



ODISHA POWER TRANSMISSION CORPORATION LIMITED

COMMON DOCUMENT

TECHNICAL SPECIFICATION

FOR

SYSTEM DATA

SYSTEM DATA

Sl.No	Description of Technical Parameter	Unit	System			
1	Nominal system voltage	kVrms	400kV	220kV	132kV	33kV
2	Maximum system voltage	kVrms	420kV	245kV	145kV	36.kV
3	Power frequency with stand voltage	kVrms	630kV 520kV	460kV	275kV	70kV
4	Switching surge withstand voltage (for 250/2500µs 1. Line to earth 2. Across isolating gap	kVp	1050kVp 900kVp+345 kV _{rms}	Not applicable	Not applicable	Not applicable
5	Lightning impulse withstand voltage 1. Line to earth 2. Across isolating gap	kVp (for 1.2 /50µs)	1425kVp 1425kV _p + 240kV _{rms}	1050kVp 1200kV _p	650kVp 750kV _p	170kVp 195kV _p
6	One minute power frequency withstand value Dry Wet	kV _{rms} kV _{rms}	630 610	460 530	275 315	70 80
7	System frequency	Hz	50			
8	Variation in frequency	%	±2.5			
7	Corona extinction voltage		320kV	156kV	105kV	
8	Radio interference voltage		500µV at 266KV	500µV at 167KV	1000µV at 93KV	
9	System neutral rating		Solidly earthed			
10	Continuous current rating		2000A	2000A	1250A	800A
11	Symmetrical short circuit current	kA	63/40	40	31.5	25
12	Duration of short circuit fault current	Second	1	1	1	3
12	Dynamic short circuit current rating	kAp	157.5/100	100	79	62.5kA
13	Air clearances Phase to ground Phase to phase System to system within a phase	meters meters meters meters	3.5 4.2 -	2.1 2.4 -	1.3 1.3	480 530
14	Conductor spacing for AIS layouts Phase to ground Phase to phase	meters meters meters	6.5 7.0	4.5 4.5	3 3	1.5 1.5
15	Design ambient temperatures	°C	50			
16	Pollution level as per IEC-815 and 71		III			
17	Creepage distance	mm	10500	6125	3625	900
18	Maximum fault clearing time	ms	≤100	not exceeding ≤100ms		not exceeding ≤150ms

19	Safety clearances					
	1. Section clearance	metres	6.5	5	4	4
	2. Ground clearances(between ground and bottom most part of energised object)	metres	8	5.5	5	4
	3. Horizontal clearance between the fence and energised object	metres	As per I.E. Rules As per I.E. Rules	As per I.E. Rules As per I.E. Rules	As per I.E. Rules As per I.E. Rules	As per I.E. Rules As per I.E. Rules
	4. Horizontal clearance between the road centre line and energised part of the nearby equipment					
20	Bay width	metres	27	18	11-13.1	5.5
21	Height of bus equipment interconnection from ground	metres	8	5.5	5	4
22	Height of strung busbar	metres	>15	10.5	8.5	5.5