

<b><u>BHARAT HEAVY ELECTRICAL LIMITED RAMACHANDRAPURAM</u></b>				<b>Enquiry No. :</b>	
<b>UNIT'S ADDRESS:</b>				<b>Due Date :</b>	
<b>UNIT'S PHONE NOS.</b>				<b>Supplier Qtn. No.:</b>	
<b>CONTACT PERSON'S NAME/DESIGN./PHONE NO./E-MAIL (FROM PURCHASE DEP'T.)</b>				<b>Date :</b>	
<b>SPECIFICATION CUM COMPLIANCE CERTIFICATE FOR MAGNETIC PARTICLE INSPECTION (MPI) EQUIPMENT ALONG WITH ACCESSORIES AND SPARES.</b>					
<b>NOTE:</b>					
<b>1. Vendor must submit complete information against clause nos. 13 The offer meeting this clause would only be processed.</b>					
<b>2. Inadequate / incomplete, ambiguous, or unsustainable information against any of the clauses of the specifications/requirements shall be treated as non-compliance</b>					
<b>3. The offer and all documents enclosed with offer should be in English language only</b>					
<b>ADDRESS OF THE SUPPLIER :</b>				<b>Address of the Indian Agents:</b>	
<b>TELEPHONE NOS.:</b>				<b>TELEPHONE</b>	
<b>FAX NOS.:</b>				<b>FAX NOS.:</b>	
<b>E-MAIL ADDRESS :</b>				<b>E-MAIL</b>	
<b>SNo.</b>	<b>Description for BHEL Requirement</b>	<b>REQUIRED</b>	<b>OFFERED</b>	<b>DEVIATIONS</b>	<b>REMARKS</b>
1.00	<b>REQUIREMENT:</b>				
1.01	<b>MAGNETIC PARTICLE INSPECTION EQUIPMENT</b> ( 0-1500 amps, Portable type), For testing Ferro-magnetic materials to determine the surface, sub-surface defects & Shall meet the requirements of Standard ASTM E 1444/1444M	confirm			
1.02	<b>Make and model :</b>	specify			
2.00	<b>SPECIFICATION OF MPI EQUIPMENT :</b>				
2.01	Magnetizing cables 120 sq.mm x 5 mtr x 2 no's with Prod set	confirm			
2.02	Input Power Supply: 415 V, 50 Hz, 2 phase	confirm			

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2.03	Output : 0- 1500 amps, AC, HWDC	confirm			
2.04	Duty Cycle : 50% (At least 1 minute ON / 1 minute OFF)	confirm			
2.05	Magnetizing Cables :120 sq.mm with rubber insulation	confirm			
2.06	Current Control : Stepless SCR solid state current control	confirm			
2.07	<b>Ammeter</b> : Digital ammeter, which can measure AC and HWDC, necessary circuit is provided	confirm			
2.08	Trigger Control at Prod Handle	confirm			
2.09	Facility for Demagnetization	confirm			
2.10	kVA Rating : 10 KVA	confirm			
2.11	Class of Insulation : 'F' Class	confirm			
2.12	Tapping for Inspection Lamp : 24V, AC output with auxiliary socket	confirm			
2.13	Automatic Over-Load Protection	confirm			
2.14	Cooling Fan	confirm			
2.15	Thermal cut off facility for protecting from Overheating of the equipment	confirm			
2.16	External Hardware : MCB, Indication Lamp, Timer, Ammeter	confirm			
2.17	Internal Hardware : Over load relay, Fan,Transformers, Mechanical	confirm			
2.18	Construction details: Equipment should be Portable, Trolley to accommodate and move the equipment with cables. The trolley having four wheels of revolving type wheels. Suitable hooking arrangement is to be provided with Eye bolts fixed at corners	confirm			
2.19	Dimensions & Weight of Equipment : Not more than 700 x 400 x 400 mm & 70 kgs	confirm			
2.20	BHEL test block to validate the equipment performance	confirm			
3.00	<b>ACCESSORIES :</b>				
3.01	<b>ELECTROMAGNETIC YOKE - 1 No's</b>	confirm			
	<b>Specification of Electromagnetic Yoke :</b>				
3.02	AC and HWDC	confirm			

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3.03	Testing span 10 - 200 mm	confirm			
3.04	Input current : 230v, 50 Hz, 1 ph	confirm			
3.05	Power supply cable : 5 mtr length with 3 pin plug	confirm			
3.06	Lifting power : Minimum 18 kg (with DC) and 4.5 kg (with AC) at maximum pole spacing	confirm			
3.07	Magnetic Field : AC-constant level and DC –Pulsed infinitely variable	confirm			
3.08	Arms rotation : These legs are articulated and are flexible to adjust the distance up to 300 mm between the legs.Both legs can be articulated at three points for better adjustment as per job contour	confirm			
3.09	Duty Cycle : 50% (4 minutes maximum in continuous duty cycle)	confirm			
3.10	<b>Controls :</b> 1. Power ON/OFF Switch (Mag on push button) 2. AC/HWDC selection toggle switch 3. DC field intensity Potentiometer	confirm			
3.11	Weight of Electromagnetic Yoke not more than 4 kgs	confirm			
3.12	Plastic carrying case for equipment	confirm			
3.13	Calibration certificates for equipment	confirm			
3.14	User manual	confirm			
3.15	<b>ULTRAVIOLET BLACK LIGHT SYSTEM - 1 No'S</b>	confirm			
	<b>Specification of Ultraviolet Black System :</b>				
3.16	Fan cooled light weight (< 2 kg) Hand held unit	confirm			
3.17	Minimum Intensity 2000 Micro watt / sq.cm at 325 mm height	confirm			
3.18	Visible light emission at 325mm height is < 20 lux	confirm			
3.19	Generates and emits Ultra violet light with a wave length of 365 Nanometers	confirm			
3.20	Glass filter for Ultra violet rays filtering	confirm			
3.21	230 V, 50 Hz & 1 phase input supply	confirm			

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3.22	100 W mercury Vapour Bulb	confirm			
3.23	Minimum 2000 Hrs Bulb life	confirm			
3.24	Separate control transformer with 5 mtr length cable	confirm			
3.25	Supply with Carrying case and Operating manual	confirm			
3.26	PIE GAUGE - 1 No's	confirm			
4.00	<b>SPARES :</b>				
4.01	<b>PIE GAUGE – 4 no’s</b>	confirm			
4.02	<b>SPARE BULB FOR UV BLACK LIGHT SYSTEM – 1 no’s</b>	confirm			
5.00	<b>INSPECTION :</b> Pre-dispatch inspection at supplier's works by BHEL Engineers. The equipment,accessories,spares to be operated at maximum capacity on a test piece. Test piece should be provided by supplier for demonstration.	confirm			
6.00	<b>Erection and commissioning :</b> At BHEL works by qualified Engineers of supplier.	confirm			
7.00	<b>PROVE-OUT :</b> The equipment, accessories, spares to be proved for its full capacity at BHEL works.	confirm			
8.00	<b>TRAINING :</b> for BHEL personnel ( two engineers of NDT and one electrical/electronics maintenance engineer) at BHEL works for 2 days after commissioning.	specify			
9.00	<b>Gaurantee :</b> 12 months from date of commissioning	confirm			
10.00	<b>Service after sales :</b> during and after gaurentee period	specify			
11.00	<b>DELIVERY in months:</b>	Specify			

SNo.	Description for BHEL Requirement	REQUIRED	OFFERED	DEVIATIONS	REMARKS
12.00	<b>DOCUMENTS</b> : 5 Sets of operating and maintenance manuals in English for complete system with electrical, electronics and general arrangement drawings shall be furnished along with the equipment. Trouble shooting charts to be provided by the supplier	Specify			
13.00	<b>REFERENCE LIST / QUALIFYING CONDITIONS:</b>	Specify			
13.01	Only those vendors, who have supplied and commissioned atleast one of same or higher sizes for similar applications in the past ten years and such equipment(s) is working satisfactorily for more than one year, after commissioning should quote. However, if such machine(s) has /had been supplied to BHEL, then such euqipment should be presently working satisfactory for more than six months after its commissioning and acceptance in BHEL, should quote. The following information should be submitted by the vendor about the companies where similar equipment(s) have been supplied. This is required from all the vendors for qualification of their offer.	Specify			
13.02	Name of the customer / company where similar machine is installed.	Specify			
13.03	Complete postal address of the customer.	Specify			
13.04	Year of commissioning.	Specify			
13.05	Performance certificate from the customer	Furnish			
13.06	Phone, FAX no. and email address of the contact person of the customer.	Specify			