the mechanical arrangement and control of the heating unit.	Vendor to specify
6.1.10	HF Power Source: Solid State HF Power source with suitable cooling system to be provided. (Complete details should be furnished in the technical offer)	Vendor to Specify
6.1.11	Inductor: Replaceable type, HF Inductor (water cooled type)	Vendor to confirm
6.1.12	HF Transformer: Primary & secondary windings should be water cooled type	Vendor to specify
6.1.13	Induction Unit Parameters	
6.1.13.1	Current	Vendor to specify
6.1.13.2	Voltage	Vendor to specify
6.1.13.3	Frequency	Vendor to specify
6.1.13.4	KVA rating	Vendor to specify
6.1.13.5	Rating Output (Power regulator to be provided to control the rate of heating)	Vendor to specify
6.1.13.6	The high frequency induction unit should be IGBT based inverter unit.	Vendor to specify
6.1.14	Automatic digital timer with cut off system to be provided. The range of the timer shall be from 0 – 15 minutes (Shall be compatible to set in seconds with least count of 1 second).	Vendor to confirm
6.1.15	Audio alarm signaling the attainment of set time may be offered	Vendor to Confirm
6.1.16	The range of temperatures as mentioned in Sl. No. 4.5 shall be from 600°C to 1150°C.	Vendor to confirm
6.1.17	Suitable temperature sensing device to be provided for measurement and control of temperature.	Vendor to specify
6.1.18	One portable, hand held, non-contact, Infrared sensing type, temperature indicator with digital display and having measurement range of 20° C to 1200° C with accuracy of ±0.5° C to be provided separately for setting time required for attain required temperature. Make and Model to be specified by the bidder.	Vendor to confirm / Vendor to specify
6.1.19	Suitable protection for HF Transformer & HF Inverter has to be provided against factors such as over voltage, over current, under Voltage, over temperature, Cooling Water flow failure & Short circuit protection etc.	Vendor to confirm

INDUCTION HEATING EQUIPMENT FOR TUBE BENDS – TECHNICAL SPECIFICATIONS (PART B)

S. No.	PARTICULARS & BHPV SPECIFICATIONS	Bidder's OFFER [With Complete Technical Details]
6.1.20	Bidder to furnish details on the protection system provided to avoid short-circuiting of secondary side of HF (matching) Transformer with job.	Vendor to specify
6.1.21	Water Chiller	
6.1.21.1	Closed circuit Refrigerant type Water Chiller system of cooling water circuit with temperature setting, for Induction heating coil & HF Transformer coil shall be provided. The details to be furnished in the offer giving details such as Flow, Pressure, water tank capacity, Temperature etc.	Vendor to specify
6.1.21.2	Chiller capacity (taking into account the ambient temperature of 45 deg Celsius)	Vendor to specify
6.1.21.3	The water chiller shall make use of additives to prevent scaling of cooling components.	Vendor to confirm
6.1.21.4	Suitable flow sensors are to be provided to have an interlock with the induction heating system.	Vendor to confirm
6.2	ELECTRICAL:	
6.2.1	Wiring: All electrical items, limit switches etc, on the machine shall be wired using PVC sheathed cable running in conduits to cable ducts to common terminal block. External wiring from / to control panel, control desk, external motors etc shall be by means of screened multi-core cables.	Vendor to confirm
6.2.2	Electric Panel	
6.2.2.1	Electrical panel shall be Box type self-standing with locking arrangement to be provided.	Vendor to confirm
6.2.2.2	Electrical Panel Air-Conditioner to be provided.	Vendor to confirm
6.2.2.3	All Ammeters, Voltmeters shall be located on the panel.	Vendor to confirm
6.2.2.4	Machine panel shall be adequately illuminated for maintenance purpose.	Vendor to confirm
6.2.3	Operator console	
6.2.3.1	The pendant type operator console shall be provided at a convenient height for easy operation	Vendor to confirm
6.2.3.2	Operator console shall contain push buttons, indication lamps, selector switches, digital temperature display / setting unit etc.	Vendor to confirm
6.2.4	All electrics shall be tropicalised & shall have IP 54 protection	Vendor to confirm
6.2.5	Machine lighting: Suitable for the operator to work with job.	Vendor to confirm
6.2.6	Control voltage: The control voltage shall be 24 Volts	Vendor to confirm

INDUCTION HEATING EQUIPMENT FOR TUBE BENDS – TECHNICAL SPECIFICATIONS (PART B)

S. No.	PARTICULARS & BHPV SPECIFICATIONS	Bidder's OFFER [With Complete Technical Details]
6.2.7	Input Power Supply	
6.2.7.1	The electrical power input shall be 415 ± 10% V, 50 ± 3% Hz, 3 Phase AC supply through a 3 Wire System. No neutral conductor.	Vendor to confirm
6.2.7.2	BHPV provides this supply at one point only and the supplier has to provide of all other electrical distribution network required for the INDUCTION HEATING EQUIPMENT.	Vendor to confirm
6.2.8	Power Requirement: Vendor to indicate the total tentative power requirement (including that for all the accessories and attachments) in kVA with the offer.	Vendor to specify
6.4	COMPONENTS USED:	
6.4.1	All electrical items shall be of reputed make like SIEMENS / SEW / ROCKWELL Allen Bradley/ Telemecanique or any reputed make acceptable to BHPV.	Vendor to specify
6.4.2	All components/devices/terminals are to be incorporated with ferrules.	Vendor to confirm
6.4.3	All motors shall be from reputed makers like SIEMENS, ABB, Allen Bradley conforming to IEC Standards or any reputed make acceptable to BHPV.	Vendor to specify
6.4.4	All hydraulic elements shall be of VICKERS / REXROTH, or any other reputed make acceptable to BHPV.	Vendor to specify
6.4.5	All hydraulic hoses shall be preferably of GATES make.	Vendor to specify
6.5	Machine Maintenance: The machine configuration and element arrangement should have easy accessibility, higher rigidity, self-aligning /fitting, locking & piloting arrangement of machine components and modules.	Vendor to confirm
7.0	Ambient Atmospheric Conditions	
7.1	The Induction heating equipment with all Sub-Systems shall be suitable for operation in an ambient temperature of 45°C and with a Relative Humidity of 93%.	Vendor to confirm
7.2	The entire Equipment shall be TROPICALISED in Design and Construction.	Vendor to confirm
8.0	SAFETY	
8.1	All Safety features provided in the equipment shall be specified by the vendor.	Vendor to specify
9.0	PAINTING	
9.1	The heavier machine parts are to be heat-treated after fabrication (including castings and forgings) and shot blasted for surface preparation prior to painting.	Vendor to confirm

INDUCTION HEATING EQUIPMENT FOR TUBE BENDS – TECHNICAL SPECIFICATIONS (PART B)

S. No.	PARTICULARS & BHPV SPECIFICATIONS		Bidder's OFFER [With Complete Technical Details]
9.2	One coat of Primer with 25 μ of DFT (Dry Film Thickness) and 48 hours of curing after painting.	Vendor to confirm	
9.3	Two coats of Enamel Paint (Colour – Apple Green) each with 25 μ of DFT and intermittent curing of minimum 16 hours.	Vendor to confirm	
10.0	GENERAL POINTS		
10.1	Make and Model of the machine to be mentioned. Detailed catalog of the machine to be sent with the offer.		
10.2	Complete description of all systems & sub-systems shall form part of the technical bid.		
10.3	A schematic diagram showing the layout of the machine & associated systems with salient dimensions shall be submitted along with the offer.		
10.4	The operating sequence of the machine with broad outline of various operations involved should be furnished with the offer.		
10.5	Standards for Design, Manufacture and testing of the machine shall be in accordance with internationally accepted standards.		
10.6	Approximate weight of the Machine & Sub-Systems.		
11.0	SPARES (to be recommended by the vendor)		
11.1	Itemized breakup of mechanical, electrical and electronic spares used on the machine in sufficient quantity as per recommendation of Vendor for 2 years of trouble free operation on three shifts continuous running basis should be offered by vendor. The list to include following, in addition to other recommended spares: (Unit Price of each item of spare should be offered)		
11.2	a) Electrical /Electronic Spares: Relays, Contactors, Proximity Switches, Push Buttons, Indicating Lamps, IGBT Semiconductor Fuses, Special Fuses, Circuit Breakers, Main Power Switch etc.		
11.3	Recommended set of spares for all attachments are to be offered with details.		
11.4	Vendor to confirm that complete list of spares for machine and accessories, along with item part no / specification / type / model, and name & address of the spare supplier shall be furnished along with documentation to be supplied with the machine		

INDUCTION HEATING EQUIPMENT FOR TUBE BENDS – TECHNICAL SPECIFICATIONS (PART B)

S. No.	PARTICULARS & BHPV SPECIFICATIONS	Bidder's OFFER [With Complete Technical Details]
11.5	Essential Spares	
11.5.1	Mechanical spares: 1. Spare Induction Heating Coils – 2 Nos 2. Hydraulic components-2 sets	
11.5.2	Electrical & Electronics: - 1. IGBTs - 1 set 2. Proximity switch, limit switches, push buttons, indicating lamps etc.- 2 Nos each 3. Coaxial Cable HF cable – 1 set	
12.0	MACHINE INSPECTION & ACCEPTANCE	
12.1	INSPECTION	
12.1.1	The Machine shall be offered for inspection and performance trials to test the design capabilities of the machine, by BHPV Engineers before Dispatch at Supplier's works.	
12.2	ACCEPTANCE CRITERIA	
12.2.1	All the features of the machines shall be operated and shown and to work as given in the specification, at supplier's works during inspection and during commissioning at BHPV works.	
12.2.2	The prove-out trials shall be for the Tube bend sizes given by BHPV during the technical discussions or at the time of releasing the Purchase Order.	
12.2.3	The production output of the machine shall be proved out by the commissioning Engineer at BHPV works for the Production rate mentioned in the specification.	
13.0	ERECTION & COMMISSIONING	
13.1	The supplier shall depute his engineer(s) for supervising the erection and commissioning of the machine at BHPV and prove-out trials	
14.0	TRAINING	
14.1	The supplier shall train BHPV's Engineers in Operation and Maintenance of the Machine at supplier's works for a period 5 working days. (Quote should be on per man day basis)	
14.2	The supplier shall impart training to BHPV's Machine Operators and Maintenance crew in Operation and Maintenance (Mechanical, Electrical / Electronics System) after the commissioning of the Machine at BHPV works for not less than 6 working days.	

INDUCTION HEATING EQUIPMENT FOR TUBE BENDS – TECHNICAL SPECIFICATIONS (PART B)

S. No.	PARTICULARS & BHPV SPECIFICATIONS	Bidder's OFFER [With Complete Technical Details]
14.3	<p>The training shall include specialized coaching in</p> <ul style="list-style-type: none"> a. Safety b. Operation of the machine c. Trouble-Shooting, d. Any special features of the machine e. Electrical / Mechanical / Electronics systems 	
15.0	MACHINE DOCUMENTATION	
15.1	<p>Drawings to be submitted along with offer.</p> <ul style="list-style-type: none"> a) GA Drawing of the Induction Heating Equipment showing the overall dimensions. b) Electrical Wiring Drawings – Power & Control Circuits c) Pneumatic/Hydraulic Circuit Diagram as applicable. 	
15.2	O & M MANUALS (Along with supply of machine)	
15.2.1	<ul style="list-style-type: none"> a. Three Copies of the Operation & Maintenance Manual to be given in Hard Bound Paper Copies with One copy in CD form (SOFT COPY) b. One Hard Copy of O & M Manual shall be submitted at the time of INSPECTION of the INDUCTION HEATING EQUIPMENT by BHPV Officials, at the Supplier's Works. c. The following documents and details [given under the Clause Sl. No. 15.3] shall form part of the Operation & Maintenance Manual 	
15.3	Documents and Technical Details	
15.3.1	<ul style="list-style-type: none"> a) GA Drawing of the Induction Heating Equipment showing the overall dimensions. b) GA Drawing of Individual Mechanisms. c) Sub-Assembly Drawings (without dimensions) for sub-systems for maintenance purpose. d) Electrical Wiring Drawings – Power & Control Circuits e) Pneumatic/Hydraulic Circuit Diagram as applicable in hard & soft copy. f) Fault diagnostics and remedies of operations should be provided. g) Specifications/Ratings of All Bought-Out-Items. h) Trouble Shooting Chart for Main and all Sub-Systems. 	
16.0	GUARANTEE	
16.1	Performance Guarantee to be given for 12 months from the date of commissioning OR 18 months from the date of dispatch whichever is earlier.	

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. Price bid opening date/ RA date will be considered as effective date for considering exchange rate to evaluate the offers.
- 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/ Scheduled Commercial Banks.
- 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)

BHPV Tender No: & Date:	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 (Please confirm whether included or not)	
Freight (Please confirm whether included or not)	
Insurance (Please confirm whether included or not)	
Validity of offer (we require a minimum period of 120 days from the date of Tender Opening – please Specify)	
Sales Tax (please Specify)	
Excise Duty (please Specify)	
Delivery period from the date of Purchase Order (please Specify). 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%) (Yes / No)	
Risk Purchase as per clause 5.13 (Yes / No) (Offers from vendors not accepting the Risk Purchase terms will be rejected)	
Payment terms (As per Clause No. 5.7.1) (Yes / No)	
Contract Execution Bank Guarantee (CEBG) as per Clause 5.10 (Yes / No) (Offers from vendors not accepting to submit CEBG will be rejected)	
Performance Bank Guarantee (PBG) as per Clause 5.11 (Yes / No) (Offers from vendors not accepting to submit PBG will be rejected)	
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) (Yes / No) (Offers from vendors not accepting to the guarantee period will be rejected)	
Inspection (please Specify the Place of Inspection)	
Erection & Commissioning/ Installation/ Training (Please confirm whether charges are included in the total cost or not)	
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)

BHPV Tender No: & Date:	Bidders Confirmation / response
Prices have been quoted on "FIRM PRICE" basis only (Yes / No)	
Prices basis (FOB/CFR/CIF – Please Specify)	
Insurance (Please confirm whether included or not)	
Validity of offer (we require a minimum period of 120 days from the date of Tender Opening – please Specify)	
Currency in which quoted (please Specify)	
Port of loading (please Specify)	
Country of Origin (please Specify)	
Delivery period from the date of Letter of Intent (please Specify) 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 (Offers from vendors not accepting the Risk Purchase terms will be rejected) (Yes / No)	
Payment terms (As per Clause No. 5.7.2)	
Agency commission (refer clause 5.14)	
Contract Execution Bank Guarantee (CEPG) as per Clause 5.10 (Yes / No) (Offers from vendors not accepting to submit CEBG will be rejected)	
Performance Bank Guarantee (PBG) as per Clause 5.11 (Yes / No) (Offers from vendors not accepting to submit PBG will be rejected)	
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). (Offers from vendors not accepting to the requested guarantee period will be rejected) (Yes / No)	
Inspection (please Specify)	
Erection & Commissioning/ Installation/ Training (Please confirm whether charges are included in the total cost or not)	
Dimension of the Largest Part (please Specify)	
Packing Schedule (No of containers and their Sizes) (please Specify)	
Approximate Net Weight of the total Consignment (please Specify)	
Approximate Gross Weight of the total Consignment (please Specify)	

Signature & Office Seal of the bidder