

	BHARAT HEAVY ELECTRICALS LIMITED	Date :	
	Heavy Power Equipment Plant, Ramachandrapuram, Hyderabad - 502 032. INDIA.	Supplier Qtn. No.:	
	Phones :	Date :	
	Fax Nos :		
	E-mail :		

**SPECIFICATION CUM COMPLIANCE CERTIFICATE FOR
DRAW WORKS MOTOR TEST FACILITY (ARRANGEMENT)**

- 1. Vendor must submit complete information against clause no. 9.0 The offer meeting this clause would only be processed.**
- 2. Inadequate / incomplete, ambiguous, or unsustainable information against any of the clauses of the specifications/requirements shall be treated as non-compliance.**
- 3. The offer and all documents enclosed with offer should be in English language only.**

ADDRESS OF THE SUPPLIER :				
TELEPHONE NOS.:				
FAX NOS.:				
E-MAIL ADDRESS :				

Sl. No.	Description for BHEL Requirement	Specified/To be confirmed by	Offered	Deviations	Remarks
1.0	PURPOSE : The Test facility is basically meant for Mechanical Run test of the Drawworks where the Drawworks is run at 1000 rpm speed under no load. Drawworks is driven by two DC motors. However Under this Mechanical Run test, only one DC motor is energised but there should be provision to test with either motor "1" or motor "2".	Vendor to Confirm			

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1.1	SCOPE: Vendor's scope includes Supply of all necessary equipment and cabling required for the Test facility, Installation and Trail run test on atleast one Drawworks at BHEL works. Vendor shall also train BHEL personnel to work / operate on the test facility.	Vendor to Confirm			
2.0	TECHNICAL PARAMETERS				
2.1	Input Supply available : : 3-ph, 415v, 50 HZ AC supply	Vendor to Confirm			
2.2	Load List:				
2.2.1	DC Motor: 750v , DC supply for Armature current of 1050 Amp	Vendor to Confirm			
2.2.2	DC Motor Field : 140v DC supply for Field current = 57A at full speed	Vendor to Confirm			
2.2.3	Blower Motor : 3-ph , 415v,50 HZ AC supply (7.5 hp)	Vendor to Confirm			
2.2.4	Lube oil Pump motor – 1: 3-ph, 415v, 50hz, AC supply (3 hp)	Vendor to Confirm			
2.2.5	Lube oil Pump motor – 2: 3-ph, 415v, 50hz, AC supply (3 hp)	Vendor to Confirm			
2.2.6	BWCS pump motor -1	Vendor to Confirm			
2.2.7	Compressor motor-1	Vendor to Confirm			
2.3	Indication Lamps:				
2.3.1	R-Y-B indication lamps for supply on	Vendor to confirm			
2.3.2	Motor / field ON/OFF Indication lamps	Vendor to confirm			
2.4	Inter locks to be provided:	Vendor to confirm			
	i) Motor Armature 'ON' only when – Field 'ON' & Lube Oil Pump "1" or "2" 'ON' And Blower 'ON'”	Vendor to confirm			
	i) Lube Oil Pump 1 & 2 , Blower and Field can not be switched off when Armature supply is 'ON'”	Vendor to confirm			
2.5	Contactors(L&T/Siemens/reputed make)	Vendor to specify			
2.6	Circuit Breakers (L&T/Siemens/reputed make)	Vendor to specify			
2.8	DC drive(thyrister based converter of infinitely variable Output) of reputed make like ABB/SIEMENS/CONTROLTECH	Vendor to specify			
2.8.1	Input AC Voltage shall be 3-ph, 415V (+/- 10%), 50 HZ, 3 wire	Vendor to Confirm			
2.8.2	Output Voltage 0 to 480 (+/-10%) - infinitely Variable	Vendor to Confirm			
2.8.3	Out put Current: DC armature current rating - 280A (min), Field current - 57A at 140VDC, Field weakening upto 30 Amp to achieve full rated speed.	Vendor to Confirm			
2.8.4	Aramature current feed back	Vendor to specify			
2.8.5	Field failure Interlock.	Vendor to Confirm			
2.8.6	Jog/inching facility.	Vendor to specify			

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2.8.7	Facility to Z/P Ref. Voltage of 0 to +/- 10V Through external potentiometer	Vendor to Confirm			
2.8.8	1st Quadrant	Vendor to specify			
2.8.9	Suitable Semiconductor fuses on AC & DC side	Vendor to specify			
2.8.10	Suitable Filters to meet the relevant national/international standards	Vendor to specify			
2.9	Metering :				
	a)Ammeter	Vendor to specify			
	b)Volt meter	Vendor to specify			
	c)Watt-hour meter(indication type)	Vendor to specify			
2.10	Switches	Vendor to specify			
2.11	Necessary Power and Control Cabling	Vendor to specify			
2.12	Control Panel: A common Control panel with provision to control supply to any load IP 52	Vendor to specify			
2.13	Skid: The complete system should be mounted on the Skid.	Vendor to specify			
2.14	Suitable Lifting arrangement	Vendor to specify			
2.15	Cooling facility for complete system	Vendor to specify			
3.0	Spares :				
3.1	Itemized breakup spares used for the control system in sufficient quantity as per recommendation of Vendor for 2 years of trouble free operation on three shifts continuous running basis should be offered by vendor. The list to include the following in addition to recommended spares (Unit price of each item of spare should be offered)	Vendor to confirm			
3.2	a) 3PH power supply socket	1 no.			
	b)1PH power supply socket	1 no.			
4.0	DOCUMENTATION:- Five sets of operation and maintenance manual to be submitted.	Vendor to confirm			
4.1	Operating manuals of Machine	Confirm			
4.2	Catalogues, O&M Manuals of all bought out items including drawings, wherever applicable.	Confirm			

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4.3	Complete Master list of parts used in the machine shall be submitted by the vendor.	Confirm			
5.0	PACKING:				
5.1	Sea worthy & rigid packing for all items of complete equipment, Accessories and other supplied items to avoid any damage/loss in transit.	Confirm			
5.2	When machine is dispatched in containers all small loose items shall be suitably packed in boxes.	Confirm			
6.0	PERFORMANCE & ACCURACY OF MEASUREMENT	Confirm			
	a) Vendor should demonstrate performance & Accuracy of measurement with standard calibration system and for evaluation of test facility				
	b) Demonstration of all features of the equipment, control system & accessories to the satisfaction of BHEL for efficient and effective use of the equipment.				
	c) Prove out of the equipment on the BHEL components.				
	d) Training of BHEL personnel in operation of complete equipment & accessories etc by the supplier's experts / engineers during their stay at BHEL works				
7.0	QUOTATION:- Quotations should be submitted with point to point answers. One copy of the specification is to be duly filled and submitted to BHEL as the party's offer without which the offer will not be considered	Vendor			
8.0	GUARANTEE :				
8.1	24 Months satisfactory operation from the date of acceptance of the equipment.	Confirm			
8.2	Service beyond guarantee period	Specify			

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8.3	Supplier shall be responsible for after sales service of the equipment.	Confirm			
9.0	REFERENCE LIST / QUALIFYING CONDITIONS : Suppliers quoting for the equipment shall fulfil the following :				
9.1	Only those vendors, who have supplied and commissioned at least one DC Drive same capacity or higher for similar applications and such machine is presently working satisfactorily for more than one year after commissioning, should quote.	Vendor			
9.2	Vendor to submit , along with offer, reference list of customers where similar or higher capacity DC drive have been supplied mentioning broad specifications of the supplied itmes.	Vendor			
10.0	Special Remarks:				
10.1	The offered machine should be of proven design.	Vendor			
10.2	BHEL reserves the right to reject any or all the offers without assigning any reason whatsoever thereof	Vendor			
11	Delivery Time	Specify			