

Annexure-A

- 1.1 The distribution transformer shall be oil immersed, natural air cooled, 3 phase, 50 HZ, out door type, conforming to IS 2026.
- 1.2 The transformer shall be capable of being loaded in accordance with IS 6600 upto 150%. There shall be no limitation imposed by bushing, tap changer etc. The transformer shall be capable of being operated without danger on any tapping at rated KVA with voltage variation of +10% corresponding the voltage of the tapping. The transformer and all accessories shall be capable of withstanding for two seconds any external short circuit at bushing terminals without any damage. The maximum flux density in any part of the core and yoke at nominal voltage and frequency shall be such that the flux density on any tap position with 10% voltage variation from voltage corresponding to the tap shall not exceed 1.9 wb/m².
- 1.3 Cores shall be constructed from high grade, cold rolled, non-aging grain oriented silicon steel lamination. The insulation structure for the core to bolt and core to clamp plate shall be capable of withstanding shocks during transport, installation, and service.
- 1.4 Winding shall be of fully insulated electrolytic grade copper winding and connection shall be adequate braced to withstand shocks during transportation and short circuit condition.
- 1.5 The tank shall be conventional type, fabricated from commercial grade low carbon steel. All bolted joints shall be fitted with oil tight gaskets. It shall be designed to with stand mechanical shocks and short circuit forces. All accessories such as explosion vent, air vent plugs, filling & drain valve, lifting lugs, thermometer pockets, conservator tank, air breather, radiators etc to be provided.
- 1.6 The transformer shall be provided with 3-phase hand operated off circuit tap change switch. The mechanism shall be complete with tap position indicator, direction of operation, warning plate & mechanical stop to prevent over cranking. Suitable pad lock arrangement shall be provided in any working position.
- 1.7 Transformer HT bushing shall be solid porcelain type confirming to IS 2099 & 8603. It should be suitable for ACSR DOG conductor.
- 1.8 Suitable cable box shall be provided on LV side. In addition to neutral terminal, an additional provision shall be provided on the tank for earthing of LV winding neutral.
- 1.9 General Technical Particulars are as under.

1	Rated Out put	630 kVA, 3 Ph, 50 Hz
2	Voltage Ratio	11/0.433 kV
3	Type	Two Winding
4	Temp. Rise Winding	55 Deg C
5	Temp. Rise Top Oil	50 DegC
6	Impedance at 75 Deg C & permissible tolerance	As per IS 2026 (around 5 %)

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7	Fault level of system	1.5 kV On 11 kV side
8	Vector group	Dyn11
9	Winding Connection/ Nominal System Voltage(KV)	HV – Delta / 11 kV LV- Star / 0.433 kV
10	One minute power frequency withstand voltage (KV) rms	HV – 28 LV - 2
11	Lighting impulse withstand voltage (KV) peak	HV- 75
12	Insulation Neutral	HV- Uniform LV – Uniform solidly earthed.
13	Tap Changer	Off circuit tap change switch on HV winding with range of +/- 5% in steps of 2.5 %
14	Phase Bushing Rated voltage (kV) Rated Current (Amp) Minimum Creepage distance (mm) Basic impulse level (kV)peak	HV- 12, LV-1.1 HV-12, LV-1000 HV-320 HV-75
15	Neutral Bushing Rated Voltage (kV) Rated Current (Amps)	LV neutral 1.1 800
16	Termination	HV-Overhead Conductor / 3 Core x 150 sq. mm HT Cable LV- 2 runs of 1 c x 630 SQMM cable
17	Protection Required	Bucholz relay, OTI and explosion vent

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