



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 79 38 Fax : +91 431 252 07 19 Email : tvenkat@bheltry.co.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	2631300050	29.06.2013	30.07.2013

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	Inverter Controlled CC/CV Welding Machines for MIG/MAG/PULSED TIG/SMAW/FCAW-Co2 Welding – 500 Amps as per the technical specification & commercial conditions applicable (to be downloaded from web site www.bhel.com or http://tenders.gov.in)	8.00 Nos

Important points to be taken care during submission of offer

1. Material shall be delivered to
Indigenous Vendors:
FOR, BHEL, Stores
Power Plant Piping Unit
Thirumayam, Pudukkottai Dist.
2. Delivery required 6 months from the date of purchase order.
3. EMD for this Tender will be (INR) : 1,00,000.00
4. Checklist No: **TMM/IMP/02** and **TMM/IND/02A** to be filled and enclosed along with the offer failing which, the offer will not be considered for evaluation.
5. 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-EMD**) including bank guarantee formats and list of consortium banks, commercial terms check-list can be downloaded from BHEL web site <http://www.bhel.com> or from the Government tender website <http://tenders.gov.in> (public sector units > Bharat Heavy Electricals Limited page) under Enquiry reference "2621300050".

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 Sr. Manager / Capital Equipment / MM
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PART A

**QUALIFYING CRITERIA FOR THE SUPPLY OF
 INVERTER CONTROLLED CC/CV WELDING
 MACHINES FOR MIG/MAG/ PULSED
 TIG/SMAW/FCAW – CO₂ WELDING – 500 Amps.
 [60% Duty Cycle]**

SECTION – I

The BIDDER is expected to give complete details against each clause in the table given below and wherever necessary an additional sheet may be attached (giving clear reference number) to cover the required details.

S. No.	PARTICULARS	VENDOR's RESPONSE
1.0	Number of Years of Experience of the BIDDER (Original Equipment Supplier) in the field of design, manufacture and supply of 'INVERTER CONTROLLED CC/CV welding machines for MIG/MAG/Pulsed TIG/SMAW/FCAW – CO ₂ WELDING' for Radiographic Quality Welding Applications for Pressure Parts Fabrication	
2.0	YEAR of LAUNCH of the MODEL quoted against this ENQUIRY	
3.0	Number of 'Inverter Controlled CC/CV welding machines for MIG/MAG/ Pulsed TIG/SMAW/FCAW – CO ₂ WELDING' supplied, till date in the QUOTED MODEL	
4.0	Number of 'Inverter Controlled CC/CV welding machines for MIG/MAG/ Pulsed TIG/SMAW/FCAW – CO ₂ WELDING' – 500 Amps. Rating with 60 % Duty Cycle' supplied and commissioned till date for the following category of CUSTOMERS a) High Pressure Boiler Industries b) Ship Building Applications c) Heat Exchangers / Pressure Vessels	
5.0	Details on International Standards followed in Design and Testing of Welding Machines	
6.0	Comprehensive Details, on Performance Testing of Welding Machines carried out at the Factory, to be furnished with the Technical Offer.	
7.0	Details on SERVICE-AFTER-SALES Set-Up in India including the Addresses of Agents / Service Centres in India, to be furnished compulsorily.	
8.0	BIDDER to indicate the Country of Origin for the supply of welding machines. Machines manufactured in Countries like TAIWAN/CHINA/KOREA are not preferred.	

SECTION – II

The BIDDER has to compulsorily meet the following requirements to get qualified for submitting an offer for the 'Inverter Controlled CC/CV welding machines for MIG/MAG/ Pulsed TIG/SMAW/FCAW – CO₂ WELDING'

S. No.	REQUIREMENTS	VENDOR'S COMMENTS
9.0	The BIDDER shall have a minimum of TEN Years of Continuous Experience in the Design, Manufacture & Supply of 'Inverter Controlled CC/CV welding machines for MIG/MAG/ Pulsed TIG/SMAW/FCAW – CO ₂ Welding'	
10.0	The BIDDER should have supplied a minimum of 50 number of 'Inverter Controlled CC/CV Welding Machines for MIG/ MAG/ Pulsed TIG/ SMAW/ FCAW – CO ₂ Welding' with rating 500 Amps. (@ 60 % Duty Cycle) and above to Customers in India. Indicate the number of such welding machines sold in India.	
11.0	Reference List of Customers and Performance Certificate from minimum THREE CUSTOMERS [Heavy Engineering Companies] with full contact details of CONTACT PERSON, who are the End Users of the MODEL (given under Clause No.10.0) of 'Inverter Controlled CC/CV Welding Machines for MIG/ MAG/ Pulsed TIG/ SMAW/ FCAW – CO ₂ Welding'	

SECTION – III

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

S.No.	REQUIREMENTS	VENDOR'S COMPLIANCE
12.0	The BIDDER shall submit the offer in TWO PARTS - Technical [with PART A & PART B]& Commercial and Price Bid.	
13.0	The Offer shall contain a comparative statement of Technical Specifications given by BHEL and the Offer Details submitted by the Bidder, against each clause. A just 'CONFIRMED' or	

	'COMPLIES' or 'YES' or 'NO-DEVIATION' or similar words in the technical comparative statement may lead to disqualification of the Technical Offer.	
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S.No.	REQUIREMENTS	VENDOR's COMPLIANCE
14.0	The BIDDER shall assure a continuous support for SPARES and SERVICE for TEN Years, from the date of commissioning of the equipment at BHEL Works.	
15.0	The Technical Offer shall be supported by Product Catalogue and Data Sheets in ORIGINAL and complete technical details / literature on the QUOTED MODELS of Welding Powersources.	
16.0	The Commercial Offer (given with the Technical Offer) shall contain the Scope of Supply and the Un-Priced Part of the Price-Bid, for confirmation for the scope of supply.	
17.0	Earlier performance & field experience (service support) with BHEL (if any) will be a reckoning factor for the technical qualification of the OFFER.	
18.0	The expected delivery period (including the time for Pre-Dispatch Inspection clearance by BHEL) for the welding machines is not more than six months from the date of issue of BHEL Purchase Order. In case the quoted delivery period extends beyond six months, an additional grace period of two months is permitted, but with a loading for arriving at the PRICE COMPETITIVENESS of the Offer (if the OFFER is technically acceptable on all accounts). Details are given in the commercial terms of the this tender	

PART B**TECHNICAL SPECIFICATIONS FOR 'INVERTER CONTROLLED CC/CV WELDING MACHINES FOR MIG/ MAG/ PULSED TIG/ SMAW/ FCAW – CO₂ WELDING' [500 AMPS.]**

AA. APPLICATION :			
Sl.No.	FEATURES /BHEL SPECIFICATION	OFFER BY BIDDER	DEVIATIONS
AA.1	The offered equipment shall be portable and suitable for semiautomatic MIG/ MAG/ PULSED TIG/ SMAW/ FCAW – CO ₂ welding process using flux-cored and solid wires of carbon steel, low-alloy steel and stainless steel.		
AA.2	The equipment shall be suitable for welding in all positions with pure argon, carbon-di-oxide or argon plus carbon di-oxide gas mixture as shielding gas and also for welding with self-shielded flux-cored wires.		
BB. MACHINE CONFIGURATION : [The scope of supply shall consist of the following, for each machine]			
Sl.No.	FEATURES /BHEL SPECIFICATION	OFFER BY BIDDER	DEVIATIONS
BB.1	Welding Powersource with Transport Trolley and Wheels		
BB.2	Wire Feeder Unit		
BB.3	Welding Torch (2 Types) for FCAW & Pulsed TIG welding.		
BB.4	Remote Control Unit		
BB.5	Gas Regulators for (Ar + CO ₂) Gas Mixture or CO ₂ Gas or Ar Gas		
BB.6	CO ₂ Gas Pressure Regulator, Gas Guard, Flow–Meter and Heater Unit		
BB.7	Set of inter-connecting cables/hoses with quick-fix end couplings		
BB.8	Consumables & Spares for Welding Torches		
BB.9	Electrical & Mechanical Spares for Powersource and Wire-Feeder		
BB.10	Operation & Maintenance Manuals – Three Copies per Machine		
BB.11	Commissioning of Equipment at BHEL Works and Performance Prove-out of the offered equipment by Supplier's representative		

CC. EQUIPMENT SPECIFICATION : POWERSOURCE FEATURES				
SI.No.	FEATURES	BHEL SPECIFICATION	OFFER BY BIDDER	DEVIATIONS
CC.1	Type	Inverter Controlled with IGBT and Constant Potential type, even with a fluctuation of $\pm 10\%$ in the Input Voltage		
CC.2	Switching Frequency	BIDDER has to indicate the Switching Frequency of the Inverter Circuit and the make of IGBT used		
CC.3	Current Rating	500 Amps. @ 60 % Duty Cycle with suitability for working at a minimum of 380 Amps. at 100% Duty Cycle.		
CC.4	Operating Range : a) Voltage b) Current	20 Volts to 50 Volts (continuous control) 50 Amps. to 500 Amps. (continuous control)		
CC.5	Open Circuit Voltage	BIDDER to mention the Open Circuit Voltage for the offered Powersource		
CC.6	Current Setting	The variation in the set value of the welding current to the actual value, shall not exceed 1 %.		
CC.7	Voltmeter & Ammeter	Factory Installed Ammeter & Voltmeter on the front panel with easy removal and replacement (i.e., without lifting the top cover of the Powersource) for instrument calibration		
CC.8	Power Input	415 \pm 10% V AC, 3 Phase, 50 \pm 2% Hz, through a 3 Wire System [4 th wire for EARTHING] – No Neutral Conductor		
CC.9	Gas-Heater for CO ₂ - Shielding Gas	Provision of one Single Phase AC tapping point in the Powersource, for the gas heater input power supply [110 V or 230 V – AC Supply]		
CC.10	Auxiliary Power for Wire-Feeder Unit	Low voltage (like 48 V/110V) auxiliary power tapping point in the Powersource		
CC.11	Arc Strike (F.A.S.)	Instantaneous Arc Striking facility (Fresh Arc Strike)		
CC.12	Weld Stop Condition	No globule formation at the wire tip , at the time of weld stopping		

CC. EQUIPMENT SPECIFICATION : POWERSOURCE FEATURES			[...contd.....]	
SI.No.	FEATURES	BHEL SPECIFICATION	OFFER BY BIDDER	DEVIATIONS
CC.13	Gas Flow Setting	Gas Flow Check Push Button for Gas Solenoid Valve actuation in weld switch in "OFF" position.		
CC.14	Insulation	The Powersource shall have Features like a) Gas / Wire Inching Facility b) Spatter Control Facility c) Gas Pre-flow / Post-flow Facility d) Crater Control & Fill		
CC.15	Insulation	Class "H" preferred – Tropical Working Conditions		
CC.16	Machine Cooling	Forced Air Cooling with interlock for tripping of the welding machine.		
CC.17	Protection [BIDDER has to specifically furnish technical details on how these protective measures are addressed in the Machine Design]	a) Inbuilt protection for the IGBT/Powersource against Thermal / Overload / Short-Circuit 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) Measures to nullify the effects of EMI (Electro-Magnetic Induction) generated		
CC.18	Portability	Under-Carriage with hard rubber lined wheels for portability of the powersource by manual pushing		
CC.19	Ambient Conditions	Temperature upto + 50 ° C ; Humidity upto 90 % but both upper limits do not occur simultaneously.		
CC.20	Load Compensation	Output variation due to line voltage fluctuation, cable heating or drift due to the use of long cable, to be eliminated.		
CC.21	Power Rating	BIDDER to indicate the Maximum Power Rating [in kVA] of the Powersource and the NO-LOAD Power Consumption in Watts.		
CC.22	Power Source Model	To Specify the Model of Powersource Offered		

DD. EQUIPMENT SPECIFICATION : WIRE-FEEDER UNIT FEATURES				
SI.No.	FEATURES	BHEL SPECIFICATION	OFFER BY BIDDER	DEVIATIONS
DD.1	Type	4-Roll Drive [All Powered Drive Wheels]		
DD.2	Burn-Back Control	Compulsorily to be provided		
DD.3	Wire Sizes/Solid	0.8 mm to 1.6 mm (Solid Wires)		
DD.4	Wire Sizes/Cored	1.2 mm to 2.0 mm (Self-Shielded and Flux Cored Wires also)		
DD.5	Wire Feed Speed	1.0 to 18.0 mtrs. / min.		
DD.6	Wire Feeder Motor	BIDDER has to indicate the Type of Motor used for wire feeding		
DD.7	Wire Spool Weight	Facility to hold wire spools of 15 to 20 kgs. of weight and spool diameter of 300 mm		
DD.8	Brake Torque on Wire Feeder Hub	Shall be of adjustable type.		
DD.9	2 / 4 Track Facility	Torch latching facility to be provided compulsorily		
DD.10	Feed Rolls & Guides	Suitable for 1.2mm & 1.6mm Solid/Cored wires Suitable for 2.0 mm & 2.4 mm Self-Shielded Flux- Cored Wires		
DD.11	Connector for Torch	Euro / Unitized Connector with polymedium cable		
DD.12	Inter-connecting cables/hoses assembly	10 metres long power & control cables and gas hose assembly with plug-in and quick-fix end connectors to connect the powersource and the wire-feeder.		
DD.13	Wire-feeding Capacity	Shall be suitable for feeding welding wire through Welding Torches with 3.0 metre long & 4.5 metre long cables [without the use of additional push or pull motor in the wire-feed line]		
DD.14	Wire Feeder Model	To specify the Wire-Feeder Model & Weight		

EE. EQUIPMENT SPECIFICATION : WELDING TORCH FEATURES AND GAS GUARD				
S.No.	ITEMS	BHEL SPECIFICATION	OFFER BY BIDDER	DEVIATIONS
EE.1	Make	OTC / KEMPPI/ Miller or Any internationally reputed make.		
EE.2	Type	Goose-Neck, Gas cooled		
EE.3	Shielding Gas	CO ₂ , Argon or Mixture of CO ₂ & Argon		
EE.4	Cable & Connector	Polymedium Cable, Euro / Unitized Connector Adapter		
EE.5	Wire Sizes/Solid	0.8 mm to 1.6 mm		
EE.6	Wire Sizes/Cored	1.2 mm to 2.0 mm (Self-Shielded / Flux-Cored Wires)		
EE.7	Wire Material	Carbon & Low Alloy Steel, Stainless Steel, Aluminium		
EE.8	2 / 4 Track Facility	Compulsorily to be provided in the Torch		
EE.9	Type A) – Rating	300 / 350 Amps. @ 60 % Duty Cycle Torch with 3.0 metre long cable.		
EE.10	Type B) – Rating	300 / 350 Amps. @ 60% Duty Cycle Torch with 4.5 metre long cable.		
EE.11	Torch Models & Weight	To specify the Models and the Torch Weight for Type A and Type B in the OFFER		
EE.12	Gas Guard	A device to stop welding if there is any drop in the gas pressure to avoid weld defects		
FF. EQUIPMENT SPECIFICATION : REMOTE CONTROL UNIT FEATURES				
S.No.	PARTICULARS	BHEL SPECIFICATION	OFFER BY BIDDER	DEVIATIONS
FF.1	Type	Hand Operated with 10 mtrs. long control cable with Display and end connectors		
FF.2	Control	Stepless Variation of Welding Current & Voltage		
FF.3	Connection	Remote Control Unit to be connected to the Wire-Feeder		

GG. EQUIPMENT SPECIFICATION : PULSE CONTROL UNIT FEATURES				
SI.No.	FEATURES	BHEL SPECIFICATION	OFFER BY BIDDER	DEVIATIONS
GG.1	Application	Compatible to the Powersource described under Clause 3.0.0 having built-in/external High Frequency Unit.		
GG.2	Power Supply	To work on the auxiliary power supply from the powersource .		
GG.3	Front Panel Controls	To provide : a. Peak Amperage adjustment b. Back-ground Amperage adjustment c. Pulses per Second adjustment d. Pulser-Unit On/Off e. Power On/Off f. Amperage Remote/Panel Control g. Remote Control Receptacle h. Gas Pre-flow & Post-flow Time Control i. Welding Current Up-slope & Down-slope Time Control		
GG.4	Pulse Time Control	Preferred 0 to 200 Pulses per second		
GG.5	Current Up-slope	Preferred 0.1 to 10 seconds		
GG.6	Current Down-slope	Preferred 0.1 to 20 seconds		
GG.7	Purge Gas Pre-flow	Preferred 1.0 to 30 seconds		
GG.8	Purge Gas Post-flow	Preferred 1.0 to 60 seconds		

HH. EQUIPMENT SPECIFICATION : WATER COOLING UNIT FEATURES				
SI.No.	FEATURES	BHEL SPECIFICATION	OFFER BY BIDDER	DEVIATIONS
HH.1	Application	Compatible for the Powersource described under Clause SI.No. 3.0.0 and provided with suitable quick-fix end connectors, for connecting water cooled TIG Welding Torch.		
HH.2	Power Supply	To work on auxiliary power supply drawn from the welding powersource and to be provided with an ON/OFF Switch. [Additional power supply cable of suitable length and fitted with end-connectors are to be quoted under SPARES Head]		
HH.3	Coolant Capacity	<p>a. Tank Capacity sufficient enough to feed a water cooled TIG Torch fitted with 15 metre long cables & hoses and with required buffer quantity to meet the continuous welding applications.</p> <p>b. BIDDER to specify the Tank Capacity [not to be less than 3.0 litres].</p>		
HH.4	Type of Chilling Unit	BIDDER to specify the type of chilling unit (viz., radiator – air cooled type or refrigerant cooler type)		
HH.5	Alarm Indicators	<p>a. To be provided with alarm indicators for failure of coolant circulating pump, radiator fan, low level of coolant, failure of coolant flow, etc.</p> <p>b. BIDDER to specify the type of alarm indicators provided.</p>		
HH.6	Inter-Connecting Hoses	Well reinforced water / coolant circulation hoses are to be provided for the inter-connection between welding powersource and water cooling unit. [Additional hoses with quick fix end connectors are to be quoted under SPARES Head].		

II. EQUIPMENT SPECIFICATION : TIG WELDING TORCHES' FEATURES				
S.No.	FEATURES	BHEL SPECIFICATION	OFFER BY BIDDER	DEVIATIONS
II.1	Application	Suitable for GTAW Process and for the nature of welding works listed under Clause Sl. No. 1.0.0 and compatible to the welding powersource offered.		
II.2	Make	Preferred makes are WELD-CRAFT of USA, KEMPPI of FINLAND or OTC/DAIHEN CORPN. Of JAPAN		
II.3	Torch Configuration	The Torch Head – Gas Lens & Nozzle configuration shall be suitable for performing the following : a. Tube Butt Welds in close pitch tubular panels with a minimum clear gap of 12 mm between the adjacent tubes [Gas Nozzle End Diameter is to be 11 mm for a length of 25 mm] b. Root GTAW pass welding in a 140 mm (wall thickness) Pipe Butt Welds [Gas Nozzle End diameter is to be 11 mm for a length of 45/65 mm]		
II.4	Cable Sheathing	Protective Sheathing to be provided for the TIG Torch Cables & Hoses, to withstand shopfloor rough use for the entire length of the cables/hoses.		
II.5	Gas Cooled Torch	a. Current Rating :- 140 to 180 Amps. @ 100 % Duty Cycle b. Cable Length :- 7.5 Metres and 15.0 Metres.		
II.6	Water Cooled Torch	a. Current Rating :- 220 to 250 Amps. @ 100 % Duty Cycle b. Cable Length :- 7.5 Metres and 15.0 Metres.		
JJ. EQUIPMENT SPECIFICATION : GAS REGULATOR, FLOW METER & HEATER				
S.No.	PARTICULARS	BHEL SPECIFICATION	OFFER BY BIDDER	DEVIATIONS
JJ.1	Function	To regulate CO ₂ Gas Pressure, Flow Rate and for Heating the CO ₂ Gas, to avoid ice formation.		

S.No.	PARTICULARS	BHEL SPECIFICATION	OFFER BY BIDDER	DEVIATIONS
JJ.2	Power	To draw from Single Phase AC Power Supply from Powersource (110 V or 230 V - AC) thro' a 2 M Cable		
JJ.3	Pressure Gauges	Preferred to have 2 Nos. – To indicate independently cylinder pressure and gas delivery pressure		
JJ.4	Accessories	Double glass covered flow-meter, power cable with end-connectors, electrical heating unit, Gas Guard etc.		
KK. SPARES :				
S.No.	PARTICULARS	BHEL SPECIFICATION	OFFER BY BIDDER	DEVIATIONS
KK.1	Power Source	<p>All type of Spare Parts including the following items :</p> <ul style="list-style-type: none"> a. IGBT Kit b. All Types of Fuses c. Control – Transformers d. Printed Circuit Boards / PCBs – All Types e. Rectifiers, Thermistors, Capacitors f. Switches and Knobs g. Cooling Fan Motor h. Ammeter & Voltmeter i. Potentiometer j. Relays & Timers k. Receptacles l. Control Cable with End Connectors n. Filters o. Welding & Return Cable Connectors p. Coolant Feed Pimp q. Auxiliary Power Cable with End Connectors r. Coolant Hose with Quick Fix End Connectors <p>are to be COMPULSORILY QUOTED (with Unit Rate) for one powersource required for 2 years of operation on THREE shift basis for 365 Days in an year. To be LISTED ITEMWISE</p>		

S.No.	PARTICULARS	BHEL SPECIFICATION	OFFER BY BIDDER	DEVIATIONS
KK.2	Wire-Feeder Unit	Spares such as feed-rolls (suitable for 0.8, 1.2 , 1.6 and 2.0 mm dia. suitable for Solid & Cored Wires), wire-feed motor, wire guides, control PCB cards, connectors, etc. shall be offered . To be LISTED ITEMWISE		
KK.3	Remote Control Unit	Complete Set of Remote Control Unit and its Spares like Knob, Potentiometer, etc. to be OFFERED		
KK.4	TIG TORCH Consumables	Complete Set of Consumable Spares for ϕ 2.4 mm Tungsten Electrode, "O" Rings, Gas Lens, Nozzle / Diffusers, Ceramic Nozzles (both types), Collet Bodies, etc. are to be OFFERED with unit price. To be LISTED ITEMWISE.		
KK.5	Welding Torch	Consumables & Spares such as Liners & Contact Tip (suitable for 0.8, 1.2 , 1.6 and 2.0 mm dia. Wires), Contact Tip Body, Gas Nozzles, Insulator, Orifice, 'O' Ring, Adaptor 'O' Ring, etc. shall be offered for all the three types of Torches. To be LISTED ITEMWISE.		
LL. O & M MANUALS :				
S.No.	PARTICULARS	BHEL SPECIFICATION	OFFER BY BIDDER	DEVIATIONS
LL.1	No. of Copies	3 (Three) for Each Machine		
LL.2	Language	English		

LL.3	Manual Details :	<p>a. Manual shall contain all instructions for machine installation and welding trial testing, in sequence.</p> <p>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.</p> <p>c. Manual to give other details like trouble shooting chart, weld parameters selection for various base metals, etc.</p> <p>d. Master List of Parts & Spares used in the machine with Make, Model, Rating, etc.</p>		
MM. GENERAL POINTS :				
S.No.	PARTICULARS	BHEL SPECIFICATION	OFFER BY BIDDER	DEVIATIONS
MM.1	Inspection	The equipment shall be offered for inspection at supplier's works for performance evaluation by BHEL Engineers prior to despatch.		
MM.2	Commissioning	The equipment shall be commissioned at free of cost by the supplier's representative at BHEL Works.		
MM.3	Training	The Supplier's SERVICE ENGINEER shall give training in the Operation and Maintenance (mainly on electric/electronic troubleshooting) of the Machine for BHEL Staff, after the successful commissioning of the Welding Machines		
MM.4	Guarantee	The equipment shall be guaranteed for a minimum of 24 months from the date of commissioning & performance prove-out at BHEL/Thirumayam Works.		

S.No.	PARTICULARS	BHEL SPECIFICATION	OFFER BY BIDDER	DEVIATIONS
MM.5	Bought-Out Items	a) The Bought-Out Items - like Motors, ICs, Relays, Contactors, Switches, Electronic Elements, etc., used in the Powersource & Wire-feeder shall be of Internationally Reputed Manufacturers only. b) BIDDER has to furnish the MAKE of Bought-Out Items used in the Welding Machine, with the OFFER .		