



सत्यमेव जयते

भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
विद्युत प्रणाली संचार विकास प्रभाग
Power System Communication Development Division

CEA Case No. : AND-763		
Induced Voltage (IV) Calculation for PTCC proposal of 765 kV D/C Kurnool-III PS – Kurnool (new) transmission line (Length: 112.7 kms).		
S. No	Reference No.	Dated
(i)	SR-I/NDL/KK/F-18/PTCC/01	30.05.2024
(ii)	PGCIL E-mail	27.01.2025
(iii)	SR-I/NDL/KK/F-18/PTCC/01/875	03.02.2025
(iv)	BSNL: SR-PTCC/SAP6155/9	04.09.2024
(v)	South Central Railway: 85/4/3/PTCC/2024-25/SCRAP 24 RTD	29.10.2024
(vi)	Defense: B/46937/Sigs 7(b)/3975	29.08.2024

The PTCC proposal submitted vide reference (i) and (ii) has been examined. The LF induction on communication circuits of BSNL and South Central Railway with respect to details furnished vide above references (iii) and (iv) respectively have been computed. The voltages likely to be induced on paralleling communication cables of BSNL and South Central Railway under Single Line to Ground fault condition are enclosed at Annexure-I and Annexure-II respectively. The screening factors as applicable have been considered.

DG Signals, MoD vide reference (v) has given their NOC for charging the line.

EPR Zones for proposed substations are mentioned below.

Name of the proposed SS	Half Diagonal Distance, D/2 (mts)	Fault Current, I (kA)	Resistance of earthmat, R (Ohms)	d (mts) at 430 V	d (mts) at 650 V	d (mts) at 7 kV	d (mts) at 10 kV
765 kV Kurnool-III PS	677	15.917	0.35	8094	5125	NA	NA

As per the details submitted, No Telephone Exchanges of BSNL is falling within the EPR zone of proposed substation.

Taking above into consideration, necessary action for issuance of PTCC route approval (RAC) shall be taken under intimation to this office.

As per the decision taken in 111th and 112th CLPTCC meeting, necessary instructions for “*Deemed Energization approval*” shall be specified while issuing RAC.

Encl.: As above

Chief Engineer

To,

1.	Divisional Engineer (PTCC), Southern Zone	O/o CGM, QA&I circle, 2 nd floor, Sanchar Complex, WMS Compound, Jayanagar, 5 th block, 9 th main, 47 th cross, Bengaluru- 560 041	
2.	GM (S&T), South Central Railway	Office of PCSTE, 7 th Floor, Rail Nilayam, Secunderabad	
3.	Chief Engineer, SLDC, KPTCL	State Load Despatch Centre, #28, Race Course Road, Bengaluru	Copy for information

ANNEXURE-I

CEA Case No.: AND-763			Map Scale : 1 cm= 500 m		
Name of the Power line: 765 kV D/C Kurnool-III PS – Kurnool (new) transmission line			Total Length : 112.7 km		
			S.R. Value : 15000 Ohm-cm		
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
BSNL: SR-PTCC/SAP6155/9 Date: 04.09.2024					
I	Koilkuntla Telephone Exchange				
1	Exchange to Ankamma Temple	IV less than 430 V			
2	Exchange to Market Pillar				
3	Exchange to Gandhi Nagar Pillar				
4	Exchange to Inspector Pillar				
5	Exchange to Ankamma Temple to MDO Office				
6	Exchange to Ankamma Temple to JMD turning				
7	Exchange to Market to Panduranga Swamy Temple				
8	Exchange to Chowdamma Temple				
9	Exchange to Ramalayam Temple				
10	Exchange to Bus Stand Pillar				
II	Sanjamala Telephone Exchange				
1	Exchange to Police Station	Out of parallelism			
2	Exchange to Police Station to Primary School				
3	Exchange to Police Station to Giddalpur Road				
III	Panyam Telephone Exchange				
1	Exchange to Panyam village	IV less than 430 V			
2	Exchange to Railway station				
IV	Nandyal Telephone Exchange				
1	Exchange to Medicare Hospital care	IV less than 430 V			
2	Exchange to Alisons pillar				
3	Exchange to Municipal office				

V	MSNR Telephone Exchange	
1	Exchange to Bommalsataram	IV less than 430 V
2	Exchange to Bommalsataram	
3	Exchange to Pillar No 23 to Pillar No 93	
4	Exchange to Pillar No 93 to Pillar No 94	
5	Exchange to Pillar No 16	
6	Exchange to Pillar No 16 to Pillar No 17	

ANNEXURE-II

CEA Case No.: AND-763 Name of the Power line: 765 kV D/C Kurnool-III PS – Kurnool (new) transmission line			Map Scale : 1 cm= 500 m Total Length: 112.7 km S.R. Value: 15000 Ohm-cm		
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
South Central Railway: 85/4/3/PTCC/2024-25/SCRAP 24 RTD Date: 29.10.2024					
1	Nandyal (NDL) – Panyam (PNM)	1	0.00029	13793	4
2	Panyam (PNM) – Krishnammakona (KEF)	Out of parallelism			
3	Krishnammakona (KEF) – Bugganipalli (BEY)	Out of parallelism			
4	Bugganipalli (BEY) – Betamcherla (BMH)	Out of parallelism			
5	Nandyal (NDL) - Madduru	5.5	0.0016	10625	17
6	Madduru – Banaganapalli	16.6	0.00107	10281	11
7	Banaganapalli - Koilakuntla	8.6	0.00088	13636	12
8	Koilakuntla - Sanjamala	4.9	0.000528	13243	7
9	Sanjamala - Nossam	Out of IV consideration zone			