

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

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

**SUB:RETROFIT AND UPGRADATION OF
4 TORCH (SAW) TO 6 TORCH (SAW)
PANEL PROCESSING MACHINE**

Our Ref: **MM/2/10/1998/CAP/W-470/5295**

DATE: 06.01.2012

Sealed quotations in duplicate are invited from suppliers on **or before 18.02.2012** **SUPERSCRIBING OUR REFERENCE AND CATEGORY OF TENDER** on the cover, for supply of the under mentioned stores within the above due date, otherwise send **REGRET LETTER**, strictly subject to the Terms & Conditions attached herewith.
LATE TENDERS ARE NOT ACCEPTABLE.

ITEM No.	DESCRIPTION / SPECN. / SIZE	QTY
1.	RETROFIT AND UPGRADATION OF 4 TORCH (SAW) TO 6 TORCH (SAW) PANEL PROCESSING MACHINE (Estimated Cost of wok is Rs. 70 Lakhs)	1 No.
	Encl: 1. Technical Specifications 12 Pages 2. General Terms/ commercial terms and conditions 9 pages (INCLUDING CHECK LIST)	

For BHARAT HEAVY PLATE & VESSELS LIMITED,

For Dy. GENERAL MANAGER (MM)

SPECIFICATION FOR RETROFITTING AND UPGRADATION OF 4 TORCH (SAW) TO 6 TORCH (SAW) PANEL PROCESSING MACHINE	
Note :	
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 " of this format with complete details 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. The offer and all documents enclosed with offer should be in English language only.	
4. Vendors MUST visit BHPV, Visakhapatnam and study the existing machine before submission of quotation. The cut-off date for visit to BHPV for inspection of PPM, clarification to the vendors to be completed 10 days prior to the tender due date. There will be no further extension of due date.	
ADDRESS OF THE SUPPLIER/VENDOR :	ADDRESS OF THE INDIAN AGENTS :
TELEPHONE NOS.:	TELEPHONE NOS.:
FAX NOS.:	FAX NOS.:
E-MAIL ADDRESS:	E-MAIL ADDRESS :
SCOPE: RETROFIT AND UPGRADATION OF PANEL PROCESSING MACHINE FROM 4 TORCH (SAW) TO 6 TORCH(SAW)	

General:

M/s. BHPV is having one number of Panel Processing Machine (SAW) with 4 torches as mentioned below. It is proposed to upgrade and retrofit this machine by replacing existing 4 torches with new 6 torches, 6 power sources and other items without changing the existing SAW weld process as mentioned in the scope.

Time Schedule: Reconditioning of PPM should be completed in 3 Months. Vendor to mobilize resources accordingly to complete the job in 3 Months in all respects.

SPECIFICATIONS FOR RECONDITIONING OF PPM MACHINE

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 Power sources (4 Nos.) & wire feeder CM-231 U3623.	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/RETROFIT MACHINE			
		EXISTING	REQUIREMENT UNDER RETROFIT	VENDOR'S CONFIRMATION
1.1	Tube Outside Diameter	51/63.5/76.1mm	28.6/31.8/44.5/51/57/63.5/76.1 mm	
1.2	Tube Wall Thickness	2.3mm to 10mm	2.3mm to 10mm	
1.3	Tube Material			
1.4	a) Carbon Steel	SA192, SA210A1, SA210 Gr C	SA192, SA210A1, SA210 Gr C	
1.5	b) Alloy Steel	SA213T11, SA213T22	SA213T11, SA213T22	
1.6	Fin Material			
1.7	a) Carbon Steel	ASTM A 576	ASTM A 576	
1.8	b) Alloy Steel	ASTM A 387Gr.12, ASTM A 387Gr.22	ASTM A 387Gr.12, ASTM A 387Gr.22	
1.9	Fin Width	9 – 110 mm	9 – 110 mm	
1.9.1	Fin Thickness	6mm	5 – 12 mm	
1.9.2	Welding Speed (Variable Range)	800 to 1000 mm/min	500 to 1500 mm/min	
1.9.3	Welding Wire Diameter	1.6 mm Solid Wire	1.6, 1.8 and 2.4 mm Solid Wire	
1.9.6	Panel Tolerances	Tolerance on Width: + 0mm /- 3mm Bow: Not allowed	Tolerance on Width: + 0mm /-3mm Bow: Not allowed	
1.9.7	Welding Power sources	OTC Diahen CPV-500 Power sources(4 Nos) 500A DC	Inverter based IGBT Technology DC Power source of 800 Amps @ 100% duty cycle (6 Nos)	

SPECIFICATIONS FOR RECONDITIONING OF PPM MACHINE

JOB SPECIFICATIONS OF EXISTING/RETROFIT MACHINE				
		EXISTING	REQUIREMENT UNDER RETROFIT	BIDDER'S OFFER WITH CONFIRMATION
1.9.8	Weld Process	SAW/CO2(Only power source)	SAW/CO2(Only power source)	
1.9.9	Number of Torches for conversion	4 torch	6 torch	
1.9.10	Construction	Rigid Closed Frame	Rigid Closed Frame	
1.9.4	Panel Length (Welded Portion)	24000 mm		
1.9.5	Panel Width	1600mm		
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			
2.1	Torch Arrangement	All 6 torches in a line for welding.		
2.2	Machine modification	While reconditioning, to ensure formation of panels without kink, bow and twist, in addition to a perfect defect-free welding.		
2.3	Panel Welding	Simultaneous Welding on Top of the panel		
2.4	Selection of torches for welding in a group	Welding with any or all 6 Torches at a time by operator selection		
2.5	Continuous Welding without interruptions	Welding shall progress without interruptions while welding a 24m long panel when welding with all 6 Torches simultaneously. Note: A maximum of 2 interruptions for torch cleaning purpose only are allowable		
2.6	Upper Form Roller Shafts	Screw Rod and Locking Arrangement with Gear-Box and Motor. Suitable arrangement to vary effective height so that adjustment for different diameter of tubes is possible. Bidder to explain the complete construction.		
2.7	Form Rollers and Distance Rings	Shall be arranged and fixed for both tube-end and fin-end panels.		
2.8	Fin Bar Pressing Rolls	Existing system to be checked and if found defective, to be replaced/repared.		

SPECIFICATIONS FOR RECONDITIONING OF PPM MACHINE

S. NO.	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH CONFIRMATION
2.9	Fin & Tube Clamping Device	Side Pressing Unit with hydraulically operated pressing rollers for fins or tubes with automatic control and mechanically pre-setting provisions.	
2.10	Arc Blow Prevention & Return Current Collecting Arrangement	Welding return current collectors (for grounding) are to be provided at suitable locations and machine frame to be constructed with separate high capacity collectors to withstand high current flow and to avoid over heating of collectors and to avoid current flow through rollers & other machine supporting systems. Bidder to explain the arrangement for Arc Blow prevention to ensure smooth & stable arc when all torches are working.	
2.11	Wire strightener	Double roller quick changeover type with built in wire straightener.	
2.12	Welding power sources	6 nos of Inverter based welding power sources (SAW/CO2) suitable to do welding at 800A at 100% duty cycle for input supply of 3 Phase, 415V+/- 10%, 50Hz +/- 3%. The power sources should also have facility of Co2 welding with a change over switch.	
2.13	Operator panel	Operator panel with controls for all the six torches, digital display of parameters, weld start/stop control, manual/auto mode selection, wire feed inching buttons etc.	
2.14	Operator pendants	Two nos. of Operator pendants one on each side of the machine comprising switches for slide operation and torch horizontal and vertical adjustment.	
2.15	Control panel modification	Existing control panel with controls for all the six torches, digital display of parameters, weld start/stop control, manual/auto mode selection, wire feed inching buttons etc to be provided.	
2.16	Power/Welding/control cables	Power and welding, control, reference cables in suitable lengths and replacement with old cables.	
2.17	Control cables	Multiple core control cable of sufficient length, special type cable from power source to process controller, interfacing the existing machine control with new indication/illumination lamp.	

SPECIFICATIONS FOR RECONDITIONING OF PPM MACHINE

S. NO.	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH CONFIRMATION
2.18	Reconditioning of Service Platform over the Machine	Existing platform to locate the welding power sources, wire feeders, fume extractors, coil holders, hydraulic power pack, etc to be modified if required.	
2.19	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 replaced if defective, in order to avoid welding heat related problems of like bow / twist generation during welding and insufficient pressure related problems in the horizontal or vertical directions.	
2.20	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. Weld Quality inspection visually. Bidder to confirm.	
2.21	Weld Penetration	Complete weld penetration across the thickness of the fin to be ensured. Bidder to confirm.	
2.22	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.	
2.23	Solenoid valves.	Existing all solenoid valves to be replaced with new ones and additional solenoid valves to be provided if required.	
2.24	Additional roller for additional pipe movement	Additional roller assembly to feed the tube into the machine has to be provided and fixed to the machine.	
2.25	Power sources	6Nos. Inverter Controlled (IGBT based) DC Welding Power source	
2.26	Power source Current Rating	800 Amps. @ 100 % Duty Cycle	
2.27	Power source Make	ESAB / SAF / KEMPPPI / OTC- DAIHEN / PANASONIC	

SPECIFICATIONS FOR RECONDITIONING OF PPM MACHINE

S. NO.	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH CONFIRMATION
2.28	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, etc.]	
2.29	Wire Feeder	Make and model of the wire feeder to be provided by the bidder.	
2.30	Wire feeding roller mechanism	Existing wire feed system and additional wire feed system for additional torches suitable for the wire sizes 1.6, 1.8 and 2.4mm wire.	
2.31	Wire feed motor rating	Wire feeder motor to be adequately rated to ensure smooth wire feeding of 1.6,1.8 and 2.4 mm solid wire from 13 to 25 kg spools.	
2.32	Welding Wire Coil Holders	Capacity to hold and feed 13 to 25 kg. Spools	
2.33	Welding Wire Drum Holders	Capacity to hold 6 X 25 kg. Coil packs	
2.34	Wire feeder coil packs mounting position	Wire feeders and coil packs for all torches shall be on the Service Platform	
2.35	Wire feeding conduits	The wire feed conduits 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.	
2.36	Stroke adjustment of Welding Torch	Up/Down Stroke adjustment shall be motorized. BIDDER to specify the stroke length.	
2.37	Lubrication	Lubrication less Iglidur L-100 or better material for each torch.	
2.38	Painting of the Machine	Complete painting of the Machine after reconditioning with the color specified by BHPV.	
2.39	Removal of un wanted items	To remove existing welding power sources, power supply cable, control cable, welding cables, Connections to existing motors that are not required.	
3.0	Welding Torches		
3.1	Torches	Replace all the four existing torches with 4 nos. of new torches and supply and commissioning of additional 2 nos of torches.	

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S. NO.	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH CONFIRMATION
3.2	Torches	Heavy-duty straight neck mounting torches of suitable length. Make and Model to be provided by the bidder.	
3.3	Torch Motors	Torch sliding motor and torch adjustment motor for new torches.	
3.4	Type of torch cooling	Bidder to specify the type of cooling of torches	
3.5	Torch cable	Appropriate cable length & support devices (such as servo assist) if reqd. to ensure high speed stable wire feeding with 1.6, 1.8 and 2.4 mm solid wire shall be provided.	
3.6	Torch cable protection	Torch cables to be provided with protective sheathing that is fire proof.	
3.7	Welding Torch Mounting Arrangement	Torch Mounting Guide to be suitable for welding 1.6m wide panel.	
3.8	Weld Torch movement and positioning	It should be possible to move and locate the Welding Torch Carriages at any desired position on the horizontal Guide Beam. Movement should be motorized.	
3.9	Torch design	The nozzles of the torches, torch body & torch slides shall be of design & construction to allow satisfactory aiming of the 1.6, 1.8 and 2.4 mm solid wire to the particular point in the tube-fin interface (for all combinations of Tube-Fin sizes) with appropriate stick out distance (10 - 12 mm), appropriate Torch angles to result in deposition of a defect free bead of satisfactory shape in all Torches. Bidder to confirm.	
3.9.1	Torch Positioning	Torch positioning beam for six torches comprising of torch holding bracket, carriages with lock/un-lock facility, pneumatic slides for quick lowering and raising and motorized slide for positioning.	
3.9.2	Stroke length adjustment	Stroke length adjustment for each torch x and Y-axis with micro adjustment.	
3.9.3	Torch clamping	4 Axis Mechanical torch clamp for setting torch at any angle.	

SPECIFICATIONS FOR RECONDITIONING OF PPM MACHINE

S. NO.	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH CONFIRMATION
4.0	Fume Extraction System		
4.1	Fume extraction System	A very effective fume extraction system to be provided to suck the entire fumes being generated during welding with all 6 torches in the welding zone.	
4.2	Details of Fume extraction system	Bidder to explain the complete fume extraction system provided on the machine with Make, Type, Capacity and its location etc. Bidder also provide details such as suction pressure, Flow rate, Filter cartridge type, recycling arrangement etc.	
5.0	In-feed , Out-feed & Return Conveyors		
5.1	Conveyor	Existing conveyor shall be used which is working satisfactorily. The conveyor control shall be included in the main control panel. The conveyor chain system, motors, movement to be checked and reconditioned if required.	
5.2	In-feed Conveyor	The chain system to be checked and reconditioned.	
5.3	Out-feed Conveyor	Welding 24 metres long and 1.6 metres wide panels. The chain system to be checked and reconditioned.	
6.0	Flux recovery System		
6.1	Existing flux recovery system	Existing flux recovery system to be studied and reconditioned if required	
6.2	Flux recovery for new torches	Flux recovery system to be extended to the additional new torches (two) proposed to install on the machine.	

SPECIFICATIONS FOR RECONDITIONING OF PPM MACHINE

S. NO.	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH CONFIRMATION
7.0	INTEGRATED TUBE & FIN FEEDING ARRANGEMENT		
7.1	Tube Feeding System	Existing tube feeding system shall be used	
7.2	Fin Storage and Feeding System	Existing fin storage and feeding system shall be used	
7.3	Panel Tacking table	Existing panel tacking table shall be used.	
7.4	Control Unit for the above	Controls for tube & fin feeding and clamping, transport of tack welded sub panel to the In-feed table to be provided. Bidder to confirm the controls provided.	
7.5	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)	
8.0	Following items are to be examined and reconditioned:		
8.1	Side pressing roller arrangement		
8.2	Bottom and top fin supporting roller provided at second pressure roller and at the front side of the machine feeding system		
8.3	Panel assembly and pre-tacking assembly		
9.0	Following items are to be taken care for Erection & Commissioning:		
9.1	Mounting and aligning the six torches on the beam.		
9.2	Erection of all electrical and mechanical items right from power source to all torches and align the work for welding		
9.3	Interfacing the existing machine controls with new welding power source and wire feed controller and drives.		
9.4	Welding error controls like gas flow sensor, welding wire feed off, tube travel trip, fin 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.		
9.5	Synergic operating mode: Wire feed drive and welding power source both to be operated in synergic mode during welding operations.		
9.6	Fin loading stand, existing motors, existing control cabinet etc		
9.7	Existing Flux hopper alignment/adjustment		
9.8	Welding/filler wire drive mechanism		
9.9	Torch slide assembly		

SPECIFICATIONS FOR RECONDITIONING OF PPM MACHINE

S. NO.	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH CONFIRMATION								
9.9.1	Filler wire motor, control drive, connection cables.									
9.9.2	To check/replace flux recovery motor connections.									
9.9.3	Existing operator panel and its connections.									
9.9.4	Bus bar connections and arc voltage feed back connections.									
9.9.5	Welding/Hot wire motors and its connections.									
9.9.6	Welding wire governors.									
9.9.7	Filler wire pressure roller connections.									
10.0	BHPV shall provide the following free of cost to enable erection and commissioning.									
10.1	Usage of overhead crane facility as required, Electricity, compressed air supply, oil, cotton waste, water, welding electrodes etc.									
11.0	Performance prove out, Training & Documentation:									
11.1	Performance prove out shall be carried out on formation of panel using average pipe of 63.5 mm dia X 6.3 mm thick carbon steel rifled tube with a fin of 6mm thick and 12.5 mm width and the welding shall be devoid of defects like burn through, weld off line, metal drip etc.									
11.2	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.									
11.3	Training of operation and maintenance personnel for a period of 2 working days.									
11.4	Supply of 3 sets of documents in English containing the Electrical and mechanical drawings for the mechanical assemblies and control panel. For Electrical/Electronics panels the instruction manuals shall be supplied indicating the spare parts list with part numbers.									
12.0	Spare parts:									
12.1	The vendor should specify 2 Years operational spares and quote separately in the price bid (Mechanical, Electrical and Electronics). Supplier shall furnish the dimensional details of nozzle tips of all sizes in complete.									
12.2	Consumables: The following quantities of Nozzle tips may be supplied. <table border="0" data-bbox="354 1486 857 1640"> <thead> <tr> <th data-bbox="354 1486 597 1520">for Wire dia (mm)</th> <th data-bbox="727 1486 857 1520">Qty (Nos)</th> </tr> </thead> <tbody> <tr> <td data-bbox="435 1526 483 1560">1.6</td> <td data-bbox="760 1526 808 1560">120</td> </tr> <tr> <td data-bbox="435 1566 483 1600">1.8</td> <td data-bbox="776 1566 808 1600">30</td> </tr> <tr> <td data-bbox="435 1606 483 1640">2.4</td> <td data-bbox="776 1606 808 1640">30</td> </tr> </tbody> </table>	for Wire dia (mm)	Qty (Nos)	1.6	120	1.8	30	2.4	30	
for Wire dia (mm)	Qty (Nos)									
1.6	120									
1.8	30									
2.4	30									
13.0	Scope of the Contractor:									
13.1	Dismantling of the machine into various sub assemblies and identification of the faulty components to be done. The scope covers up gradation of existing machine to 6 torches and replacement of any defective parts that are required to restore the normal operation of the Machine. The decision to change such components shall be taken jointly by BHPV and vendor.									

SPECIFICATIONS FOR RECONDITIONING OF PPM MACHINE

S. NO.	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH CONFIRMATION
13.2	The supplier can execute the complete reconditioning and retro fitment of activity at BHPV, Visakhapatnam or at supplier's works. If the machine is to be taken to supplier's works, the transportation cost has to be borne by the supplier.	
13.3	The contractor has to be acquainted with the proposed up gradation and reconditioning of the machine.	
13.4	The contractor has to convert the machine from 4 torches to 6 torches.	
13.5	The contractor has to supply all Electrical and Mechanical items required as highlighted in the technical specification of the work.	
13.6	The Contractor has to erect all electrical and mechanical items right from power source to all torches and align the work for welding.	
13.7	The Contractor has to demonstrate the welding of the panel from the newly installed 6 torches.	
13.8	The Contractor has to stabilize the welding with respect to panel and hand over the machine for production.	
13.9	The Contractor has to educate the operating and maintenance staff for their up gradation/reconditioning of the job.	
13.9.1	The Contractor has to supply, get approval all relevant documents / drawings and manuals (3 sets of Electrical and Mechanical drawings / manuals with spare parts list to be supplied for departmental purpose).	
13.9.2	The Contractor has to identify the spares required during the source of welding at least for a period of 3 Years from the day of commissioning.	
13.9.3	The Contractor has also to quote along with the offer the relevant spares for electrical and mechanical.	
13.9.4	The contractor has to quote estimated cost of up gradation / reconditioning.	
13.9.5	The contractor has to quote estimated period of work.	
14.0	Declaration:	
14.1	Guarantee required for one Year from the day of commissioning of the converted system for workman ship and mechanical and electrical stability.	
15.0	Quality:-	
15.1	The proposed modification and rectification of the existing PPM machine from up gradation from 4 torches to 6 torches 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 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.	

SPECIFICATIONS FOR RECONDITIONING OF PPM MACHINE

S. NO.	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH CONFIRMATION
16.0	Productivity:-	
16.1	The proposed modification and reconditioning of the existing PPM machine shall prove 800 to 1000 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.	
17.0	REFERENCE LIST / QUALIFYING CONDITIONS :	
17.1	The recent past experience of the contractor on similar retrofit for different companies.	
17.2	Complete acquaintance of the contractor including the existing machine shop visit and the tender.	
17.3	Only those vendors, who have supplied, commissioned or retrofitted at least one Machine of similar Capacity, Rating, or higher for similar applications in the past ten years (On the Date of Opening of tender) and such machine is working satisfactorily for more than one year, after commissioning (On the Date of Opening of tender) should quote. The following information should be submitted by the vendor about the companies where similar machines have been supplied. This is required from all the vendors for qualification of their offer.	
17.4	Name of the customer / company where similar machines are installed.	
17.5	Complete postal address of the customer.	
17.6	Month & Year of commissioning.	
17.7	Name and designation, Phone, FAX no. and email address of the contact person of the customer.	
17.8	PO copies from the customers and performance certificates regarding performance of machine supplied to customer.	
17.9	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.	

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

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

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

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

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

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

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

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

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

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

This part shall include / indicate the following:

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

2.1.6. Information on shipping weight and cubage (length, width & height) to be provided

2.1.7. In case of foreign bidder offer, the Principal's technical offer only should be enclosed.

2.2 Un-Priced Commercial

This part shall include / indicate the following

2.2.1. Port of shipment / Station of dispatch

2.2.2. Terms of payment

2.2.3. FOB/FCA price along with freight charges up to Chennai port (for foreign bidders) Ex-works/FOR Dispatch Station price along with freight charges up to BHPV Visakhapatnam (for Indian bidders)

2.2.4. Taxes, Service tax & duties including Cess applicable.

2.2.5 Delivery Schedule

2.2.6. Filled-in check list to be enclosed

2.2.7. Offer validity

2.2.8. Country of origin

2.2.9. Percentage of agency commission if any along with a copy of Agency agreement The FOB/FCA/CFR Prices quoted shall include the agency commission.

2.2.10. A copy of "Un-Priced Part II 'i.e., a copy of the Price Bid without the price details to be enclosed.

2.2.11 BHPV is eligible for availing CENVAT / VAT credit on both inputs and capital inputs. The suppliers invoice should separately indicate the amount of duty / taxes and should invariably mention the following details:

1. The Central excise registration number, range division and commission rate of the supplier's jurisdiction.
2. The rate of duty and 8 digit central excise tariff heading of the item supplied.
3. The TIN, VAT, CST registration number of the supplier.

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

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

3.0 **PART II (PRICE – BID)**

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

4.0 **OPENING OF TENDERS**

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

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

GENERAL

5.1 Incomplete offers will not be considered.

5.2 **Fixed priced:** Prices quoted by the bidder shall be fixed and not subject to any escalation whatsoever during the period of bid validity and execution of the Purchase Order A bid submitted with an adjustable price will be treated as non- responsive and rejected Prices shall be written in words and figures. In the event of difference, the price in words shall be valid and binding. Unit prices shall be considered correct in the event of any discrepancy with regards to total price.

5.3 **Bid currency:** Indian bidders should submit the prices only in Indian Rupees. Foreign bidders may submit their bid in their home currency, which should be clearly indicated in the un-priced commercial bid as well as in the price bid.

- 5.4 **Terms of Delivery:** Bidders are required to quote their best delivery period. Foreign Bidders should submit their offer for net FOB/ FCA – Nearest Sea Port / Air Port as well as CFR / Chennai Seaport/ Airport. Freight charges up to Chennai port to be indicated separately. Indian Bidders should submit their offer for Dispatching station as well as FOR BHPV Visakhapatnam basis. Freight charges from works to BHPV Visakhapatnam to be indicated separately. Delivery from the date of Letter of Intent to be mentioned in the offer.
- 5.5 **Taxes and Duties:** All Taxes and Duties payable as extra to the quoted price should be specifically stated in offers along with CST & TIN No/ Tariff No. etc, failing which the purchaser will not be liable for payment of such Taxes and Duties (Our TIN No.28280189432, APGST No. VSP/04/1/1023 dated 24.08.1968. CST No.VSP/04/1/1012 dated 24.08.1968 & BHPV ECC No AAA CB 7076 N-XM001. Assessment circle Visakhapatnam.)
- 5.6 **Validity:** The offers for main equipment and spares shall be kept open for acceptance for a period of 120 days (one hundred and twenty days) from the dates of opening of the tender (part I)
- 5.7 **Terms of Payment:**
- 5.7.1 **Indian Bidders:**
- 5.7.1.1 90% payment (90% of basic price + 100% Taxes) will be made within 45 days of receipt of material and balance 10% will be made after acceptance of material/commissioning of the equipment at BHPV, 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 BHPV Visakhapatnam, against submission of 10% performance bank guarantee. All Bank charges outside India are to supplier's account. Lump sum erection and commissioning charges if any, shall be payable after satisfactory erection & commissioning of the equipment by sight draft against certificate issued by the competent authority.
- 5.7.3 **Common to both India & Foreign Bidders.**
Erection & Commissioning (E&C) charges will be released after deduction of Income Taxes as per the Govt. of India rules. The TDS certificate will be issued by BHPV. Applicable service tax on E&C charges will be payable extra. The liability of depositing the same to the Govt. will be of the supplier.
- 5.7.4 **Loading criteria common to both Indian and foreign bidders:** Vendor should accept the payment terms specified above. However for any deviation to the payment terms offered with reference to the above criterion will be loaded with prime lending rate of SBI prevailing on date of opening of price bid + 2%, which shall be computed for the differential period between BHPV 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 BHPV in the format, given by BHPV along with purchase order for 10% of the Purchase Order value (FOR Dispatching station value – Excluding taxes, duties, freight & insurance – for Indian bidders) & (FOB/FCA value – excluding freight & insurance – for foreign bidders) valid for period of guarantee with additional claim period of 2 months.

Offers from vendors not accepting to submit PBG will be rejected.

The CEBG & PBG shall be obtained from any Indian Nationalized Bank

5.12 **Liquidated damages:** Delivery of the goods specified in the purchase order should be made within the time prescribed. Failure to dispatch the materials in the time as per the delivery quoted in our Purchase Order would make the supplier liable to an un-conditional penalty at the rate of ½% of the value of goods for each week of delay subject to a maximum of 10% of the Purchase Order value.

5.12.1 **Loading Criteria for Liquidated Damages:** Any deviation from above LD Clause to the extent for which LD is not agreed by the vendor i.e., differential % value will be loaded on basic price, e.g. If some vendor agrees for say maximum of 6% LD then his price will be loaded by 4% (10 – 6) of his quoted basic price.

5.13 **Risk purchase:** If the supplier fails to deliver the goods within the delivery specified in the Purchase Order, BHPV will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the supplier has failed to deliver or dispatch within the delivery period mentioned in the Purchase Order.

Offers from vendors not accepting the above Risk Purchase terms will be rejected.

5.14 **Indian Agent & Agency commission:** An Indian Agent can represent only one Foreign Manufacturer against a particular Tender. The FOB/FCA/CFR price quoted by the Foreign bidder shall include the agency commission. However, the agency commission component payable to their Indian Agents shall be shown separately in the offer. This will be paid by BHPV in India Rupees, on satisfactory commissioning & acceptance of the equipment. Copies of current Agency Agreement / Authorization Letter in respect of Agency Commission shall be furnished along with offer. For calculation of Rupee equivalent of Agency Commission exchange rate as prevailing on the date of Purchase Order will be taken.

5.15 **Short shipment / Warranty replacement:** In case of any short shipment in the main equipment / spares, customs duty levied on such supplies, shall be borne by the supplier. Any warranty replacement during the warrantee period shall be on FOR, BHPV - Visakhapatnam, basis.

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

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

GENERAL TERMS AND CONDITIONS OF RA (REVERSE AUCTION)

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

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

4. Business rules like event date, time, start price, bid decrement, extensions etc. also will be communicated through service provider for compliance.
 5. Vendors have to fax the Compliance form in the prescribed format (provided by Service provider) before start of Reverse auction. Without this, the vendor will not be eligible to participate in the event.
 6. BHPV will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at “Total Cost to BHPV like Packing & Forwarding charges, taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for non-compliance to BHPV standard Commercial terms & conditions) for each of the vendor to enable them to fill-in the price and keep it ready for keying in during the Auction.
 7. Reverse auction will be conducted on scheduled date & time.
 8. At the end of Reverse Auction event, the lowest bidder value will be known on the network.
 9. The lowest bidder has to Fax the duly signed Filled-in prescribed format as provided on case-to-case basis to BHPV through Service provider within 24 hours of Auction without fail.
 10. Any variation between the on-line bid value and the signed document will be considered as sabotaging the tender process and will invite disqualification of vendor to conduct business with BHPV as per prevailing procedure.
 11. In case BHPV decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHPV shall be opened as per BHPV’s standard practice.
- 5.26 **Force Majeure clause:** If at the time during the continuance of this contract the performance in whole or in part by either party of any obligations under this contract shall be prevented or delayed by reason, of any war, hostilities, acts of the public enemy, civil commotion, sabotage, fires, explosions epidemics, quarantine, restrictions or acts of GOD (hereinafter referred to as events) then provided notice of happening of any such events is given by either party to other within twenty one days from the date of occurrence thereof neither party shall reason of such events be entitled to terminate this contract nor shall either party have any such non performance and delay is resumed as soon as practicable after such events has come to an end or ceased to exist, if the performance in whole or part of any obligation under this contract is prevented or delayed by reason or any such event claims for extension of time shall be granted for period considered reasonable by the purchaser subject to prompt notification by the seller to the purchaser of the particulars of the events and supply to the purchaser if required of any supporting evidence. Any waiver of time in respect of partial installment shall not be deemed to be a waiver of time in respect of remaining deliveries.

CHECK LIST

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

Applicable for Indian bidders

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

BHPV Tender No: & Date:	Bidders Confirmation / response
Technical Confirmation to BHPV's Specification	Furnished /Not Furnished
Prices have been quoted on "FIRM PRICE" basis only.	Yes / No
Prices have been quoted on "F.O.R BHPV" basis only.	Yes / No
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%).	
Risk Purchase as per clause 5.13 (Offers from vendors not accepting the Risk Purchase terms will be rejected)	Yes / No
Payment terms : 90% payment will be made within 45 days of receipt of material and balance 10% will be made after acceptance of material/commissioning of the equipment at BHPV Visakhapatnam and on submission of Performance Bank Guarantee.	
Contract Execution Bank Guarantee (CEBG) as per Clause 5.10 (Offers from vendors not accepting to submit CEBG will be rejected)	Yes / No
Performance Bank Guarantee (PBG) as per Clause 5.11 (Offers from vendors not accepting to submit PBG will be rejected)	Yes / No
Guarantee as per clause 5.9 (The equipment shall be guaranteed for a period of 18 months from the date of supply or 12 months from the date of commissioning and acceptance whichever is earlier). (Offers from vendors not accepting to the requested guarantee period will be rejected)	Yes / No
Approximate Net Weight of the total Consignment	
Approximate Gross Weight of the total Consignment	

Signature & Office Seal of the bidder

CHECK LIST

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

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

BHPV Tender No: & Date:	Bidders Confirmation / response
Technical Confirmation to BHPV's Specification	Furnished / Not Furnished
Prices have been quoted on "FIRM PRICE" basis only.	Yes / No
Prices have been quoted on "F.O.R BHPV" basis only.	Yes / No
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)	
Sales Tax (please Specify)	
Excise Tax (please Specify)	
Delivery period from the date of Letter of Intent (please Specify)	
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 (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 opened through our bankers or as permitted by Government of India. Letter of Credit will not 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 BHPV, Visakhapatnam against submission of 10% performance Bank Guarantee. All Bank charges outside India are to Supplier's account. Lump sum erection and Commissioning charges, if any shall be payable after satisfactory erection and Commissioning of the Equipment by sight draft against Certificate issued by the competent authority as per clause 5.7.2)	
Agency commission (refer clause 5.14)	Acceptable / Not acceptable
Contract Execution Bank Guarantee (CEPG) as per Clause 5.10 (Offers from vendors not accepting to submit CEBG will be rejected)	Yes / No
Performance Bank Guarantee (PBG) as per Clause 5.11 (Offers from vendors not accepting to submit PBG will be rejected)	Yes / No
Guarantee as per clause 5.9 (The equipment shall be guaranteed for a period of 18 months from the date of supply or 12 months from the date of commissioning and acceptance whichever is earlier). (Offers from vendors not accepting to the requested guarantee period will be rejected)	Yes / No
Approximate Net Weight of the total Consignment	
Approximate Gross Weight of the total Consignment	

Signature & Office Seal of the bidder