

**General Note: BHARAT HEAVY ELECTRICALS LIMITED**

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(A Government of India Undertaking)

HIGH PRESSURE BOILER PLANT

PURCHASE DEPARTMENT - FOSSIL BOILERS

THIRUCHIRAPALLI - 620014

TAMILNADU (INDIA)

PHONE : 2577645

GRAMS : BHARATELEC

FAX NO: 2520719

E-mail :

Web :

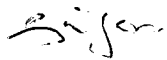
429-002/A

OFFICE COPY	Collective No.	Enquiry Date	Due Date For Quotation
	2691300139	19.11.2013	16.12.2013
Please quote Enquiry No, Date and due date in all correspondences. This is only a request for quotation and not an order			

Item	Description	Unit	Quantity	Delivery Quantity	Schedule Date
10	<p>Submerged arc welding equipment with Spe TECHNICAL SPECIFICATION FOR SUBMERGED ARC WELDING EQUIPMENT WITH SPECIAL SYSTEM FOR CIRCULAR WELDING OF LUG TO TUBE SHEET</p> <p>1.0 APPLICATION,, The equipment shall be used for welding of lug to tube sheet assembly with a special system for circular welding. The lug to tube sheet welding shall be carried out by submerged arc welding with complete penetration. The lug welds shall be free from Defects as tested by MPI, UT and RT as per BHEL Standard.,,</p> <p>2.0 JOB TECHNICAL DETAILS ANNEXURE 1 - TUBE SHEET ANNEXURE 2 - LUG to TUBE SHEET SHELL DRAWING with location Weld ANNEXURE 3 - GROOVE DESIGN Lug inner arc : 700 to 800 mm Lug outer arc : 900 to 1200 mm Lug plate Thickness range : 160 to 185 mm Material : 20MnMoNi55.</p> <p>3.0 EQUIPMENT The equipment with its accessories shall move in a circular direction in a horizontal plane to weld the lug plates to the outer periphery of the tube sheet. The equipment shall be capable of welding the lug plates to tube sheet with specified preheat / post heat temperature of 150 deg C. The tube sheet and lug will be preheated/post heated using a gas burner arrangement from the bottom of the tube sheet to 150 - 200deg C. which would be maintained several hours before, during and after welding. Welding of temporary attachments/supports to the tube sheet for the</p>	NO	1.000	1.00	28.02.14

The offers should reach us 30 minutes before the time of opening of tenders.
The offers will be opened at 14.30 hrs on the due date of tender in the presence of tenderers who have submitted their offer and who may like to be present for the tender opening. Late and delayed offers are liable to be rejected.

Yours faithfully,
For **BHARAT HEAVY ELECTRICALS LIMITED**


MANAGER / PURCHASE
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purpose of holding the equipment accessories, guides are not permitted.

The equipment with its accessories shall be mounted/ supported suitably to weld the four lug plates following weld sequencing.

The equipment, in a single setting shall complete all the four lug plates welding without the need of relocation of equipment for welding each lug plate. Minor adjustments of welding torch to suit the groove dimensions are permissible.

The equipment shall be portable and shall have suitable provisions for lifting, positioning and dis-assembly.

4.0 EQUIPMENT CONFIGURATION:

System Elements:

The offered equipment system shall consist of the following items.

- Welding Power source and controller.
- Submerged Arc Welding Head with special purpose system for circular welding.
- Digital Control system.
- Set of Inter-Connecting Power, Earth and Control Cables.
- Flux recovery system
- Any guides/ fixtures

The offered equipment system shall consist of all the items including the accessories, fixture, guides that are required to perform the

welding as explained in sl. No 1, 2 3 and 4.

5.0 PURPOSE AND FEATURES:

5.1 The system shall meet the welding requirements for the circular shaped joint seams between any shell and the circular (arc) lug of tube sheet assembly. The welding process is to be of submerged-arc welding type.

5.2 The system shall have specially designed mechanism for moving along the circular curve of lug plates which are tack welded to the tube sheet with ease in adjustment and reliable in operation.

The system with the welding torch shall move 0-360 along the periphery of the tube sheet.

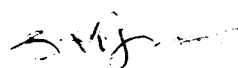
The system shall have suitable controls/instruments to control the circular movement of welding system to the required angular segment during welding.

The system shall have provision to preset the angular movement to the required segment (for example 0-40°)

5.3 The circular movement along the lug plate

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groove shall be smooth
without jerks and the speed of movement shall
be variable.

5.4 The speed of circular movement shall be
variable over wide range.

In the welding zone, the speed of circular
movement shall be adjustable
to the welding speed and in the non-welding
zone the speed shall be
higher.

5.5 Rotary parts shall keep the static and
dynamic balance. Rotary speed
shall be regulated.

5.6 The horizontal and vertical position of
welding torch shall be
regulated electrically (non-automatically) and the
control shall be
reliable.

5.7 The specially designed differential
mechanism shall adjust the
extent of lug during welding.

5.8 The equipment shall possess the function of
welding speed
compensation, which keeps the welding torch in
the same path with the
arc-shaped curve.

5.9 Continuous multi-layer and multi-pass
welding shall be alized.

5.10 This equipment shall be provided with a
rotary current-conducting
device to avoid any inter twisting of conducting
wires during continuous
multi-layer and multi-pass welding.

5.11 In order to avoid too many
electric-conduction joints, the control
system shall mount on the main body of the
equipment, which can rotate
together with the equipment.

5.12 Double-wire and double-brush structure
shall be applied to the
rotary current-conducting device, so as to
ensure good
electric-conducting performance.

5.13 The equipment shall work for a long
period when work pieces are
preheated at a temperature = 250 °C.

5.14 The welding cable and control cable are
connected to the welding
head and control cable respectively through the
FLOW COLLECTING HUB

5.15 The Specially designed fabricated item to
positioning and locking
the main equipment

5.16 The rotation speed of the Rotary
equipment 0.1 to 0.60 rpm

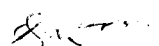
5.17 Tilt angle of welding torch radial + 30
deg, and circumferential +
5 deg

6.0 WORKING PRINCIPLE AND STEPS

6.1 The system shall Lift and hold the

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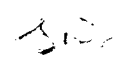
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mainframe over the welding seam.
Position and lock the mainframe at the end of tube sheet by self-centering arrangement.
6.2 The welding process and operation technique of this type of welding machine are just the same as those of other ordinary automatic submerged-arc welding machines.
7.0 MAIN TECHNICAL PARAMETER ,,
Lug inner arc : 700 to 800 mm
Lug outer arc : 900 to 1200 mm
Lug Thickness range : 160 to 185 mm
Material :
20MnMoNi55
Preheating temp. of work pieces, °C,,250-300
Diameter of welding wire, mm,,,Ø3.2, Ø4
Tilt angle of welding torch,,,radial: ± 30°
.....
circumferential:,,,,, ± 5°
Synchronous compensation of speed,,0 to 15%
Rotation speed, rpm,,,,,Fast,,0.13 to 0.66 rpm
,,,,,,Slow,,0.07 to 0.41 rpm
8.0 EQUIPMENT COMPONENTS AND DESCRIPTION
8.1 Mainframe
The mainframe shall consist of suitable mechanism for circular-shaped spatial curved movement and adjustment, drive unit, flow-collecting hub, cross beam, welding-torch lifting and angle-adjusting mechanism, positioning and locking mechanism and so on. The design of the mainframe shall be of vendor's option but shall match the requirement.
8.2 Construction of welding head/torch
A high-temperature endurable oxide coat has to be applied on the surface of the specially-designed bent welding torch, so as to ensure the good insulation between the welding torch in a narrow and deep groove and the work piece.
8.3 Control box
The System shall Control the lifting and rotating actions and speed compensation of the welding torch for circular-shaped joint seams by means of connecting the welding torch with the control case of the submerged-arc welding machine.
8.4 Submerged-arc welding machine power source
In submerged-arc welding, the following welding parameter values can be set by digits and to be displayed: welding current (A), arc voltage (V).

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In the course of welding, the preset parameter values shall be increased or decreased in real time. When the welding stops, the saved parameter values shall be deleted or reserved. The program shall make sure perfect arc starting, ending and rotator, feeder motor work.

Protection class: IP22

Insulation class: H

Duty cycle of power source,,,1000A 100%

8.5 Wire feeder:

The wire feeder shall be minimum two roll system. The wire feeder shall be rigid enough to withstand preheat and other dusty environment. The wire feeder shall work with encoder feedback for precision setting.

8.6 Flux-recycling device (high-temperature endurable materials required with a sieving device).

The negative pressure pump shall be driven by a motor. The remaining flux after welding will be sent back through a pipe to the welding flux drum for future use.

8.7 Equipment for clamping fixture

Special chuck shall be provided along with the equipment, which can realize self-centering locking and are suitable for the outside welding of shells.

9.0 INTER-CONNECTING CABLES

9.1 The control cables, welding and earth cables of required length for connecting the power source to the welding head/control panel to be provided.

9.2 Protection: Suitable sheathing to be provided for the cables for withstanding the rough use in shop floor.

9.3 End-Connectors: All the cables shall be provided with suitable end-connectors for easy fixing up. Provision for Inching of wire forward and reverse.

Setting of burn back time

Manual over-ride of pre-set parameters

Digital tachometer set in cm/l

Max. Operating temperature: 45 deg C.

The control box is to be mounted inside a special made aluminum case prepared for internal air cooling.

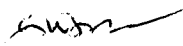
10.0 ELECTRICAL AND ELECTRONIC DEVICES AND CONTROLS

INPUT POWER SUPPLY:

10.1. Input supply; 415V with a voltage fluctuation of +/- 10%, 50HZ with a fluctuation of +/-5%, 3 Phase AC (3 wire system without neutral)

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power supply will be provided by BHEL at a single point near the machine, as per layout recommended by Bidder. Hence design and supply of all cables, connections, circuit breakers etc. Required for connecting BHEL's power supply to the machine shall be in the scope of Bidder.

Bidder to Confirm

10.2 Bidder to specify the type and capacity of the power source with details about power transformer and associated controls. Make of the transformer to be indicated.

Bidder to Specify

10.3 All Current carrying conductors and cables should be of copper.

Bidder to Confirm

10.4 Primary Voltage Control Bidder to Specify

10.5 Digital display to be provided on the front side of the power source for easy visibility to the operator.

Bidder to Confirm.

10.6 All feedback systems and field sensors, limit switches, proximity switches, pressure switches, temperature controllers, should be for heavy duty application and wired up with flexible PVC insulated screened cables running in conduits and converging to common terminal block. Terminal blocks shall be of reputed make acceptable to BHEL. Bidder to Confirm

10.8. All field elements shall have easy accessibility for maintenance.

Bidder to Confirm

10.9. All electrical / electronic equipment shall be tropicalized.

Bidder to Confirm.

10.10. All electrical components in the control box should be mounted suitably.

Bidder to Confirm.

10.11. 5/15 Amp AC. All adapters /receptacles should have compatibility with Indian equivalents.

Bidder to Confirm.

10.12. Details of the protection system provided to avoid short circuiting of secondary side of welding transformer. Bidder to Specify

10.13. Bidder should ensure the proper earthing for the machine and its peripherals.

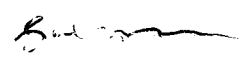
Bidder to Confirm.

10.14 Control Circuit Voltage shall not exceed 24V DC. Bidder to Confirm.

10.15. The total tentative power requirement

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(including that for all the accessories and attachments) in kVA to be indicated.

Bidder to Specify

11.0 MACHINE SPARES:

11.1 Itemized break-up of mechanical, electrical and electronic spares

used in the machine in sufficient quantity as per recommendation of

Bidder for 2 years of trouble free operation on three shifts continuous running basis shall be furnished by Bidder along with offer. The list is

to include following, in addition to other recommended spares: (Unit

Price for each item of spare shall be offered)

Bidder to confirm

11.2 Mechanical Spares: All types of mechanical wearing components due to linear movement and rotation etc

Bidder to confirm

11.3 Electrical / Electronic Spares: All types of Relays, Contactors,

Proximity Switches, Push Buttons, Indicating

Lamps, Semiconductor Fuses,

Special Fuses, Circuit Breakers, Main Power

Switch, Encoders, Spares for

PLC

I/O Card, Digital to Analogue Card, HMI, Display Unit, Servo Motors for

Feed Drives, Power Module and Control Cards for Main Drive as well as

Feed Drives, Field Sensors (such as

Encoders, Optical Sensors, Proximity Switch,

Limit Switch) etc.

11.4 All types of spares for total machine and accessories shall be

available for at least ten years after supply of the machine. If machine

or control is likely to become obsolete in this period, the Bidder

should inform BHEL sufficiently in advance and provide drawings of

parts / details of spares and suppliers to enable

BHEL to procure these

in advance, if required

Bidder to confirm

11.5 Bidder to confirm that complete list of spares for machine and

accessories, along with item part no /

specification / type / model, and

name and address of the spare supplier shall be furnished along with

documentation to be supplied with the machine

12.0 DOCUMENTATION:

12.1 The following documents in English

language should be supplied


along with the machine:

Hard Copies - 3 Sets

In CD form - 1 Set Bidder to confirm

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1. Operating manuals of Machine and its PLC System
 2. Programming manuals of Machine
 3. Complete PLC Programming manuals
 4. Maintenance manuals with all drawings of machine assemblies / subassemblies with parts list
 5. Electrical circuit diagrams and components with bill of materials
 6. Pneumatic circuit diagrams and components with bill of materials
 7. Maintenance and Interface manuals for Machine Control System
 8. Preventive Maintenance check list for Electrical and Mechanical System
 9. Manufacturing drawings for all toolings, ordered along with the machine, including Tool Holders, Spindle Mounting details, Adapters etc.
 10. Catalogues, O and M manuals for all bought out items used in the machine.
 11. Operating Manuals, Maintenance Manuals and Catalogues for all supplied Accessories.
- Bidder to Confirm
- 13.0 MACHINE INSPECTION and ACCEPTANCE
- 13.1.1. Acceptance of the machine prior to dispatch to BHEL will be based on satisfactory demonstration of Shell to lug welding mockup prepared by the supplier.
Bidder to Confirm
- 13.1.2 All tests NDT(MPI, RT and UT) and Destructive testing (Transverse tensile test in plate ,Side bend test in plate,Root bend test in plate) Shall be conducted by the supplier at their works and at their cost in the presence of BHEL Engineers.
Bidder to Confirm
- 14.0 AT BHEL WORKS:.,
- 14.1 The weld parameters for the given sizes of lugs to shell welding shall be established by the Supplier at BHEL Works after installation,
The test samples will be provided by BHEL.
Submerged arc welding equipment with spe

General Note:

PLEASE SEE ATTACHMENT FOR COMPLETE SPECIFICATION

PL. SUBMIT YOUR OFFER ON F.O.R/BHEL-TRICHY (TAMILNADU) BASIS AND IN TWO PART (TECHNO-COMMERCIAL BID AND PRICE BID) IN A SEPARATE COVER.

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S. J. S.
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FCA - BHEL Trichy India



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IF THE OFFER IS SUBMITTED IN SIGNLE PART AND THE SAME WILL BE LIABLE FOR REJECTION.

ANNEXURE-III ENCLOSED HERewith MUST BE FILLED, SIGNED AND SUBMITTED ALONG WITH YOUR OFFER.

WE MAY GO FOR REVERSE AUCTION (ONLINE BIDDING) IF REQUIRED FOR THIS TENDER.

THIS TENDER IS HOSTED IN BHEL WEBSITE VIDE NIT REF. _____ DT. _____ AND ANY CORRIGENDUM MAY PL BE VIEWED IN THE BHEL WEBSITE (HTTP://WWW.BHEL.COM)

ENCLOSURE: ANNEXURE - III

Enclosures:

"LD clause has to be confirmed without fail."

"Payment to vendors will be made only thro E-Payment mode."

PR Links

Material.	PR.No	PR.Item.	Quantity	Acc. Assign	Customer Number
	100629612	00010	1.000	/000000	

Specification continues here

Bidder to Confirm

15.0 TRAINING:

15.1 The supplier shall train FOUR BHEL Engineers from WRI, Operation (Mechanical, Electrical/ Electronics and Programming) of the Machine for FIVE working days at OEM's works after the pre-dispatch inspection.

Bidder to confirm

15.2 Bidder to clearly mention whether the training is offered free of cost or chargeable.

If chargeable, the Bidder has to quote on man day basis.

Bidder to Specify

15.3 Travel charges, board and lodging for the BHEL Engineers who will be visiting OEM's works for pre-dispatch inspection and training, shall be borne by BHEL.

Bidder to note

15.4 The Supplier shall impart training to BHEL's Machine Operators and Maintenance crew in Operation and Maintenance (Mechanical, Electrical/ Electronics and PLC based control System) during commissioning of the Machine at BHEL works for 10 working days.

Bidder to confirm

15.5 The training shall include specialized coaching in

i) Safety

ii) Operation of the machine

iii) PC based System and Operation,

iv) Trouble-Shooting,

v) Software Application

vi) All special features of the machine

vii) Electrical / Mechanical / Electronics systems

Bidder to Confirm

15.6 Competent, English speaking experts shall be arranged by the Bidder during training for satisfactory and effective training of BHEL personnel

Bidder to Confirm

16.0 ERECTION and COMMISSIONING

16.1 Supplier to take full responsibility for Supervision of commissioning of machine, its controls and accessories.

Supplier shall send suitable qualified Engineers for supervision of Commissioning of the machine at BHEL works.

Bidder to Confirm

16.2 Service requirement like power, air and water shall be provided by BHEL at only one point to be indicated by Bidder in their foundation/layout drawings. Other requirements like crane and helping personnel shall also be provided by BHEL. -

Bidder to Confirm

16.3 Successful proving out of the Machine at BHEL works for welding of a minimum of 3 Lugs under the supervision of the Bidder shall be considered as part of commissioning. All tests, as mentioned (Machine Acceptance) shall form part of the commissioning activity. -Bidder to Confirm

16.4 Commissioning spares, required for commissioning of the machine shall be supplied free of cost

Bidder to Confirm

16.5 Test Mandrels, Instruments and other necessary equipment, to carry out all above activities should be brought by the Bidder.

Bidder to confirm

16.6 Portion, if any, of the machine, accessories and other supplied items where paint has rubbed off or peeled during transit or erection should be repainted and merged with the original surrounding paint by the Bidder. For this purpose, the Bidder should supply sufficient quantity of touch-up paint of various colours of paint used.

Bidder to Confirm

16.7 General schedule of Erection and Commissioning shall be submitted with the offer.

Bidder to Confirm

16.8 The Bidder shall bring special tools and equipment required for erection of the machine. Necessary tools like Torque Wrench, Spanners, Keys, grease guns etc. for operation and maintenance of the machine should be supplied. List of such tools should be submitted with offer

Bidder to confirm

17.0 IN-BUILT SAFETY ARRANGEMENTS

17.1 Following safety features in addition to other standard safety features should be provided on the machine:

Bidder to confirm

17.2 A detailed list of all alarms / indications provided on machine should be submitted by the Bidder.

Bidder to specify

17.3 All the pipes, cables etc. on the machine should be well supported and protected. These should not create any hindrance to machine operator's movement for effective use of machine.

Bidder to Confirm

17.4 Machine should have adequate and reliable safety interlocks / devices to avoid damage to the machine, work piece and the operator due to the malfunctioning or mistakes.

Bidder to specify

17.5 Machine functions should be continuously monitored and alarm / warning indications through lights/ alarm number with messages (on the display and operator panels) should be available.

Bidder to Confirm

17.6 All the rotating parts used on machine should be statically and dynamically balanced to avoid undue vibrations and suitably guarded.

Bidder to Confirm

17.7 Emergency Switches should be provided at suitable locations as per International Norms.

Bidder to Confirm

17.8 All lubricated parts like Bed, guide ways shall have provision for collecting the used Lubrication oil from machine guide ways and preventing them from spilling over on to the ground.

18.0 THERMAL STABILITY FOR AMBIENT CONDITIONS and ENVIRONMENTAL PERFORMANCE OF THE MACHINE:

18.1 The machine shall be suitable for an ambient temperature of +45 deg C and relative humidity of 90 % respectively, but both do not occur simultaneously.

Bidder to confirm

18.2 The Bidder should ensure trouble free operation of the machine with Thermal Stability of the complete machine and accuracy requirements of BHEL components, keeping in view of ambient conditions as mentioned above.

Bidder to confirm

18.3 The machine, including attachments and accessories, should be suitable for 24 hrs. Continuous operation to its full capacity for 24 hour a day and 7 days a week throughout the year.

Bidder to Confirm

18.4 If any safety / environmental protection enclosure is required it shall be built in the machine by the Bidder.

Bidder to confirm

18.5 Paint of the machine should be oil / coolant resistant and should not peel off

Bidder to confirm

19.0 PAINTING:

19.1 Painting of Machine / Electrical Panels:

- a. One coat of Primer
- b. Two coats of Polyurethane Paint

Bidder to Confirm

20.0 GUARANTEE:

20.1 Performance Guarantee to be given for 12 months from the date of commissioning OR 18 months from the date of dispatch whichever is earlier.

Bidder to confirm

21.0 MACHINE PACKING:

21.1 Sea worthy and rigid packing for all items of complete machine, PLC System, Data logger system, all accessories and other supplied items to avoid any damage/loss in transit. When machine is dispatched in containers, all small loose items shall be suitably packed in boxes

Bidder to confirm

22.0 GENERAL:

22.1 Machine Model No. Bidder to specify

22.2 Total connected load (KVA): Bidder to specify

22.3 Floor area required (Length, Width, Height) for complete machine and accessories

Bidder to specify

22.4 Total weight of the machine Bidder to specify

22.5 The machine configuration and element arrangement should have easy accessibility, high rigidity, and good maintainability

Bidder to confirm

23.0 The Technical Offer shall contain the following: a) Point by Point confirmation / details wherever called for to be provided.

b) Complete Scope of Supply, including Main Equipment, All Accessories and Attachments, etc.

c) List of Operating Spares

d) Anchoring Materials

e) Performance Prove-Out Details.

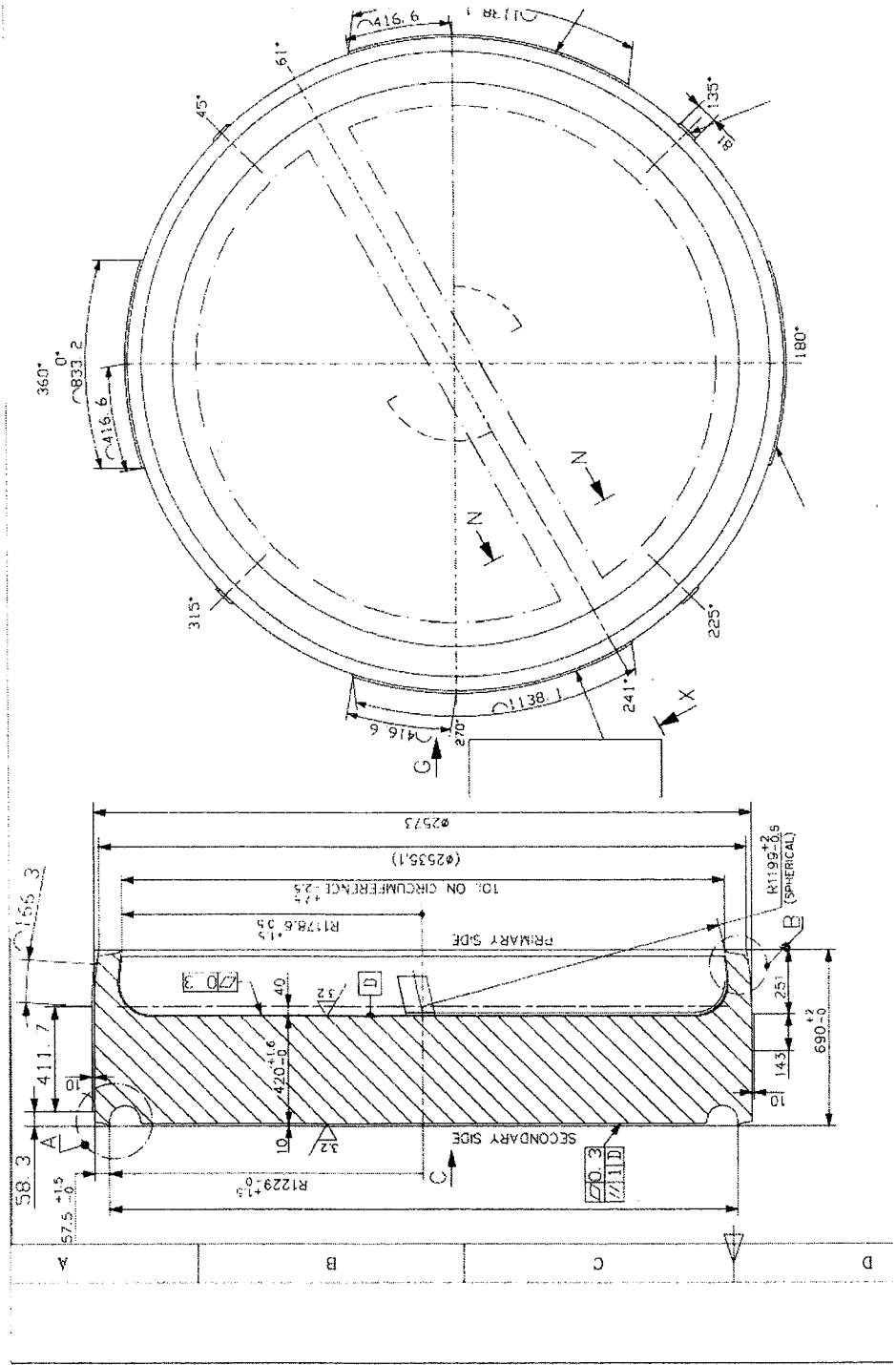
f) Complete description of all systems and sub-systems forming part of the shell to lug welding Machine.

g) A General Arrangement drawing showing the layout of the machine and associated systems with salient dimensions. The drawing should be clear and legible.

ENCLOSURES attached: 1) ANNEXURE - 1,2 and 3.

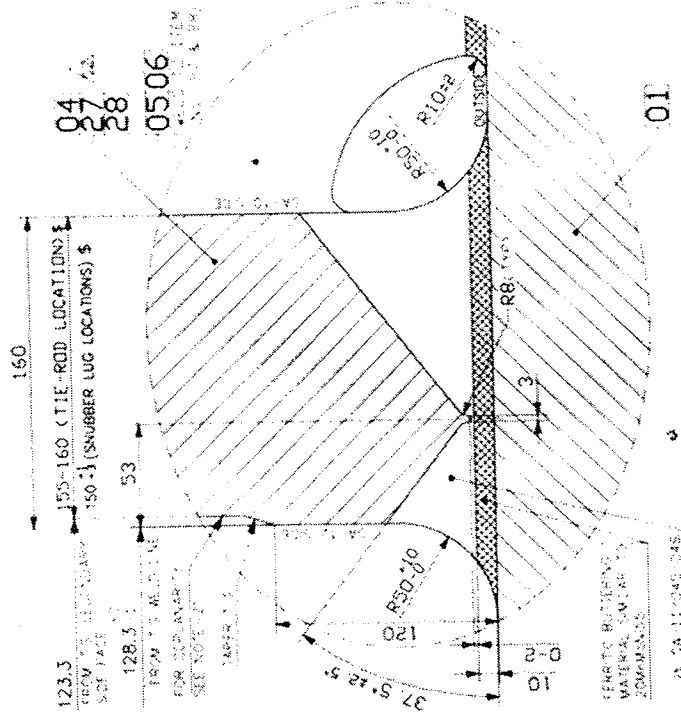
TECHNICAL SPECIFICATION FOR SUBMERGED ARC WELDING EQUIPMENT WITH SPECIAL SYSTEM FOR CIRCULAR
 WELDING OF LUG TO TUBE SHEET

ANNEXURE -- 1: TUBE SHEET



TECHNICAL SPECIFICATION FOR SUBMERGED ARC WELDING EQUIPMENT WITH SPECIAL SYSTEM FOR CIRCULAR WELDING OF LUG TO TUBE SHEET

ANNEXURE - 3: GROOVE DESIGN



MM: CAPITAL EQUIPMENT

Bharat Heavy Electricals Limited, Trichirapalli – 620 014
(To be filled and submitted along with Offer)

BHEL Enquiry No.:

Date:

BHEL Commercial Terms and Conditions for IMPORT SUPPLIES	Vendor's Confirmation/ Comments
Technical confirmation to BHEL's Specification as called for in BHEL Format shall be furnished. If needed additional sheets shall be used.	To be furnished along with offer
Prices shall be quoted item wise only.	
Prices shall be quoted on " FIRM PRICE " basis only. The prices should be only on FOB/FCA basis inclusive of Packing & Forwarding charges if any.	
Validity of offer shall be for a minimum period of 120 days from the date of Tender opening	
Delivery period from the date of Letter of Intent shall be clearly mentioned in the offer.	
Liquidated damages @ ½% per week subject to a maximum of 15% of the order value shall be applicable for delay in deliveries.	
Payment terms for Foreign vendor (Principal): 100% value of the goods will be paid through an irrevocable Letter of Credit established by our bankers. (OR) 100% payment on CAD (CASH AGAINST DOCUMENTS) BASIS All bank charges outside India are to vendor's account only. Any advance payment or payment before dispatch is not acceptable to us and If you fail to accept our payment terms, your offer is liable for rejection.	
Payment terms for Indian Agent: Indian Agency commission, if any, shall be clearly specified in the offer and the same will be paid in Indian Rupees against acceptance / commissioning of the equipment.	
Part Shipment or Transshipment is not permissible	
In case of any short shipment in the spares, where separate rates are not available in the contract, the customs duty levied on such supplies, shall be borne by the supplier / Indian agent.	
Any warranty replacement during warranty period shall be supplied free of charge on FOR BHEL, Trichy basis.	
Equipment will be inspected and proved at vendor's works prior to dispatch. However final inspection and acceptance of equipment will be after installation at BHEL, Trichy.	
The equipment shall be guaranteed for a period of 12 months from the date of commissioning.	
Offers should be submitted only in sealed cover superscribing clearly the Enquiry reference and due date.	

NOTE:-

- a) It is confirmed that all the terms and conditions stipulated in the Enquiry have been fully understood by us and all clarifications & details have been obtained.
- b) The prices are to be offered only on FOB/FCA basis, inclusive of Packing & Forwarding charges if any.
- c) Your specific acceptance to BHEL Payment terms & LD are essential for consideration of your offer. Otherwise your offer is liable for rejection.

Signature & Office Seal of the vendor

Bharat Heavy Electricals Limited, Trichirapalli - 620 014

MM : CAPITAL PURCHASE

(To be filled and submitted along with offer)

BHEL Commercial Terms and Conditions for Indigenous Supplies	Vendor's Confirmation / Comments
Technical confirmation to BHEL's Specification as called for in BHEL Format shall be furnished. If needed additional sheets shall be used.	
Prices shall be quoted item wise only as per the model format enclosed.	
Prices shall be quoted on " FIRM PRICE " basis only. The prices should be only on F.O.R / Despatching station basis inclusive of Packing & Forwarding charges if any. Applicable % of ED & Sales Tax , Freight & Insurance, Installation & Commissioning Charges should be clearly indicated.	
Validity of offer shall be for a minimum period of 120 days from the date of Tender opening	
Delivery period from the date of Letter of Intent / Purchase order shall be clearly mentioned in the offer.	
Liquidated damages (at % per week subject to a maximum of 15% of the order value shall be applicable for delay in deliveries.	
Following Risk Purchase clause shall be applicable: The purchaser at his option 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 time stipulated or if the same were not available, the best and the nearest available substitute therefore. The supplier shall be liable for any loss which the Purchaser may sustain by reason of such risk purchases.	
Payment terms for supply portion: <ul style="list-style-type: none">• 100% payment will be made within 45 to 90 days after receipt and acceptance / commissioning of goods at BHEL. against submission of PBG for 10% of Order value with required validity. (or)* 80% value of the goods will be paid within 45 to 90 days against dispatch documents, negotiated through bank. Balance 20% will be paid within 45 to 90 days from the date of acceptance / commissioning of goods against submission of supplementary invoice and also against submission of PBG for 10% of Order value with required validity. All bank charges are to vendor's account only.	
Erection / commissioning: Erection / commissioning shall be done at free of cost.	
The equipment shall be guaranteed for a period of 12 months from the date of commissioning.	
Equipment will be inspected and proved at vendor's works prior to dispatch. However final inspection and acceptance of equipment will be after installation at BHEL, Trichy.	
The vendor shall provide necessary drawings, Test Certificates and Operating Maintenance Manuals etc., as called for in the Technical Specification, in the required number of copies at no extra cost.	
Any warranty replacement during warranty period shall be supplied free of charge on FOR BHEL, Trichy basis.	
Offers should be submitted only in sealed cover super-scribing clearly the Enquiry reference and due date.	

NOTE:-

- a) It is confirmed that all the terms and conditions stipulated in the Enquiry have been fully understood by us and all clarifications & details have been obtained.
- b) Your offer should be indicating applicable if any P&F Charges, % of ED, Sales Tax -CST or VAT, Service Tax), Freight, Insurance and Installation and Commissioning Charges etc., as per our Price Format.
- c) Your specific acceptance to our Payment terms, LD, Risk Purchase Clause & Submission of PBG for 10% of the order value are essential for consideration of your offer. Other wise your offer is liable for rejection.

Signature & Office Seal of the vendor

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