



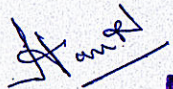
An ISO 9001
Company

Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

CAPITAL EQUIPMENT / MATERIALS MANAGEMENT

ENQUIRY		Phone: +91 431 257 5443/ 7297 Email : smams@bhel.in, hari.r@bhel.in Web : www.bhel.com	
NOTICE INVITING TENDER			
TWO PART BID	Enquiry Number:	Enquiry Date:	Due date for submission of quotation:
Tender to be submitted in two Parts	2632100006	29.01.2021	24.02.2021
You are requested to quote the Enquiry number date and due date in all your correspondence. This is only a request for quotation and not an order. Please note that under any circumstances both delayed offer and late offers will not be considered. Hence vendors are requested to ensure that the offer is reaching physically our office before 14:00 hrs on the Date of tender opening.			
Item	Description		Quantity
10	IGBT Based Portable Welding Power Source(200 Amps) as per the technical specification & commercial conditions applicable (to be downloaded from web site www.bhel.com or https://eprocure.gov.in/epublish/app)		2 Nos.
Important points to be taken care during submission of offer 1. Delivery terms shall be FOR, BHEL, Stores, High Pressure Boiler Plant, Tiruchirappalli - 620014. 2. Compliance Form TRY/ IND/ 04A to be filled and enclosed along with the offer failing which, the offer will not be considered for evaluation. 3. Delivery period required is 6 Weeks from the date of Purchase Order. 4. Erection and commissioning activities shall be done by the supplier, at BHEL, Trichy works. 5. Time period required for Erection and Commissioning activities shall be 2 weeks from the date of intimation by BHEL 6. Procurement of the item through this NIT will be as per Public Procurement (Preference to Make in India), Order 2017 dated 04.06.2020 by DPIIT (DPIIT Order No. P-45021/2/2017-PP (BE-II) dated 04.06.2020), to encourage 'Make in India ' and promote manufacturing and production of goods and services in India. 7. All updates, amendments, corrigenda, etc., (if any), for each tender will be posted only on the above websites from time to time, as and when required, until each tender is opened. There will be no publication of such updates, amendments, corrigenda, etc., through newspapers or any other media. BHEL's General guidelines / instructions (refer MM/CE/GENL/001- NO EMD), compliance form and technical specification can be downloaded from BHEL web site http://www.bhel.com or from https://eprocure.gov.in/epublish/app under Enquiry reference "2632100006".			
Tenders should reach us before 14:00 hours on the due date Tenders will be opened at 14:30 hours on the due date Tenders would be opened in presence of the tenderers who have submitted their offers and who may like to be present		Yours faithfully, For BHARAT HEAVY ELECTRICALS LIMITED  R. HARI Engineer MM / Capital Equipment BHEL, TRICHY - 620 014 Engineer / MM/ Capital Equipment	

IGBT BASED PORTABLE WELDING POWER SOURCE (200 Amps), Qty – 2 nos.

PART A

SECTION 1: Qualifying Criteria

The BIDDER has to compulsorily meet the Qualifying criteria indicated in SECTION 1 to get qualified. Otherwise the technical offer will not be considered.

S. No.	REQUIREMENTS	VENDOR's RESPONSE
1.1	Only those bidders / OEMs should quote, who have commissioned in the last 5 years (as on the initial date of opening of tender), at least 5 Nos. of the model quoted against this tender or a model with higher rating of "IGBT based Welding Power Source" to any of the customers. The name and contact addresses of the customers to whom the machines have been supplied has to be furnished with details. Indicate the number of such welding machines sold in India.	
1.2	Vendor should submit at least one Performance Certificate from any of the customers for satisfactory performance of the model quoted against this tender or a model with higher rating for a minimum period of one year from the date of commissioning (as on the initial date of opening of tender), supplied to such customers in the last 5 years. Full contact details of the customers from whom the performance certificate is obtained are to be provided.	

Section 2: Information to be provided by the bidder:-

S. NO.	PARTICULARS	BIDDER's RESPONSE
2.1	The BIDDER to furnish Reference List of Customers with Complete contact details where similar machine is supplied.	
2.2	Details of similar Equipment supplied to BHEL units, if any. (Year of commissioning, Application, Type)	
2.3	Details on SERVICE-AFTER-SALES Set-Up in India including the Address of Agents / Service Centers in India.	
2.4	Any Additional Data to supplement the manufacturing capability of the BIDDER for the subject equipment.	
2.5	The Technical Offer shall be supported by Product Catalogue and Data Sheets in original and complete technical details / literature on the quoted model of equipment.	

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IGBT BASED PORTABLE WELDING POWER SOURCE (200 Amps), Qty – 2 nos.**Part B - Technical Specification**

S. No.	BHEL SPECIFICATION		OFFER BY BIDDER
1.0	APPLICATION: The Welding Machine shall be portable and light weight and is intended for Manual TIG welding and Manual Arc welding processes for producing Radiographic Quality Welds like Butt Joints (in tubes and pipes), Groove Fillet joints, Butt joint, Double V Joint, Sheet Welding, Tube Fillet Joints, Plate Butt Joints, Tube Butt joints. The power source should be capable of welding the following materials: (i) Carbon Steel (ii) Alloy Steel (iii) Stainless Steel (iv) Nickel based alloys		
2.0	WELDING POWER SOURCE FEATURES		
2.1	Type	Power source shall be IGBT based Inverter controlled capable of delivering a Constant Direct Current (in DCEP and DCEN modes of welding operations).	
2.2	Switching Frequency & IGBT	Bidder has to indicate the Switching Frequency of the Inverter Circuit and the make of IGBT used. IGBTs used in the welding power sources shall be of HITACHI, JAPAN/ DYNEX, U.K/ FUJI, JAPAN/ IXYS, USA/ POWEREX, USA/ MITSUBISHI, JAPAN/ TOSHIBA, JAPAN / INFINEON, GERMANY/ SEMIKRON, GERMANY makes or any other make acceptable to BHEL.	
2.3	Current Rating	200 Amps @ 45 % Duty Cycle or better. Bidder to confirm and specify the duration of the duty cycle in minutes	
2.4	Operating Range for Welding Current	10 to 200 Amps (with step less variation continuously adjustable)	
2.5	Open Circuit Voltage	Preferred OCV is 80 to 90 V. Bidder to mention the Open Circuit Voltage for the offered Power source.	
2.6	Digital display meters	Factory Installed Digital display meters on the front panel with easy removal and replacement for periodic instrument calibration: (a) For display of Current and voltage simultaneously. (b) The accuracy of the Digital meters shall be +/-5% of FSV (c) For display of the set current value as well as the actual value during welding, either concurrently (or) through a selective function.	

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30.11.2020

S. No.	BHEL SPECIFICATION		OFFER BY BIDDER
2.6.1	Calibration of digital display meters	a) The welding machine shall have the capability for onsite calibration facility. b) Details of Input Source like voltage or current, full scale reading shall be furnished along with the offer which is necessary for calibration. c) If the input connections to the display meters are taken from PCB, then the detailed procedure for calibration of display meters in the welding machine shall be provided by the bidder d) The display meters shall have error correction facility	
2.7	Insulation	"Class F" insulation shall be provided to suit Tropical Working Conditions.	
2.8	Machine Protection	IP 21S – Degree of Protection or better. Bidder to confirm and specify	
2.9	Alarms / Indicators on panel	Power ON/OFF. Bidder to specify	
2.10	Machine Cooling	The Power source shall feature a forced air cooling system that ensures adequate cooling of the components while preventing dust and metal particles from being drawn in.	
2.11	Functional / Elemental Design Protection/ operator safety	a) Inbuilt protection for the IGBT/Power source against Thermal / Overload / Short-Circuit / Single or Three Phase Power Input Conditions. b) All PCBs shall be sprayed with mould coating to prevent damage from dust and grinding particles. c) Machine Design to ensure proper earthing for the machine and its peripherals. d) Protection against electric shock from input supply for ensuring operator safety.	
2.12	Electromagnetic Interference (EMI) Suppression	a) Power source shall be equipped with a suitable Filter Network connected to the input Power Line, to prevent propagation of EMI/HF noise either into or out of the Power source. b) All metal enclosures and internal shields shall prevent radiated EMI.	
2.13	Power source terminals	The power source should have Heavy Duty terminals to connect Welding Cable and Return Current Cable. Bidder to specify	
2.14	Return Current Cable	Welding Current return Cable, 5m in length, with one end connected to the Power source and the other end provided with a Screw Type Earth Clamp.	
2.15	Input Power Cable	15 metre long, electric cable with protective sheathing (for single phase & potential earth) to be provided with each power source.	

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S. No.	BHEL SPECIFICATION		OFFER BY BIDDER
2.16	Power Rating	Bidder to indicate the Maximum Power Rating (kVA) of the Power source and the no-load Power Consumption in Watts.	
2.17	Power Source Make and Model	Bidder to Specify the Make and Model of Power Source Offered. (Metallic name plate of the machine shall also include details like name of manufacturer, Serial no, Model No., Year of Mfg. input power in kVA, input voltage, No. of phase, operating frequency, weight of the unit etc.)	
2.18	Portability	The equipment shall be light weight type with handle for carrying the power source by hand.	
2.19	Ambient Conditions	Temperature up to 50°C; Humidity up to 90% but both upper limits do not occur simultaneously.	
2.20	Input Power Supply	The equipment shall work on single phase input power supply only. Input power supply at BHEL: single Phase AC 230 V $\pm$ 10%, 50 Hz $\pm$ 2%.	
3.0	SPARES :		
3.1	Spares	Critical Spare Parts required for 2 years of trouble free operation to be quoted.	
4.0	O & M MANUALS (in English Language) :		
4.1	Manual Details	a) Manual shall contain all instructions for machine installation and welding trial testing, in sequence. b) Manual to give general circuit diagrams, showing the interconnection of various elements and also details on PCBs [Printed Circuit Board] like tapping voltages, main electronic elements' specifications and ratings, etc. c) Manual to give other details like alarm list, troubleshooting chart, weld parameters selection for various base metals, welding programming, memory resetting procedure etc. d) Master List of Parts & Spares used in the machine with Make, Model, Rating, Part number etc. e) The OEM specified calibration procedure for the measuring instruments in the welding machine and the calibration certificate for the display meters.	
4.2	No. of Copies	3 sets (Hard copies) for Each Machine.	

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S. No.	BHEL SPECIFICATION		OFFER BY BIDDER
4.3	Soft Copy	One soft copy in CD-ROM or pen drive is to be given for each machine, containing the details mentioned under Manual details	
5.0	GENERAL POINTS :		
5.1	Bought-Out Items	a) The Bought-Out Items - like Motors, ICs, Relays, Contactors, Switches, Electronic Elements, etc., used in the Power source & Control Unit shall be of reputed makes acceptable to BHEL. b) Bidder to furnish the makes of Bought-Out Items, along with the offer.	
5.2	Weight	Bidder to specify the Weight of the power source	
5.3	Installation & Commissioning	Installation, Commissioning and performance prove out of the offered equipment at BHEL works, by the supplier's representative. BHEL will provide necessary jobs and electrodes for welding trials.	
5.4	Training	The Supplier's Service Engineer shall give training in the Operation and Maintenance (mainly on electric/electronic troubleshooting) of the Machine to BHEL Staff, during commissioning of the Welding Machines.	
5.5	Guarantee	The machine shall be guaranteed for a minimum of 24 months from the date of commissioning at BHEL.	

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