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
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CEA Case No. : KNK-966		
Induced Voltage (IV) Calculation for PTCC proposal of 220 kV DC transmission line from 220/110 kV Halbarga (Neelamnalli Tanda), Bidar SS to 220/110 kV Santapur, Bidar SS (Length: 28.276 kms).		
S. No	**Reference No.**	**Dated**
(i)	CEE/SLDC/PTCC/F-3186/1117-25	27.04.2021
(ii)	CEE/SLDC/PTCC/F-3186/6464-67	13.11.2023
(iii)	CEE/SLDC/PTCC/F-3186/3711-14	20.09.2024
(iv)	KPTCL E-mail	25.01.2025
(v)	KPTCL E-mail	12.02.2025
(vi)	BSNL: SR-PTCC/SKT3259/4	11.08.2021
(vii)	South Central Railway: SG.85/4/3/PTCC/2024-25/SCRKS 8 RTD	17.01.2025
(viii)	Defense: B/46937/Sigs 7(b)/2416	30.06.2021

The PTCC proposal submitted vide reference (i), (ii), (iii), (iv) and (v) have been examined. The LF induction on communication circuits of BSNL and South Central Railway with respect to details furnished vide above references (vi) and (vii) respectively have been computed. The voltage 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 (viii) have 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
220/110 kV Santapur, Bidar SS	131.15	20	0.39	2248	1443	15	NA

As per the details submitted by BSNL, 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

Signed by Suman Kumar Maharana
Date: 13-02-2025 17:06:04
Chief Engineer

To,

1.	Divisional Engineer (PTCC), Southern Zone	O/o CGM, QA&I circle, 2nd floor, Sanchar Complex, WMS Compound, Jayanagar, 5th block, 9th main, 47th cross, Bengaluru- 560 041	
2.	GM (S&T), South Central Railway	Office of PCSTE, 7th Floor, Rail Nilayam, Secunderabad – 500 003	
3.	Chief Engineer, SLDC, KPTCL	State Load Despatch Centre, #28, Race Course Road, Bengaluru	Copy for information

ANNEXURE-I

CEA Case No.: KNK-966 **Name of the Power line**: 220 kV DC transmission line from 220/110 kV Halbarga (Neelamnalli Tanda), Bidar SS to 220/110 kV Santapur, Bidar SS			**Map Scale :** 1 cm= 500 m **Total Length :** 28.276 km **S.R. Value :** 20000 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/SKT3259/4 **Date**: 11.08.2021					
I	**Santhpur Telephone Exchange**				
1	Exchange to Jojna (A-A1)	Out of parallelism			
2	Exchange to Aurad Road (A-A2)				
3	Exchange to Maskal (A-A2-A2)				
4	Exchange to Thanakusnur Road (A-A3)				
5	Exchange to Bidar Road (A-A4)				
II	**Hedgapur Telephone Exchange**				
1	Exchange to Hedgapur local (B-B1)	IV less than 430 V			
2	Exchange to Ladha (B-B1-B2)	IV less than 430 V			
3	Exchange to Nagur (B-B3)	2.1	0.027	21370	577
4	Exchange to Rakshal (K) (B-B4)	IV less than 430 V			
III	**Thakusnur Telephone Exchange**				
1	Exchange to Santhpur road (C-C1)	Out of parallelism			
2	Exchange to Hippalgaon (C-C1-C2)	Out of parallelism			
3	Exchange to Nidoda (C-C3)	IV less than 430 V			
IV	**Anadur Telephone Exchange**				
1	Exchange to Kolhar Khurd (D-D1)	Out of parallelism			
2	Exchange to Atiwal (D1-D2)	Out of parallelism			
3	Exchange to Anadurvadi (D-D3)	IV less than 430 V			
4	Exchange to Sikandrapur (D-D4)	IV less than 430 V			
V	**Sangolgi Telephone Exchange**				
1	Exchange to Bavagi (E-E1)	Out of parallelism			
2	Exchange to Halahalli (E-E2)				

VI	**Dhannura Telephone Exchange**				
1	Exchange to Dhannura local (F-F1)	0.6	0.00948	22473	213
2	Exchange to Dhannura Tanda (F-F2)	1.1	0.00314	21458	68
VII	**Halbarga Telephone Exchange**				
1	Exchange to Halbarga local (G-G1)	IV less than 430 V			
2	Exchange to Melkunda road (G-G2)				
3	Exchange to Dhannura road (G-G3)				
VIII	**Hupla Telephone Exchange**				
1	Exchange to Bhalki local (H-H1)	Out of parallelism			
2	Exchange to Halbarga road (H-H2)	Out of parallelism			
IX	**Nittur Telephone Exchange**				
1	Exchange to Hedgapur road (I-I1)	IV less than 430 V			
2	Exchange to Kotagial road (I-I2)	IV less than 430 V			
X	**Balur Telephone Exchange**				
1	Exchange to Kotagial road (J-J1)	IV less than 430 V			
2	Exchange to Halbarga road (J-J2)	IV less than 430 V			
XI	**Kanaji Telephone Exchange**				
1	Exchange to Janti (K-K1)	IV less than 430 V			
2	Exchange to Byalhalli (K-K2)	IV less than 430 V			

ANNEXURE-II

CEA Case No.: KNK-966 **Name of the Power line**: 220 kV DC transmission line from 220/110 kV Halbarga (Neelamnalli Tanda), Bidar SS to 220/110 kV Santapur, Bidar SS			**Map Scale :** 1 cm= 500 m **Total Length :** 28.276 km **S.R. Value :** 20000 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: SG.85/4/3/PTCC/2024-25/SCRKS 8 RTD **Date**: 17.01.2025					
1	Bidar (BIDR) – Khanapur (KHNP)	1.2	0.00043	23256	10
2	Khanapur (KHNP) – Halbarga (HBU)	4.8	0.01536	16927	260
3	Halbarga (HBU) – Bhalki (BHLK)	Out of parallelism			
4	Khanapur (KHNP) – Hallkhed (HLKH)	3.8	0.01363	19663	268