

TECHNICAL SPECIFICATION FOR 7.5 KVA STEP DOWN TRANSFORMER
(TECHNICAL SPECIFICATION NO. EMT-6799, REV-01 (FOR ONE NO.))

SL.NO.	DESCRIPTION OF BHEL REQUIREMENT	QUANTITY	OFFERED	DEVIATION
1.0	PURPOSE:			
	In the manufacturing of stator winding bars in CIM Block-IV, during the forming operation on Universal Formers, overhangs of the formed stator winding bars are heated and consolidated by employing approximately 40 heaters of 140 watt each on two formers. The input supply for these heaters is given through a step down transformer.	Vendor to note		
2.0	SCOPE:			
	The scope of supply includes design, manufacturing, supply, commissioning and proving of the Step Down Transformer.	Vendor to confirm		
3.0	TECHNICAL SPECIFICATION OF STEP DOWN TRANSFORMER:			
3.1	The step down transformer should be of 7.5 KVA capacity with 3 phase input of 440 volts and 3 phase output of 24 volts.	Vendor to confirm		
3.2	Input connection – star Output connection – star	Vendor to confirm		
3.3	4-core, 6mm ² each core (copper) input cable. Length= 20 meter	Vendor to confirm		
3.4	16mm ² , single core (copper) output cable. Length= 40 meter	Vendor to confirm		
3.5	System status Indicators – Green LED (normal), RED (faulty condition) shall be made available on the control panel.	Vendor to confirm		
3.6	Nature of transformer cooling : Air or fan cooled should be mention.	Vendor to furnish details in offer		
3.7	Suitable display shall be provided on the control panel for input voltage at primary end, output voltage and current at secondary end.	Vendor to confirm		
3.8	Step down transformer should have in-built protection accessory for over/ under voltage, overload, short circuit and surge voltage protection.	Vendor to confirm		
3.9	Class of insulation = B or better. Vendor shall furnish the details of rate of rise of winding temperature from Ambient temperature along with the offer.	Vendor to furnish details in offer		
4.0	SOURCE OF ELECTRIC SUPPLY:			
4.1	BHEL will provide input power supply 3 phase, 3 wire, Operating voltage 415±10% V, Frequency 50±3% Hz to Isolator Switch (BHEL scope). Cable connection from isolator switch to control panel and remaining cabling/wiring for step down transformer and other equipment approximately 10 meter will be in the scope of vendor. There will be no neutral wire and Earthing will be provided	Vendor to note		

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	through shop structure column:			
5.0	NOISE LEVEL:			
5.1	Maximum noise level generated due to the operation of Unit must be less than 85 dB from 1 meter away from machine with correction factor for background noise.	Vendor to confirm.		
6.0	ENVIRONMENTAL CONDITION :			
6.1	The equipment shall be suitable to operate at ambient temperature from 5 ⁰ C to 45 ⁰ C and relative humidity up to 95%.	Vendor to confirm.		
7.0	OPERATIONAL & MAINTENANCE MANUAL OF STEP DOWN TRANSFORMER:			
7.1	3 sets of Operational & Maintenance manual in English language, will be supplied for the step down transformer.	Vendor to confirm		
8.0	PRE-ACCEPTANCE (PDI) OF THE STEP DOWN TRANSFORMER AT VENDOR'S WORKS:			
	The following functional tests on step down transformers will be witnessed during P.D.I by BHEL engineers at vendor's works :-	Vendor to confirm		
8.1	No load test.	Vendor to confirm		
8.2	Insulation resistance test and H.V testing.	Vendor to confirm		
8.3	Full load test by short circuiting secondary winding and full load current shall be adjusted by varying the primary voltages. During this test temperature rise of the winding shall be measured.	Vendor to confirm		
8.4	All the test mentioned above must be conducted as per IS: 2026-1977.	Vendor to confirm		
9.0	COMMISSIONING, JOB PROVING AND FINAL ACCEPTANCE OF STEP DOWN TRANSFORMER AT BHEL WORKS HARIDWAR:	Vendor to confirm		
9.1	Vendor shall take full responsibility for carrying out commissioning of the step down transformer at BHEL works Haridwar.	Vendor to confirm		
9.2	Final acceptance shall be made at BHEL works Haridwar after successful job proving of the step down transformer.	Vendor to confirm		
10.0	GUARANTEE/WARRANTEE :			
10.1	Guarantee/Warranty for the step down transformer shall be 18 months from the date of dispatch or 12 months from the date of commissioning at BHEL works Haridwar whichever is earlier.	Vendor to confirm		

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