

BHARAT HEAVY ELECTRICALS LIMITED,
(A Government of India Enterprises)
Heavy Plates & Vessels Plant
Visakhapatnam – 530 012 INDIA.
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NOTICE INVITING TENDER(NIT)

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

SUB: AIR COMPRESSOR

Our Ref: **MM/2/10/3477/CAP/W-158/5158**

DATE: 24.01.2014

Sealed quotations in duplicate are invited from suppliers on or before **19.02.2014** **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.	AIR COMPRESSOR	1 Nos.
	Encl: 1. Qualifying Criteria PART A 4 Pages 2. Technical Specifications PART B 11 Pages 3. General Terms/ commercial terms and conditions (INCLUDING CHECK LIST) 9 Pages	

For BHARAT HEAVY ELECTRICALS LIMITED,

For Sr. MANAGER (MM)

QUALIFYING CRITERIA FOR THE SUPPLY OF
RECIPROCATING AIR COMPRESSOR

SECTION – I

The BIDDER is expected to give complete details against each clause in the table given below, with additional sheets those may be attached (giving clear reference number) to furnish and cover the requisite details / documents.

S. No.	PARTICULARS	VENDOR'S RESPONSE
1	VENDOR to provide the Profile of their Company	
2	List of customers to whom Reciprocating AIR Compressors were supplied, installed and commissioned till date, highlighting the customers who are in the field of Industrial Boilers manufacturing (of High Pressure Ratings). The capacity of compressors supplied may be furnished.	
3	Details on SERVICE-AFTER-SALES Set-Up in India including the Address of Agents / Service Centers in South India. [Details on the number of trained personnel with field of experience to handle the service needs of BHPV in time]	
4	Any Additional Data to supplement the manufacturing capability of the BIDDER for the subject equipment.	

QUALIFYING CRITERIA FOR RECIPROCATING AIR COMPRESSOR (PART A)

SECTION – II

The BIDDER / VENDOR has to compulsorily meet the following requirements to get qualified for submitting an offer for the RECIPROCATING AIR COMPRESSOR.

S. No.	REQUIREMENTS	VENDOR's RESPONSE
5.0	The BIDDER / VENDOR shall have a minimum of TEN Years of Continuous Experience in the Design, Manufacture & Supply of RECIPROCATING AIR COMPRESSOR.	
6.0	Only those vendors (OEMs), who have supplied and commissioned at least TEN no. of RECIPROCATING AIR COMPRESSORS for similar application in past ten years (from the date of opening of Tender) and such equipment is presently working satisfactorily for more than one year after commissioning (from the date of opening of Tender) should quote.	
The vendor should submit following information where similar machine has been supplied:		
6.1	Name and postal address of the customer or company where similar equipment is installed.	
6.2	Name and designation of the contact person of the customer.	
6.3	Phone, FAX no and email address of the contact person of the customer.	
6.4	Month and Year of commissioning of the equipment.	
6.5	Application for which the equipment is supplied	
6.6	Along with the Technical offer, the Vendor should submit the <u>Performance certificate from the customer for the satisfactory performance of the equipment supplied as per clause 6.0 above.</u> (For obtaining the Performance certificate, a suggestive format is provided in SECTION – IV)	
6.7	Offers of only those vendors who meet the above Qualifying Criteria will be considered for further evaluation.	
6.8	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.	
7.0	DELIVERY - The bidder shall quote the best possible delivery. However the delivery shall not exceed 5 months with an additional grace period of 2 months, 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. 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 – III

The BIDDER / VENDOR has to comply with the following, for accepting the Technical Offer for scrutiny by the Purchaser:

S. No.	REQUIREMENTS	VENDOR'S COMPLIANCE
8	The BIDDER / VENDOR shall submit the offer in TWO PARTS- Technical [with PART A & PART B] & Commercial and Price Bid.	
9	The offer shall contain a comparative statement of Technical Specifications given by BHPV and the offered details submitted by the Bidder, against each clause. Merely stating 'YES' or 'NO' or similar words wherever 'Vendor to Specify' details in the 'Vendor's compliance statement may lead to disqualification.	
10	The Technical Offer shall be supported by product Catalogues & Data Sheets and also technical details of Bought-Out-Items with copies of Product Catalogue to the extent possible.	
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, tooling's, attachments, auxiliary parts, spares, consumables, etc. with the main and basic equipment, to meet the technical specification requirements.	
12	BIDDER has to indicate the Country of Origin for the supply of equipment.	

SECTION – IV

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 for which machine is used :
5. Flow of Compressor :
6. Pressure of the Compressor :
7. Compressor Type :
8. Performance of the Machine : Satisfactory / Not Satisfactory
(Strike off whichever is not applicable)
9. After Sales Service : Satisfactory / Not Satisfactory
(Strike off whichever is not applicable)
10. Any other remarks :
11. Contact Details
Name of the Contact Person :
Phone No. :
Fax No. :
E-mail ID :

Date:

Signature & Seal of the Authority
Issuing the Performance Certificate

Multistage Reciprocating Air Compressor (PART B)

S. No.	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER (with complete technical details)
1.0	<p>Equipment: Supply, installation, testing & commissioning of Water cooled Air compressor having 600 Nm³/hr discharge capacity with electric motors, starter, inter coolers, after coolers, valves, fittings & other standard necessary accessories etc. complete in all respect for 30 kg/cm²,g working pressure in three or four stage, oil free compressed air. The compressor shall be of skid mount type.</p>	Vendor to Confirm	
1.1	<p>General:</p> <p>A. Air compressor is required to supply compressed air through piping to shop requirement.</p> <p>B. The air compressor shall be essentially of a stationary reciprocating three or four stage- double acting-water cooled type, the cylinders oil free type arranged vertically or horizontally (balance opposed).</p> <p>C. The compressor shall be of non-lubricated type and of very robust construction suitable for long continuous running during the varying climatic conditions at site (Visakhapatnam) with the minimum attention and maintenance.</p> <p>D. The proposed compressor shall supply air to an existing buffer tank of volume 100 cum, rated for 38 kg/cm². The air will be drawn from the buffer tank to the plant requirements. Vendor to include 1 M³ air receiver in their scope</p>	Vendor to Confirm & specify	
2.0	Constructional Features:		
2.0.1	<p>Cylinders: These are to be made of special hard close-grained cast iron, free from flaws and other defects and hydrostatically tested after machining to 1.5 times normal working pressure. These can be barrel, block or valve in head type cylinders and incorporate a water jacket for cooling around the cylinder heads. This cooling provides a uniform distribution of heat for all air passages, valves and rod packing.</p>	Vendor to Confirm	

Multistage Reciprocating Air Compressor (PART B)

S. No.	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER (with complete technical details)
2.0.2	<p>Piston Rod: The piston rod is to be sealed by floating packing rings. These should be of hard material to reduce unusual wear due to hammering. The piston rods to be of high tensile high carbon steel with steel cross heads and the guide shoes to be removable type having large wearing surfaces, with adjustment to compensate for wear and tear during use.</p>	Vendor to Confirm	
2.0.3	<p>Piston: These should be of hard material to reduce unusual wear due to hammering. The piston to be of high tensile high carbon steel/Aluminium alloy with cross heads and the guide shoes to be removable type having large wearing surfaces, with adjustment to compensate for wear and tear during use.</p>	Vendor to Confirm	
2.0.4	<p>Crank Shaft: On the machine, the crank shaft shall be a single-piece, heat treated steel best forging and to be machined down from heavy forgings.</p>	Vendor to Confirm	
2.0.5	<p>Connecting Rod: The Connecting rod shall be of Die-forged steel with rifle-drilled oil passages. The crosshead end should be solid.</p>	Vendor to Confirm	
2.0.6	<p>Crankcase: Crankcase shall be of one-piece grey iron casting and designed to support the cyclic stresses of continuous heavy-duty compressor loads. This should be completely enclosed and sealed by access covers with gaskets. Dust and dirt should not get into the running parts.</p>	Vendor to Confirm	
2.0.7	<p>Bearings: The crank shaft of the compressor is to be supported by main bearings, of roller type/split sleeve type. Details regarding the bearing arrangements to be furnished in the quotation.</p>	Vendor to Confirm & Specify	
2.0.8	<p>All bearings shall be of following makes: SKF/TIMKEN/ FAG make for roller type & for split sleeve bearing vendor to indicate</p>	Vendor to Specify	

Multistage Reciprocating Air Compressor (PART B)

S. No.	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER (with complete technical details)
2.0.9	<p>Air In Take And Delivery Valves of cylinder: These are to be automatic and arranged in pockets around the cylinder barrel for easy accessibility for inspection and overhaul. Each valve to be designed to attain the optimum valve lift, spring load, plate thickness, and total valve height.</p>	Vendor to Specify	
2.0.10	<p>Inter Cooler: The compressor is to be provided with water cooled intercooler for cooling the air between the stages. The intercooler is to be multi-tube type having ample cooling surface. The tube stacks are to be of removable type for easy clearing without the necessity for displacing the casing. The intercooler is to be complete with pressure gauge, safety valve and drain cock & tubes shall be of copper. Necessary pump(One working and the other stand by) is to be supplied by vendor. The pump will be used for supply of cooled water from cooling tower to inter cooler of the compressor.</p>	Vendor to Confirm	
2.0.11	<p>Air Control: Air control for 50% and 100% shall be through electro-pneumatic system. Operating pressure range for loading & un-loading shall be between 28 to 30 kg/cm²,g</p>	Vendor to Confirm & specify	
2.0.11.1	Non return valve fitted at the compressor discharge/delivery line (after final stage) shall be ensured	Vendor to Confirm	
2.0.12	<p>Start-up: Through micro controlled control panel</p>	Vendor to Confirm	
2.0.13	<p>Air – Inlet Filters: Suitable air filters of dry mesh type to be considered</p>	Vendor to Confirm	

Multistage Reciprocating Air Compressor (PART B)

S. No.	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER (with complete technical details)
2.0.14	<p>Lubrication System: The crank shaft journals, connecting rod ends and guides are to be forced lubricated by a geared pump driven by the crank shafts. The lubricating system is to be complete with gauges, oil pressure regulating valve, oil temperature gauge and low pressure shut down relay electrically inter-locked with the motor starter. Oil level display to be installed for viewing the oil level.</p>	Vendor to Confirm	
2.0.14.1	The vendor shall provide non-lubricated type (oil free) piston rings	Vendor to Confirm	
2.0.15	<p>Drive: The drive to the compressor is to be either directly coupled or V-belts.</p>	Vendor to Confirm & Specify	
2.0.16	<p>Drive Motor: The drive motor of the compressor is to be of horizontal foot mounted, screen protected- TEFC squirrel cage induction type complete with, foundation bolts, etc. and to be class 'B' insulated. Power and rating shall be of a 415V ±10% / 3PH / 50Hz ±3%.</p>	Vendor to Confirm	
2.0.17	<p>Control Panel: A micro controller based control panel (microprocessor based) shall be supplied. All the switches/ starter are to be fitted with suitable cable box with glands for 3½ core cables. An ammeter is to be provided to indicate the starter current. All L.T. electricians including controls are to suitably tropicalise and to work on 415 volts, 3- phase, and 4 wires. 50 cycles, A.C. Supply.</p>	Vendor to Confirm	
2.0.18	<p>Base Plate: The compressor and the drive motor are to be mounted on a suitable bed plate. This is to be of rugged high grade C.I. construction.</p>	Vendor to Confirm	

Multistage Reciprocating Air Compressor (PART B)

S. No.	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER (with complete technical details)
2.0.19	<p>After Cooler: An after- cooler, water cooled type of adequate capacity is to be supplied along with the compressor for the efficient cooling of the compressed air, the tube stocks are to be of removable type for easy cleaning without the necessity for displacing the casing. The after cooler is to be complete with air and water relief valves, moisture drain trap, and inlet and out let air and water flanges, supporting stool, foundation bolts etc. The cooling water requirements details are to be furnished by the bidder. All the tubes shall be of copper. The details of all accessories are to be furnished by the bidder.</p>	Vendor to Confirm & Specify	
2.0.20	<p>Air Receiver: 1 M³ air receiver suitable for vertical mounting, locating near the compressor complete with safety valves, pressure gauge, drain cock, manhole etc. is to be supplied with the compressor to act as a damper. Isolation valves like inlet & outlet are to be provided. Capacity of the same to be mentioned and to be certified according to pressure vessel act. Detailed data sheet to be submitted by the vendor along with the offer.</p>	Vendor to Confirm & Specify	
2.0.21	<p>Fittings: In addition to be aforesaid equipment, the compressor is to be provided with the following</p>	Vendor to Confirm	
2.0.21.1	<p>Necessary pipe work complete with fitting for connecting the air filter to the compressor, compressor to the after cooler, and after cooler to the air receiver, air receiver to the compressed air storage tank of BHEL (Approx. length of the last item is 125m).</p>	Vendor to Confirm	

Multistage Reciprocating Air Compressor (PART B)

S. No.	PARTICULARS		SPECIFICATION / DESCRIPTION	BIDDER'S OFFER (with complete technical details)
2.0.21.2	Pipe Work: Interconnecting compressed air pipe work, interconnecting water pipe work and instrument lines should be provided between all items of equipment mounted on the compressor base plate and also up to the compressed air storage tank (BHEL) as specified above with all necessary auxiliaries / fitting / instruments. Pressure relief valves should be provided on the inter stage and discharge lines immediately after the intercooler / after cooler.		Vendor to Confirm	
2.0.21.3	Necessary pressure gauge and thermometers.		Vendor to Confirm	
2.0.21.4	Necessary foundation bolts and plates.		Vendor to Confirm	
2.0.21.5	Micro controlled control panel shall include necessary interlocks & alarms to trip the Motor, in the event of cooling water supply failure, high discharge temperature and lube oil failure etc. Vendor to furnish complete details of display available in the panel along with interlocks & alarms list which is mandatory		Vendor to Confirm & specify	
2.0.21.6	Any other safety device for the safe working of the compressor.		Vendor to Confirm	
2.0.22	Package Design: a. Fabricated steel base plate for all the compressor components. b. Single point connections for discharge air, inlet-cooling water, discharge cooling water, condensate outlet and electrical service. c. Sight flow indications and manual valves for cooling water. d. Automatic condensate drain center.		Vendor to Confirm	
3.0	Technical Specification			
3.1	Air Discharge Capacity	600 Nm ³ /hr	Vendor to Confirm	
3.2	Air delivery pressure	30 kg/ cm ²	Vendor to Confirm	
3.3	Location	BHEL Ltd, Visakhapatnam	Vendor to Confirm	
3.4	Maximum humidity	95 %	Vendor to Confirm	
3.5	Temperature	45 ° C	Vendor to Confirm	

Multistage Reciprocating Air Compressor (PART B)

S. No.	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER (with complete technical details)
3.6	Drier Specification		
3.6.1	Drier with an Air Drying Capacity of $\leq -20^{\circ}$ C atmospheric dew point at the outlet of the Drier. The drier is to be complete with all necessary accessories like relief valves, moisture drain trap, and inlet and out let air and water flanges, supporting stool, N.R.V, control panel, filters adsorber etc. The details of all accessories and material of construction are to be furnished by the bidder along with the offer.	Vendor to Confirm & Specify	
3.6.2	Type of Desiccant	Vendor to Specify	
3.6.3	Quantity of Desiccant	Vendor to Specify	
3.6.4	Cycle Time	Vendor to Specify	
3.6.5	Approx. Size	Vendor to Specify	
3.6.6	Approx. Weight (in kg)	Vendor to Specify	
3.6.7	Outlet air dew point to be $\leq -20^{\circ}$ C at atmospheric pressure.	Vendor to Confirm	
4.1	Electrical Installation		
4.1.1	Tropicalisation: All electrical/electronic equipment shall be tropicalised.	Vendor to Confirm	
4.1.2	a) All electrical and electronic panels including operator's panel should be provided with fluorescent lamps for sufficient illumination and power receptacles of 220 Volts, 5/15 Amp. AC. b) All adapters / receptacles should have compatibility with Indian equivalents.	Vendor to Confirm	
4.1.3	All motors shall be energy efficient and shall be any of the following makes: Siemens / Alstom / GEC /Crompton Greaves / ABB or other makes conforming to IEC standards and acceptable to BHEL.	Vendor to Specify	
4.1.4	Total electrical load	Vendor to Specify	
5.0	Documentation:		
5.1	Three sets of following documents in English Language should be supplied along with the machine.	Vendor to confirm	
5.1.1	Dimensioned out line General Arrangement drawing.	Vendor to confirm	

S. No.	PARTICULARS	SPECIFICATION /	BIDDER'S OFFER
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Multistage Reciprocating Air Compressor (PART B)

		DESCRIPTION	(with complete technical details)
5.1.2	Details of safety devises/guards provided.	Vendor to confirm	
5.1.3	Electrical schematic diagram and total electrical load required.	Vendor to confirm	
5.1.4	Catalogues/leaflets of machine offered. Operation & maintenance manual to be provided with machine/compressor.	Vendor to confirm	
5.1.5	Make & details (rating) of the control panels & other items like motors, gears, pumps, hydraulic systems etc.	Vendor to confirm	
5.1.6	Component drawings with material specification for all wearing components like bushes, liners etc.	Vendor to confirm	
5.1.7	One additional set of all the above documentation in CD as SOFT COPY.	Vendor to confirm	
6.0	Spares And Accessories		
6.1	Recommended spares for two years normal working of the equipment is to be given with details and individual prices. All standard accessories / equipments shall be supplied with the compressor without extra price. Such list to be submitted.	Vendor to confirm & Specify	
6.2	All types of spares and accessories for total compressor should be available for at least ten years after supply of the equipment. If equipment / control is likely to become obsolete in this period, the vendor should inform BHEL sufficiently in advance and provide drawings of parts / details of spares & suppliers to enable BHEL to procure these in advance, if required.	Vendor to confirm	
7.0	General Conditions		
7.1	The compressor should be most updated in design incorporating the features.	Vendor to confirm	
7.2	The machine/compressor should be painted in Apple Green/vendor std.	Vendor to confirm & specify	
8.0	Testing Standard & Procedure		
8.1	The machine shall be tested as per Indian / International Standard.	Vendor to confirm	
8.2	All the procedures as per standard shall be demonstrated to BHEL engineers during pre-acceptance at Suppliers works and during Erection & Commissioning at BHEL Works.	Vendor to confirm	

Multistage Reciprocating Air Compressor (PART B)

S. No.	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER (with complete technical details)
8.3	Machine Acceptance: (Tests / Activities Shall Be Performed By Vendor)		
8.3.1	Tests / Activities shall be carried out at supplier's works on the machine before dispatch :		
8.3.1.1	The vendor shall specify the various standards (testing, measurements, motors, workmanship) applicable for this machine acceptance. Standards shall be of Indian / International standard.	Vendor to confirm & Specify	
8.3.1.2	Motors data sheet (test data to be provided)	Vendor to confirm	
8.3.1.3	Internal routine test report	Vendor to confirm	
8.3.1.4	Test plan for final factory inspection to BHEL review	Vendor to confirm	
8.3.1.5	Full load test to demonstrate the maximum power & capacity of the compressor with various types of loads	Vendor to confirm	
8.3.1.6	Demonstration of all features of the compressor, control system & accessories	Vendor to confirm	
8.3.2	Tests/Activities shall be carried out at BHEL works while commissioning the machine :		
8.3.2.1	Full load test to demonstrate the maximum power & capacity of the compressor for a period of 48 hr.	Vendor to confirm	
8.3.2.2	Demonstration of all features of the compressor, control system & accessories to the satisfaction of BHEL for efficient and effective use of the machine.	Vendor to confirm	
8.3.2.3	Training of BHEL machine operators in operation of complete machine & accessories etc by the supplier's experts / engineers during their stay at BHEL works.	Vendor to confirm	
9.0	Guarantee: The machine shall be guaranteed for its satisfactory performance for 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier.	Vendor to confirm	
9.1	In addition all other features of the machine model and points agreed during clarification shall be in the scope of supply.	Vendor to confirm	

S. No.	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER (with complete technical details)
10.0	<p>Foundation : Vendor shall submit the preliminary General Layout drawing including control panel for getting BHEL's approval within one month from the date of Letter of Intent (LOI) / P.O. Complete Foundation load data including details viz. static / dynamic load details etc. are to be submitted by the vendor. The foundation design shall be done by BHEL. The vendor shall submit all foundation insert materials viz; foundation bolts, anchor crowns, shines etc. Final Layout drawings shall be submitted by the supplier within 45 days after getting BHEL's approval. BHEL shall construct complete foundation for the machine. Vendor shall arrange equipments required for the testing of foundation, if required by the vendor.</p>	Vendor to confirm	
11.0	Erection & Commissioning		
11.1	Supplier to take full responsibility for carrying out commissioning and erection supervision, start up, testing of machine, it's control & all types of other supplied equipment etc. Service requirement like power, air & water shall be provided by BHEL at only one point indicated by supplier in their foundation/layout drawings. Other requirements like crane and helping personnel shall also be provided by BHEL. Details of these requirements shall be informed by vendor in advance.	Vendor to confirm	
11.2	Tools, Tackles, instruments and other necessary equipment required to carry out all above activities shall be brought by the supplier. Complete anchoring system including foundation bolts, anchoring materials, fixators, leveling shoes etc. required for the machine shall be supplied by the Vendor.	Vendor to confirm	
11.3	Commissioning spares, required for commissioning of the machine within stipulated time, shall be brought by the supplier free of cost.	Vendor to confirm	
11.4	All Cover Plates required for the machine and its peripherals including pits, if any, shall be supplied and installed by the vendor.	Vendor to confirm	

Multistage Reciprocating Air Compressor (PART B)

S. No.	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER (with complete technical details)
11.5	Portion, if any, of the machine, accessories and other supplied items where paint has rubbed off or peeled during transit or erection shall be repainted and merged with the original surrounding paint by the vendor. For this purpose, the vendor shall supply sufficient quantity of touch-up paint of various colors of paint used also.	Vendor to confirm	
11.6	Schedule of Erection and Commissioning shall be submitted along with the offer.	Vendor to confirm	
11.7	Charges for the Erection & commissioning of the machine/compressor should be quoted in offer separately.	Vendor to confirm	
12.0	Packing:		
12.1	Sea worthy & rigid packing for all items of complete machine, CNC System, all Accessories and other supplied items to avoid any damage/loss in transit. When machine is dispatched in containers, all small loose items shall be suitably packed in boxes	Vendor to confirm	

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

Sr. Manager (MM)
BHARAT HEAVY ELECTRICALS LIMITED
HEAVY PLATES & VESSELS PLANT
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 BHEL 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 BHEL Visakhapatnam 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 BHEL Visakhapatnam 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 BHEL Visakhapatnam basis. Freight charges from works to BHEL 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 & BHEL Visakhapatnam 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:**
80% payment (80% of basic price + 100% Taxes) will be made within 45 days of receipt of material and balance 20% will be made after acceptance of material/commissioning of the equipment at BHEL, Visakhapatnam and on submission of Performance Bank Guarantee
- 5.7.2 **Foreign Bidders**
An Irrevocable letter of Credit shall be established for 80% of FOB/FCA/CFR/ (excluding Indian Agent's commission) 2 months prior to shipment and valid for 3 months for negotiation against shipment Letter of Credit shall be opened through a branch of State Bank of India in the country where order shall be placed. In case, in the country where order is placed, State Bank of India is not there, Letter of Credit will be confirmed by foreign banker. Balance 20% of FOB/FCA/CFR value shall be paid through sight draft on Commissioning & acceptance of the equipment at BHEL 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.
- 5.7.3 **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 BHEL. 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 + 2%, which shall be computed for the differential period between BHEL Visakhapatnam terms of payment and the offered basic price.
- 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 BHEL Visakhapatnam in the format, given by BHEL Visakhapatnam 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, BHEL Visakhapatnam 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 BHEL Visakhapatnam 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, BHEL Visakhapatnam, basis.

- 5.16 **Inspection & Testing:** All goods shall be subject to inspection by BHEL Visakhapatnam or its authorized representatives at supplier's works or at BHEL Visakhapatnam 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 BHEL, 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 BHEL Visakhapatnam).
- 5.22 BHEL Visakhapatnam also reserves its right to allow to the Public Sector Enterprises ordering and price preference facilities as admissible under the existing policy.
- 5.23 BHEL Visakhapatnam reserves its right to reject a tender due to unsatisfactory past performance in the execution of a contract at another project / unit.
- 5.24 BHEL Visakhapatnam 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 BHEL Visakhapatnam.
- 5.25 BHEL Visakhapatnam 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. BHEL Visakhapatnam 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. BHEL Visakhapatnam 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. BHEL Visakhapatnam 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. BHEL Visakhapatnam will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at "Total Cost to BHEL Visakhapatnam like Packing & Forwarding charges, taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for non-compliance to BHEL Visakhapatnam 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 BHEL Visakhapatnam 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 BHEL Visakhapatnam as per prevailing procedure.
 11. In case BHEL Visakhapatnam 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 BHEL Visakhapatnam shall be opened as per BHEL Visakhapatnam'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 BHEL Visakhapatnam's Standard Commercial Terms & Conditions.

Applicable for Indian bidders

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

BHEL Visakhapatnam 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 BHEL Visakhapatnam" 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 BHEL Visakhapatnam's Standard Commercial Terms & Conditions.

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

BHEL Visakhapatnam 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