

BHARAT HEAVY ELECTRICALS LIMITED,
(A Government of India Enterprises)
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NOTICE INVITING TENDER(NIT)

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

**SUB: RETROFIT AND RECONDITIONING OF
PANEL PROCESSING MACHINE**

Our Ref: **MM/2/10/3630/CAP/W-162/5162**

DATE: 24.01.2014

Sealed quotations in duplicate are invited from suppliers on or before **22.02.2014** **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.	RETROFIT AND RECONDITIONING OF PANEL PROCESSING MACHINE (Estimated Cost of work is Rs. 70 Lakhs approx.)	1 No.
	Encl: 1. Qualifying Criteria PART A 3 Pages 2. Technical Specifications PART B 15 Pages 3. General Terms/ commercial terms and conditions 9 Pages (INCLUDING CHECK LIST)	

For BHARAT HEAVY ELECTRICALS LIMITED,

For Sr. MANAGER (MM)

TECHNICAL SPECIFICATIONS FOR RETROFIT & RECONDITIONING OF PANEL PROCESSING MACHINE

PURPOSE:

To completely Retrofit and Recondition existing 4 Torch Panel Processing Machine – 1 No.

NOTES:

1. Vendor must submit complete information for all the clauses mentioned below. The offers meeting this clause would only be processed.
2. The column "**BIDDER'S OFFER WITH CONFIRMATION & COMPLETE TECHNICAL DETAILS**" of this Format shall be filled in by the Vendor and submit along with the offer. Inadequate / incomplete, ambiguous, or unsustainable information against any of the clauses of the specifications / requirements shall be treated as non-compliance and lead to disqualification of the offer without asking queries.
3. Vendors **MUST** visit BHEL VIZAG, Visakhapatnam and study the existing machine before submission of quotation. The cut-off date for visit to BHEL VIZAG for inspection of the Panel Processing Machine, clarification to the vendors to be completed 7 days prior to the tender due date.
4. Reconditioning of the machine should be completed within 3 Months from the date of receipt of PO. Vendor to mobilize resources accordingly to complete the job in 3 Months in all respects.
5. Vendors must indicate makes of all components that are being supplied as a part of this tender shall be clearly indicated in a separate sheet.

ADDRESS OF THE SUPPLIER :	ADDRESS OF THE INDIAN AGENTS :
TELEPHONE NOS.:	TELEPHONE NOS.:
FAX NOS.:	FAX NOS.:
E-MAIL ADDRESS:	E-MAIL ADDRESS :

TECHNICAL SPECIFICATIONS FOR RETROFIT & RECONDITIONING OF PANEL PROCESSING MACHINE

QUALIFICATION CRITERIA FOR RETROFIT & RECONDITIONING OF PANEL PROCESSING MACHINE

SL NO	PRE-QUALIFICATION	Bidder's Offer
A.1.	<p>PRE-QUALIFICATION REQUIRMENTS All the following conditions are to be satisfied by the bidder. Documentary proof is to be enclosed with techno-commercial bid satisfying all these conditions. In case the bidder fails to enclose the same, the offer will be liable for rejection.</p>	
1.	<p>The party must be a reputed Manufacturer / Reconditioner of Panel Processing Machines or machines involving automatic Welding with SAW/TIG/MIG/CO₂ with at least 3 Years of experience in this field by the date of closing of this tender. The experience reference shall be for a period preceding immediately to the closing of tender date. Party must submit at least one satisfactory performance certificate issued by customer during the above period. Copies of purchase orders/work orders and corresponding completion certificates should be submitted for verification. The dates of the P.O / certificates should be within this period only. Offers without these documents are liable for rejection. List of the customers along with respective contracting officers addresses (including Phone no. / E-Mail ID) for whom machines were manufactured / rebuilt should be enclosed with the offer.</p>	
2.	<p>Estimated amount: Rs 70 Lakhs The annual turnover during the last three Years ending March 31st 2013 should be at least Rs 105 Lakhs (CA certified copy of balance sheet / P&L statements to be enclosed).</p>	
3.	<p>Latest Bankers' solvency (with in six months from the date of tender notice) for an amount of Rs 70 Lakhs from any Nationalized / Scheduled Commercial bank.</p>	
4.	<p>Experience of having successfully completed similar works during the last 3 Years or above (by this tender closing Date) should be either of the following.</p> <p>Three similar completed works costing not less than the amount equal to Rs 21 Lakhs (30% of estimated cost)</p> <p style="text-align: center;">or</p> <p>Two similar completed works costing not less than the amount equal to Rs 28 Lakhs (40% of estimated cost)</p> <p style="text-align: center;">or</p> <p>One similar completed work costing not less than the amount equal to Rs 42 Lakhs (60% of estimated cost)</p>	

TECHNICAL SPECIFICATIONS FOR RETROFIT & RECONDITIONING OF PANEL PROCESSING MACHINE

QUALIFICATION CRITERIA FOR RECONDITIONING OF PIPE BENDING MACHINE

A.2	<u>Definition of similar works</u> Manufacturer / Reconditioner of Panel Processing Machines or machines involving automatic Welding with SAW/TIG/MIG/CO₂ .	
A.3	BHELVIZAG reserves the right to verify the information provided by vendor (including visit by a team of BHELVIZAG Officials to the Customer Works of the Vendor). In case the information provided by vendor is found to be false/incorrect, the offer shall be rejected.	

TECHNICAL SPECIFICATIONS FOR RETROFIT & RECONDITIONING OF PANEL PROCESSING MACHINE

General:

M/s. BHEL VIZAG is having one number of Panel Processing Machine (SAW) with 4 torches as mentioned below. It is proposed to Retrofit and Recondition this machine by replacing existing Power sources, torches etc without changing the existing SAW weld process as mentioned in the scope.

Model No & Specifications of the existing 4 torch panel processing machine:

S. NO.	MAKE	MODEL NO	BRIEF SPECS	YEAR OF INSTALLATION
1.	KUSAKABE	JUC-8921 M/s. Kusakabe Kikai Co Ltd, Japan S No: CE234	415V, 50Hz, 4 Torch SAW welding Machine with OTC Diahen CPV-500, DM-500 Power sources (4 Nos.) & wire feeder CM-231 U3623, CM-7401.	1981

SUPPLY AND COMMISSIONING OF THE ITEMS:

S. NO.	PARTICULARS	SPECIFICATION / DESCRIPTION		
	PURPOSE	Continuous welding of Super critical / Sub Critical High Pressure Power Boiler Membrane Wall Panels formed by welding of seamless tubes with intermediate flats.		
1.0	JOB SPECIFICATIONS OF EXISTING MACHINE			
		EXISTING	REQUIREMENT UNDER RETROFIT	VENDOR'S CONFIRMATION
1.01	Tube Outside Diameter	51/63.5/76.1mm	44.5/51/63.5/76.1 mm (1 set of new rolls for the above sizes are to be supplied by the vendor)	
1.02	Tube Wall Thickness	2.3mm to 10mm	2.3mm to 10mm	
1.03	Tube Material			
1.04	a) Carbon Steel	SA192, SA210A1, SA210 Gr C	SA192, SA210A1, SA210 Gr C	
1.05	b) Alloy Steel	SA213T11, SA213T22	SA213T11, SA213T22	
1.06	Fin Material			
1.07	a) Carbon Steel	ASTM A 576	ASTM A 576	
1.08	b) Alloy Steel	ASTM A 387Gr.12, ASTM A 387Gr.22	ASTM A 387Gr.12, ASTM A 387Gr.22	
1.09	Fin Width	9 – 110 mm	9 – 110 mm	
1.10	Fin Thickness	6mm	5 – 12 mm	
1.11	Welding Speed (Variable Range)	800 to 1000 mm/min	500 to 1500 mm/min	

TECHNICAL SPECIFICATIONS FOR RETROFIT & RECONDITIONING OF PANEL PROCESSING MACHINE

JOB SPECIFICATIONS OF EXISTING/RETROFIT MACHINE				
S NO	DESCRIPTION	EXISTING	REQUIREMENT UNDER RETROFIT	BIDDER'S OFFER WITH CONFIRMATION
1.12	Welding Wire Diameter	1.6 mm Solid Wire	1.6 mm Solid Wire	
1.13	Panel Tolerances	Tolerance on Width: + 0mm /- 3mm Bow: Not allowed	Tolerance on Width: + 0mm /-3mm Bow: Not allowed	
1.14	Welding Power sources	OTC Diahen CPV-500, DM-500 Power sources (4 Nos) 500A DC	Digital Inverter controlled DC Power source of 470amps @ 100% and 500amps @80% duty cycle suitable for 415V AC +/- 10%, 50Hz +-3 Hz (4 Nos). To be supplied new.	
1.15	Weld Processes	SAW/CO ₂	SAW	
1.16	Construction	Rigid Closed Frame	Rigid Closed Frame	
1.17	Panel Length (Welded Portion)	24000 mm		
1.18	Panel Width	1600mm		
1.19	Fin Material Used	Carbon Steel: ASTM A 576 Tensile Strength: 390 MPa Alloy Steel: a) ASTM A 387Gr.12 (TS: 450 to 585 MPa) b) ASTM A 387Gr.22 (TS: 515 to 690 MPa)		
2.0	All the below mentioned operations are to be obtained by supplying and commissioning the items, wherever necessary shall fall in the scope of vendor			
2.01	Torch Arrangement	Existing pattern with out changing the location of torches.		
2.02	Machine modification	While reconditioning, to ensure formation of panels without kink, bow and twist, in addition to a perfect defect-free welding.		
2.03	Panel Welding	Simultaneous Welding on Top of the panel		
2.04	Selection of torches for welding in a group	Welding with any or all 4 Torches at a time by operator selection		

TECHNICAL SPECIFICATIONS FOR RETROFIT & RECONDITIONING OF PANEL PROCESSING MACHINE

S. NO.	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH CONFIRMATION
2.05	Continuous Welding without interruptions	Welding shall progress without interruptions while welding a 24m long panel when welding with all 4 Torches simultaneously. Note: A maximum of 2 interruptions for torch cleaning purpose only are allowable	
2.06	Upper Form Roller Shafts	Screw rod and locking arrangement with gear-box and motor are to be overhauled.	
2.07	Form Rollers and Distance Rings	To be checked and reconditioned.	
2.08	Fin Bar Pressing Rolls	Existing fin bar pressing rolls and its system to be overhauled.	
2.09	Fin & Tube Clamping Device	Side pressing unit with pneumatically operated pressing rollers for fins or tubes are to be overhauled.	
2.10	Wire straightener	This arrangement to be checked and reconditioned.	
2.11	Welding power sources	Existing 4 nos of power sources are to be replaced with new 4 nos of Inverter based welding power sources (SAW) suitable to do welding at 470amps @ 100% and 500amps 80% for input supply of 3 Phase, 415V+/- 10%, 50Hz +/- 3 Hz.	
2.12	Operator panel	Existing operator panel shall be retained but all the meters, knobs, switches, levers, Push buttons, joy sticks etc to be replaced with new ones. Also wire feed indication should be added in vendor's scope. To replace existing analog meters with digital meters displaying actual welding parameters. Emergency switches are to be provided. The readings displayed on the control panels meters shall be within 5% variation with respect to the meters on power sources(Voltage, Current).	
2.13	Power supply to Machine	415V +/- 10%, 50HZ +/-3 Hz, 3 Phase AC (3 wire system without neutral) power supply will be provided by BHELVIZAG at a single point near the Machine in the control room. Control circuit power supply is to be 230 V AC.	

TECHNICAL SPECIFICATIONS FOR RETROFIT & RECONDITIONING OF PANEL PROCESSING MACHINE

S. NO.	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH CONFIRMATION
2.14	Power/Welding/control cables	All power, control, welding, reference cables, including termination material, cable racks, conduits, earthing material to be supplied new and commissioned. All Power, welding and control cables, connections, circuit breakers etc. required for connecting BHEL VIZAG's power supply point to different parts of the Machine / control cabinet / field elements shall be the responsibility of vendor. The Cables should be of Copper Conductor. All Power, welding, control cables with 20 mtrs lengths are to be supplied and commissioned with new standard cables. Cables: Instrument cables and the compensating cables to be separated from the power cables. All the cables should be of FRLS design only. Instrument cables of Toshniwal / Polycab or any other make which is acceptable to BHEL VIZAG to be provided.	
2.15	Tropicalization	All electrical / electronic equipment shall be tropicalized.	
2.16	Electrical components	All electrical components supplied by vendor like contactors and OLRs etc., should be of Siemens, L&T or Telemecanique make.	
2.17	Tools and Tackles	Any tools and tackles, instruments and materials required for further maintenance of BHEL VIZAG shall be provided.	
2.18	Calibration certificates	Calibration certificates for all the Panel instruments, meters(all Analog and Digital) like Ammeters, Voltmeters are to be provided by vendor	
2.19	PCB Schematics	Complete Printed Circuit Board Schematics indicating check points (Test Points) for Electronic Controls.	
2.20	Roller construction for feeding the tube and pressurizing the tubes	Sufficient number of rows of rollers across the width & length of the panel are to be repaired/overhauled in order to avoid welding heat related problems like bow / twist generation during welding and insufficient pressure related problems in the horizontal or vertical directions.	
2.21	Weld Quality	Vendor to ensure perfect weld quality (in single stroke) without any defects like Weld Skip- Off, Off-Line, Burn-Through, Under-Cuts, Lack of Fusion or Penetration, Weld Porosity etc. Weld Quality inspection by visual. Vendor to confirm visual inspection as per Annexure-B attached. Bidder to confirm.	
2.22	Weld Penetration	Complete weld penetration across the thickness of the fin to be ensured after reconditioning. Vendor to confirm visual inspection as per	

TECHNICAL SPECIFICATIONS FOR RETROFIT & RECONDITIONING OF PANEL PROCESSING MACHINE

		Annexure-B attached. Bidder to confirm.	
S. NO.	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH CONFIRMATION
2.23	Machine Elements	Welding components / equipments arrangement are to be of rigid and solid design, self guiding / holding type and user friendly to avoid welding related problems (due to fragile arrangement of wire feeders, guides & controllers, torch assembly & positioning, devices with respect to feeding rollers, etc.). The details of torch adjustment to be provided by the bidder.	
2.24	Solenoid valves.	All solenoid valves are to be replaced with new ones.	
2.25	Power sources	4Nos. Digital Inverter Controlled DC Welding Power source. 470amps @ 100% and 500 amps @80% Duty Cycle suitable for 3 Phase,415 V +-10% AC, 50Hz +-3%.	
2.26	Power source Make	ESAB / SAF / KEMPPI / OTC- DAIHEN / PANASONIC / MILLER	
2.27	Other Features of Power source	Capable to produce Weld in the Panel Building Process [with Spatter Free Welding, Smooth Arc Initiation, Crater Filling, Good Penetration, Uniform Weld Bead Formation(concave) etc.]	
2.28	Complete Wire Feeder unit:	New wire feeding units for all the 4 torches are to be supplied and commissioned by the vendor for the wire size 1.6 mm. The supplier should indicate the make of complete wire feed unit. We prefer wire feed unit and power source from same make.	
a.	Welding Wire Coil Holders	New welding wire coil holders are to be supplied for all the 4 torches to hold and feed 13 to 25 kg. Spools	
b.	Wire feeder coil packs mounting position	Wire feeders and coil packs for all torches shall be on the Service Platform	
c.	Wire feeding conduits	The wire feed conduits are to be supplied and installed for feeding of the wire from the Drum Packs to Wire feeder inlet shall have a suspending/ support arrangement that ensures the conduits are routed in smooth curves aiding uninterrupted wire flow.	
2.29	Stroke adjustment of Welding Torch	Up/ Down Stroke adjustment shall be checked and reconditioned.	

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S. NO.	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH CONFIRMATION
2.30	Lubrication	After reconditioning, all the torch mechanism and all other Mechanical parts are to be Lubricated with Iglidur L-100 or equivalent acceptable to BHELVIZAG.	
3.0	Welding Torches		
3.01	Torches	To replace all the four existing torches with 4 nos. of new torches.	
3.02	Torches	Heavy-duty straight neck mounting torches of suitable length. Make and model to be indicated by the bidder.	
3.03	Torch Motors	Torch sliding motor and torch adjustment motor for new torches are to be supplied and commissioned by the vendor.	
3.04	Torch cable	Appropriate cable length & support devices to ensure high speed stable wire feeding with 1.6 mm solid wire shall be provided by the vendor.	
3.05	Torch cable protection	Torch cables of suitable length to be provided with protective sheathing and fire proof.	
3.06	Welding Torch Mounting Arrangement	Torch Mounting Guides are to be checked and reconditioned.	
3.07	Weld Torch movement and positioning	Weld Torch movement and positioning to be checked and reconditioned. It should be possible to move and locate the Welding Torch Carriages at any desired position on the horizontal Guide Beam.	
3.08	Torch design	The nozzles of the torches, torch body & torch slides are to be designed & constructed to allow satisfactory aiming of the 1.6 mm solid wire to the particular point in the tube-fin interface (for all combinations of Tube-Fin sizes) with appropriate stick out distance (5 - 12 mm), appropriate Torch angles to result in deposition of a defect free bead of satisfactory shape in all Torches.	
3.09	Torch Positioning	Torch positioning beam for 4 torches comprising of torch holding bracket, carriages with lock/unlock facility, pneumatic slides for quick lowering and raising and slides for positioning are to be checked and reconditioned and any spare parts required are to be supplied and commissioned by the vendor.	

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S. NO.	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH CONFIRMATION
3.10	Stroke length adjustment	Stoke length adjustment for each torch x and Y-axis with micro adjustment to be checked and reconditioned.	
3.11	Torch clamping	Replacement of all the Mechanical torch clamps for setting torch at any angle are in the scope of vendor.	
4.0	In-feed , Out-feed & Return Conveyors		
4.01	Conveyor	The existing conveyor control system including main control panel is to be checked and reconditioned. The conveyor chain system, motors, movement to be checked and reconditioned.	
4.02	Out-feed Conveyor	Welding 24 mtrs long and 1.6 mtrs wide panels. The chain system to be checked and reconditioned.	
5.0	Flux recovery System		
5.01	Existing flux recovery system	Existing flux recovery system to be overhauled.	
6.00	Side pressing roller arrangement to be reconditioned.		
6.01	Bottom and top fin supporting roller provided at second pressure roller and at the front side of the machine feeding system to be reconditioned.		
6.02	Panel assembly and pre-tacking assembly to be reconditioned.		
7.0	Following items are to be taken care for Erection & Commissioning:		
7.01	Mounting and aligning the 4 torches on the beam.		
7.02	Erection of all electrical and mechanical items right from power source to all torches and align the work for welding		
7.03	Interfacing the existing machine controls with new welding power source and wire feed controller and drives.		
7.04	Welding error controls like wire feed sensor, welding wire feed off, tube travel trip, welding stop in torch up condition to be ensured in the interfacing of logic controls. For all error controls, indication lamps to be provided to identify the logic errors.		
7.05	Wire feed drive and welding power source both to be operated in synergic mode during welding operations.		
7.06	Fin loading stand, existing motors, existing control cabinet etc to be reconditioned		
7.07	Existing Flux hopper alignment/adjustment, reconditioning		
7.08	Torch slide assembly		

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S. NO.	PARTICULARS	SPECIFICATION / DESCRIPTION
7.11	Existing operator panel and its connections. If the existing control panel is not sufficient for installation of new instruments, new panel has to be supplied by the vendor.	
7.12	Bus bar connections and arc voltage feed back connections.	
7.13	Welding/Hot wire motors and its connections.	
7.14	Welding wire governors.	
7.15	Filler wire pressure roller connections.	
8.0	Performance prove out, Training & Documentation:	
8.01	Performance prove out shall be carried out on formation of panel using average pipe of 63.5 mm dia X 6.3 mm (or 5.2mm) thick carbon steel rifled tube with a fin of 6mm thick and 12.5 mm width and the welding shall be free of defects like burn through, weld off line, metal drip etc. Vendor also to confirm visual inspection as per Annexure-B.	
8.02	Vendor shall ensure the required feed rate for the tube/panel and other axial and radial support for the panel through rollers to enable performance prove out.	
8.03	Supplier shall furnish the dimensional details of contact tips of all sizes in complete.	
8.04	The contractor has to supply all Electrical and Mechanical items required as mentioned in the technical specification of the work.	
8.05	The Contractor has to erect all electrical and mechanical items right from power source to all torches and align the work for welding.	
8.06	The Contractor has to demonstrate the welding of the panel from the newly installed 4 torches with 1.6 mm dia consumables.	
8.07	The Contractor has to stabilize the welding with respect to panel and hand over the machine for production.	
8.08	The Contractor has also to quote along with the offer the relevant spares for electrical and mechanical in addition to the items mentioned above.	
9.0	Quality:-	
9.01	The proposed reconditioning of the existing PPM machine with same weld process shall eliminate the welding defects, burn through, weld off line, metal drip, on the proposed average pipe dia of 63.5 mm X 6.3 mm (5.2mm) rifled tube with a fin of 6 mm thick and 12.5 mm width in array of tube of carbon steel in quality of weld.	
9.02	The proposed reconditioning of the existing PPM machine shall prove 500 to 1500 mm per minute welding feed rate (speed) with a fillet of 6 mm thick for a length torch engaged at a time on weld equal to 24 meters job on the proposed average pipe dia of 63.5mm X 6.3 mm rifled tube with a fin of 6mm thick and 12.5 mm width in array of tube of carbon steel in productivity of the weld.	

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S. NO.	PARTICULARS	BIDDER'S OFFER WITH CONFIRMATION
10.0	<p>Painting of the Machine : The body and all the parts of the machine shall be painted with two coats of reputed brand of Premium enamel Apple Green color paint. Interior of the machine are to be painted with two coats of enamel paint (Color to be specified by BHELVIZAG at the time of PO). Wherever oil comes in contact with interior of the body, oil resistant paint to be used. Letters, numerals etc. will have to be painted with a different color as required / as indicated by BHELVIZAG at the time of final painting. For electrical panel boxes inside area is to be painted with two coats of white enamel paint. Painting should be carried out according to the standard procedure for painting including cleaning and removing old paint, applying metal primer putty etc. Good finish should be ensured. Overall Machine aesthetic view should be taken care of.</p>	
11.0	<p>SPARES AND JOINT INSPECTION:</p> <ol style="list-style-type: none"> 1. Complete dismantling of the machine assemblies into individual parts, degreasing, chemically cleaning, pre-painting of structural parts, joint inspection to finalize the detailed list of <ol style="list-style-type: none"> a. Spares to be bought out b. Spares to be manufactured <p>The list should be approved by BHELVIZAG. Drawings of spares to be manufactured and specifications for bought out items shall be submitted to BHELVIZAG by the vendor for approval.</p> <p>SPARES : For the above mentioned spare parts (electrical/ mechanical / hydraulic/ electronics) required to be replaced beyond the spares quoted as per scope of work specified by the vendor along with offer, approved by BHELVIZAG after joint inspection, BHELVIZAG will supply spares available with them or procuring the spares.</p> 2. A separate tender will be floated for these spares (bought out spares and spares to be manufactured). The vendor shall also compulsorily participate in the above tenders quoting for all the spares. The spares will be ordered on the lowest party and the spares will be given to the vendor for assembly into the machine. No extra cost will be paid for the fitment and assembly of these spares. <ol style="list-style-type: none"> a. Spares required to be replaced other than those agreed to during joint inspection will have to be approved by BHELVIZAG before such replacement is affected. Cost of such spares shall be absorbed by the Contractor. BHELVIZAG will not pay for these items. b. Prior intimation has to be given to BHELVIZAG by the contractor for deputing the team for joint inspection at BHELVIZAG / contractor works. 	

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S. NO.	PARTICULARS	SPECIFICATION / DESCRIPTION
12.00	Vendor has to quote for the minimum quantities of spares mentioned at Annexure-A. HPVP reserves the right to increase or decrease the quantities . Hence, vendor has to indicate itemized prices for all spares mentioned at Annexure-A.	
12.01	A spare parts manual should be provided along with the parts list.	
12.02	Any modifications carried out shall not sacrifice original traverses, speed, feed ranges, welding parameters etc.	
13.0	Prove-out test	
13.01	Complete assembly and Geometrical testing (jointly), job trails etc to be carried out. A test chart performance report has to be made. The tests to be carried out in presence of maintenance and production personnel.	
13.02	After successful geometrical and job tests the machine would be handed over to production division for their trail run and regular production would begin on the machine. After completely satisfying themselves with regards to the accuracies, loading capacity etc. of the machine by shearing a few plates, the Production and maintenance personnel would then release the satisfactory performance certificates for the machine. Only on receipt of such certificate the work would be deemed as completed and the final bill would be processed.	
14.0	BHELVIZAG's Scope of work:	
14.01	Material handling facilities will be given during retrofitting at BHELVIZAG shop.	
14.02	Provide all utilities like air, light, power required for during retrofitting, testing/trail runs at BHELVIZAG shop.	
14.03	All necessary documents if available with BHELVIZAG related to Machine will be given to vendor.	
15.0	Miscellaneous	
15.01	The supplier should give point-by-point reply to the specifications	
15.02	The following manuals should be supplied along with the supply of Machine. 1. Electrical block diagrams – 3 sets 2. Circuit diagrams of all PCBs – 3 sets 3. O&M Manuals (hard copy & Soft Copy) if any – 3 sets 4. Details of all Mechanical modifications & fittings with drawings– 3 sets 5.Operational / maintenance / spare parts manuals – 3 sets each	
15.03	The maintenance manual should contain the system description and its working, trouble shooting, circuit diagrams, waveforms, test points etc along with the diagnostic features. Error codes of display, explanation of code and action to be taken.	

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S. NO.	PARTICULARS	SPECIFICATION / DESCRIPTION
15.04	The supplier should provide at least 3 days training in operation, programming and interfacing and maintenance at supplier's works/BHEL VIZAG in each area for production and maintenance personnel.	
15.05	The supplier should provide 1 Year warranty from the date of acceptance of reconditioning the Machine.	
15.06	Place of Work: The supplier can execute the complete reconditioning and retro fitment activity at BHEL VIZAG, Visakhapatnam or at supplier's works. If the machine/parts are to be taken to the supplier's works, the transportation cost (to & fro, insurance) has to be borne by the supplier.	
15.07	Name plates, instruction plates shall be replaced with new ones. One plate with machine specifications in full, name & address of reconditioning party, year of reconditioning etc. should be riveted on top of the column surface.	
15.08	Oiling points with periodicity, type of oil to be used shall be indicated on the machine.	
15.09	Bar chart showing the time required for the following elements to be given covering the period of delivery quoted a) Dismantling of the machine at BHEL VIZAG works b) Complete cleaning and joint inspection of components at BHEL VIZAG works to identify parts for replacement and rework. c) Manufacturing, rework/repairing etc. of the components, completion of scraping work and sub-assemblies d) Complete reconditioning work e) Assembly, re-erection & commissioning of the machine f) Geometrical, positional accuracy testing g) Job trial and prove out	
15.10	Any modifications carried out shall not sacrifice original accuracies, speed and welding parameters	
16.0	<u>REWORK IN LIEU OF REPLACEMENT :</u> Reworks in lieu of replacement on all parts (bushes, box nuts, screw rods etc.) by machine grinding preferably / chrome plating / welding / machining etc. identified initially and also during joint inspection. For such works, BHEL VIZAG will not pay extra.	
16.01	BHEL VIZAG reserves the right to inspect the progress as well as workmanship at any stage of the work. Decision of BHEL VIZAG Representative shall be final in the matter of inspection at any stage. Contractor shall extend necessary co-operation to enable such inspection.	
16.02	All discarded / replaced parts shall be returned to BHEL VIZAG.	
16.03	Any other work (mechanical and electrical) not mentioned in this scope of work to keep the machine in working condition with all features and accuracies are in the scope of the contractor.	

TECHNICAL SPECIFICATIONS FOR RETROFIT & RECONDITIONING OF PANEL PROCESSING MACHINE

S. NO.	PARTICULARS	SPECIFICATION / DESCRIPTION
16.04	The contractor is required to study the machine, the scope of supply and certify the completeness of scope in order to execute the work. In case of any discrepancies in the scope of work, the contractor is required to highlight the same to BHELVIZAG before submission of the offer.	
16.05	Lodging & Boarding facilities for the contractor personnel are in Contractor's scope (during dismantling period, re-erection & re-commissioning period and for troubleshooting during performance guarantee period). BHELVIZAG is not responsible for this.	
16.06	Interpretation: Any dispute of difference of opinion in respect of the interpretation, effect or application of this particular condition of the Contract or of the amount recoverable hereunder from the vendor shall be decided by the Contractee and the decision shall be final, conclusive and binding.	
16.07	Subletting: The vendor shall not sublet or assign this work or any part thereof without the written permission of BHELVIZAG. In the event of the vendor subletting or assigning this work or any part thereof without such permission, BHELVIZAG shall be entitled to cancel the contract and execute the contract elsewhere at the risk and account of the vendor and the vendor shall be liable for any loss or damage which BHELVIZAG may sustain in consequence of or arising out of such contract elsewhere .	

TECHNICAL SPECIFICATIONS FOR RETROFIT & RECONDITIONING OF PANEL PROCESSING MACHINE

ANNEXURE-A

Spares:

SNO	ITEM	QTY(Nos)	Price per unit (Rs)
1.	Circuit board control/logic/firing common PCB	1	
2.	FAN	1	
3.	IGBT Module	2	
4.	CPU for power source	1	
5.	Power supply unit for Power source	1	
6.	IGBT Driver	1	
7.	Diode Module	2	
8.	Governor PCB	1	
9.	Silicon Diodes	6	
10.	Pressure roller assembly	4	
11.	Feed roller assembly (1.6mm dia wire)	4 sets	
12.	Motor control board for wire feeder	2	
13.	Torch assembly	2	
14.	Contact tips for 1.6mm wire dia	90	
15.	Wire guide liners for 1.6mm wire	8	
16.	contactors	2	
17.	Switches	2	
18.	Limit switches	2	
19.	Indicating lamps	2	
20.	N/O Element	4	
21.	MCB Switches	2	
22.	Pipe roller for pipe diameter of 44.5	1	
23.	Pipe roller for pipe diameter of 51	1	
24.	Pipe roller for pipe diameter of 63.5	1	
25.	Pipe roller for pipe diameter of 76.1	1	
26.	Conveyor pillow block bearing	20	
27.	Conveyor chains – 3 mtrs box	3	
28.	Solenoid valves	5	
29.	Surge absorbers	2	

Note: The above mentioned minimum quantities are required and may be quoted along with the tender. We may increase or decrease these quantities before conducting RA. Hence, please mention unit price for each item. Vendor may also suggest/quote any other spares which are essential other than mentioned above.

ANNEXURE-B

VISUAL INSPECTION OF TUBULAR PANELS:

The tubular products shall be visually inspected at appropriate stages and accepted based on the acceptance standards detailed in below:

ACCEPTANCE CRITERIA:

S NO	CHARACTERISTICS	ACCEPTANCE NORMS
a.	Cracks, voids & Slips	Not Permitted
B	Burnthrough	
C	Lack of Fusion	
D	Lack of Penetration	
E	Oxide/Metallic inclusions	
F	Overlaps	
G	Underflushing	
H	Root porosity	
I	Wrinkles & Deformities	
J	Poor restart	
1.	Surface mismatch	Not to exceed $\frac{1}{4}$ t (where t is the tube thickness)
2.	Undercut (on pressure retaining materials)	Not to exceed 0.4mm
3.	Porosity (For fillet welds)	Pores upto & including 1.6mm diameter, provided it does not occur at a start or stop 4 or more pores (cluster or inline) are not permitted if they are separated by less than 1.6mm or less than the major dimension of the largest indication in that group. For other pores acceptable shall be as per Table 1.
4.	Reinforcement	Not to exceed 3 mm
5.	Tool marks	Not permitted. To be ground to have a smooth transition
6.	Concavity of the fillet weld	Permissible provided it does not encroach on the required weld thickness
7.	Arc stikes	Not permitted. Stray arx areas shall be examined with LPI or MPI after grinding followed by thickness measurement.
8.	Spatter	To be removed. Isolated spatter may be permitted
9.	Bore passage	Freedom from foreign materials

TECHNICAL SPECIFICATIONS FOR RETROFIT & RECONDITIONING OF PANEL PROCESSING MACHINE

TABLE 1: Porosity acceptance level

TYPE	Size in mm	No of pores permitted in 150mm length
SMALL	0.8	10
MEDIAUM	1.2	5
LARGE	1.6	3
ASSORTED	-	Large - 1 No Medium - 2 Nos Small - 4 Nos Total: 7 Nos

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:**
- 5.7.1.1 80% of supply portion along with taxes & duties will be made within 45 days of receipt of material and Balance 20% along with 100% of the Erection & Commissioning portion after submission of BG and after completion of Erection & Commissioning of the equipment at BHEL, Visakhapatnam
- 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