

I/28565/2023



सत्यमेव जयते

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

CEA Case No. : TNG-122		
Induced Voltage (IV) calculations in respect of PTCC proposal for 765 kV D/C line from proposed 765/400 kV Warangal S/S to existing Chilakaluripeta 765/400 kV GIS (195.932 km) - regd.		
S. No	Reference No.	Dated
(i)	M/s Warora-Kurnool Transmission Ltd: WKTL/HYD/2021/117	25.09.2021
(ii)	M/s Warora-Kurnool Transmission Ltd: Email	21.06.2023
(iii)	BSNL: SR-PTCC/STS 0033/17	20.03.2023
(iv)	South Central Railway: SG.85/4/3/PTCC/SCRTS202155 RTD	29.03.2022
(v)	Defense: B/46937/Sigs 7(b)/2607	24.11.2021

The PTCC proposal submitted vide reference (i) has been examined. The LF induction on communication circuits of BSNL and South Central Railway with respect to details furnished vide above reference (iii) and (iv) respectively has been computed. The voltage likely to be induced on paralleling communication circuits of BSNL and South Central Railway under Single Line to Ground fault condition are enclosed at Annexure-I & II respectively. The screening factors as applicable have been considered. DG Signals, MoD have issued No Objection Certificate (NOC) vide above reference (v) (copy enclosed as Annexure-III).


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
765/400 kV Warangal S/S	261.7	35	0.0738	1310	778	NIL	NIL

As per the details submitted by BSNL vide reference (iv) above, no telephone exchanges are falling in the EPR zone of the proposed 765/400 kV Warangal S/S.

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

Encl.: As above


 26/6/23
 (S. K. Maharana)
 Chief Engineer

To,

1.	Divisional Engineer (PTCC), Southern Zone	BSNL, Inspection Circle, 1st Floor, Raj Bhavan Exchange No. 26, Sardar Patel Road, Guindy, Chennai-600032	
2.	GM (S&T)	South Central Railway, O/o PCSTE, 7 th floor, Rail Nilayam, Secunderabad – 500025	
3.	M/s Warora Kurnool Transmission Ltd	Adani Corporate House, Shantigram, S G Highway, Ahmedabad - 382421	For kind information

I/28565/2023

ANNEXURE-I

CEA Case No.: TNG-122 Name of the Power line: 765 kV D/C line from proposed 765/400 kV Warangal S/S to existing Chilakaluripeta 765/400 kV GIS			Map Scale : 1 cm= 500 m Total Length : 195.932 km S.R. Value : 10000 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 Letter no. SR-PTCC/STS 0033/17 Dated 20.03.2023					
SSA: A GUNTUR					
I GTR- NSV	NARASARAOPET MAIN TELEPHONE EXCHANGE				
1.	EXGE to P.49 to DP.4901 (A)				
2.	EXGE to P.49 to DP.4902 (B)				
3.	EXGE to P.49 to DP.4903 (C)				
4.	EXGE to P.49 to DP.4904 (D)				
5.	EXGE to P.49 to DP.4905 (E)				
6.	EXGE to P.49 to DP.4906 (F)				
7.	EXGE to P.49 to DP.4907 (G)				
8.	EXGE to P.49 to DP.4908 (H)				
9.	EXGE to P.49 to DP.4909 (I)				
10.	EXGE to P.49 to DP.4910 (J)				
11.	EXGE to P.49 to DP.4911 (K)				
12.	EXGE to P.57 to DP.5701 (L)				
13.	EXGE to P.57 to DP.5702 (M)				
14.	EXGE to P.57 to DP.5703 (N)				
15.	EXGE to P.57 to DP.5704 (O)				
IV LESS THAN 430 V					

I/28565/2023

16.	EXGE to P.57 to DP.5705 (P)	IV LESS THAN 430 V			
17.	EXGE to P.57 to DP.5706 (Q)				
18.	EXGE to P.57 to DP.5707 (R)				
19.	EXGE to P.57 to DP.5708 (5)				
II NSV - PxG	NARASARAOPET-PNGR TELEPHONE EXCHANGE				
1.	EXGE to P.67 to DP.6701 (T)	IV LESS THAN 430 V			
2.	EXGE to P.67 to DP.6702 (U)				
3.	EXGE to P.67 to DP.6703 (V)				
4.	EXGE to P.67 to DP.6704 (W)				
5.	EXGE to P.67 to DP.6705 (X)				
6.	EXGE to P.67 to DP.6706 (Y)				
7.	EXGE to P.67 to DP.6707 (Z)				
III GTR - RMP	ROMPICHERLA TELEPHONE EXCHANGE				
1.	EXGE to P.21 to DP.2101 (A)	IV LESS THAN 430 V			
2.	EXGE to P.21 to DP.2102 (B)				
3.	EXGE to P.21 to DP.2103 (C)				
4.	EXGE to P.21 to DP.2104 (D)				
5.	EXGE to P.21 to DP.2105 (E)				
6.	EXGE to P.21 to DP.2106 (F)				
7.	EXGE to P.21 to DP.2107 (G)				
8.	EXGE to P.21 to DP.2108 (H)				
9.	EXGE to P.21 to DP.2109 (I)				
10.	EXGE to P.21 to DP.2110 (J)				
11.	EXGE to P.23 to DP.2301 (K)				
12.	EXGE to P.23 to DP.2302 (L)				

I/28565/2023

13.	EXGE to P.23 to DP.2303 (M)	IV LESS THAN 430 V
14.	EXGE to P.23 to DP.2304 (N)	
15.	EXGE to P.23 to DP.2305 (O)	
16.	EXGE to P.23 to DP.2306 (P)	
17.	EXGE to P.23 to DP.2307 (Q)	
18.	EXGE to P.23 to DP.2308 (R)	
19.	EXGE to P.23 to DP.2309 (S)	
20.	EXGE to P.22 to DP.2201(T)	
21.	EXGE to P.22 to DP.2202(U)	
22.	EXGE to P.22 to DP.2203(V)	
23.	EXGE to P.22 to DP.2204(W)	
24.	EXGE to P.22 to DP.2205(X)	
25.	EXGE to P.22 to DP.2206(Y)	
26.	EXGE to P.22 to DP.2207(Z)	
27.	EXGE to P.22 to DP.2208(AA)	
28.	EXGE to P.22 to DP.2209(AB)	
29.	EXGE to P.24 to DP.2401(AC)	
30.	EXGE to P.24 to DP.2402(AD)	
31.	EXGE to P.24 to DP.2403(AE)	
32.	EXGE to P.24 to DP.2404(AF)	
33.	EXGE to P.24 to DP.2405(AG)	
34.	EXGE to P.25 to DP.2501(AH)	
35.	EXGE to P.25 to DP.2502(AI)	
36.	EXGE to P.25 to DP.2503(AJ)	
37.	EXGE to P.25 to DP.2504(AK)	
38.	EXGE to P.25 to DP.2505(AL)	

I/28565/2023

IV GTR- NKK	NAKARIKALLU TELEPHONE EXCHANGE				
1.	EXGE to P.21 to DP.2101(AB)	1.0	0.0320	17969	575
2.	EXGE to P.21 to DP.2102(AC)	0.9	0.0288	17986	518
3.	EXGE to P.21 to DP.2103(AD)	IV LESS THAN 430 V			
4.	EXGE to P.21 to DP.2104(AE)				
5.	EXGE to P.21 to DP.2105(AF)				
6.	EXGE to P.21 to DP.2106(AG)	0.8	0.0281	17989	505
7.	EXGE to P.21 to DP.2107(AH)	3.5	0.0641	18020	1155
8.	EXGE to P.21 to DP.2108(AI)	3.5	0.0735	18057	1327
9.	EXGE to P.21 to DP.2109(A.1)	3.5	0.0857	18093	1551
10.	EXGE to P.21 to DP.2110(AK)	3.5	0.1057	18079	1911
11.	EXGE to P.22 to DP.2201(W)	IV LESS THAN 430 V			
12.	EXGE to P.22 to DP.2202(X)				
13.	EXGE to P.22 to DP.2203(Y)				
14.	EXGE to P.22 to DP.2204(Z)				
15.	EXGE to P.22 to DP.2205(AA)	0.8	0.0256	17981	460
16.	EXGE to P.23 to DP.2301(P)	IV LESS THAN 430 V			
17.	EXGE to P.23 to DP.2302(Q)				
18.	EXGE to P.23 to DP.2303(R)				
19.	EXGE to P.23 to DP.2304(S)				
20.	EXGE to P.23 to DP.2305(T)				
21.	EXGE to P.24 to DP.2401(K)				
22.	EXGE to P.24 to DP.2402(L)				
23.	EXGE to P.24 to DP.2403(M)				
24.	EXGE to P.24 to DP.2404(N)				
25.	EXGE to P.24 to DP.2405(O)				

I/28565/2023

26.	EXGE to P.25 to DP.2501(F)	IV LESS THAN 430 V							
27.	EXGE to P.25 to DP.2502(G)								
28.	EXGE to P.25 to DP.2503(H)								
29.	EXGE to P.25 to DP.2504(I)								
30.	EXGE to P.25 to DP.2505(J)								
31.	EXGE to P.26 to DP.2601(A)								
32.	EXGE to P.26 to DP.2602(B)								
33.	EXGE to P.26 to DP.2603(C)								
34.	EXGE to P.26 to DP.2604(D)					3.2	0.0279	17984	502
35.	EXGE to P.26 to DP.2605(E)					IV LESS THAN 430 V			
36.	EXGE to DP.0001(U)								
37.	EXGE to DP.0002(V)								
V	DECHAVARAM TELEPHONE EXCHANGE								
GTR-DCV									
1.	EXGE to DP.0001(A)	IV LESS THAN 430 V							
2.	EXGE to DP.0002(B)								
3.	EXGE to DP.0003(C)								
4.	EXGE to DP.0004(D)								
5.	EXGE to DP.0005(E)								
6.	EXGE to DP.0006(F)								
7.	EXGE to DP.0007(G)								
8.	EXGE to DP.0008(H)								
9.	EXGE to DP.0009(I)								
10.	EXGE to DP.0010(J)								
11.	EXGE to P.21 to DP.2101(K)								
12.	EXGE to P.21 to DP.2102(L)								
13.	EXGE to P.21 to DP.2103(M)								

I/28565/2023

14.	EXGE to P.21 to DP.2104(N)	IV LESS THAN 430 V			
15.	EXGE to P.21 to DP.2105(O)				
16.	EXGE to P.22 to DP.2201(P)				
17.	EXGE to P.22 to DP.2203(Q)				
18.	EXGE to P.22 to DP.2204(R)				
19.	EXGE to P.22 to DP.2205(S)				
20.	EXGE to P.22 to DP.2206(T)				
21.	EXGE to P.22 to DP.2207(U)				
VI	PALAPADU TELEPHONE EXCHANGE				
GTR-PLP					
1.	EXGE to P.21 to DP.2101(A)	IV LESS THAN 430 V			
2.	EXGE to P.21 to DP.2102(B)				
3.	EXGE to P.21 to DP.2103(C)				
4.	EXGE to P.21 to DP.2104(D)				
5.	EXGE to P.21 to DP.2105(E)				
6.	EXGE to P.21 to DP.2106(F)				
7.	EXGE to P.22 to DP.2201(G)				
8.	EXGE to P.22 to DP.2203(H)				
9.	EXGE to P.22 to DP.2204(I)				
10.	EXGE to P.22 to DP.2205(J)				
11.	EXGE to P.22 to DP.2206(K)				
12.	EXGE to P.23 to DP.2301(L)				
13.	EXGE to P.23 to DP.2302(M)				
14.	EXGE to P.23 to DP.2303(N)				
15.	EXGE to P.23 to DP.2304(O)				
16.	EXGE to P.23 to DP.2305(P)				
17.	EXGE to P.23 to DP.2306(Q)				

I/28565/2023

18.	EXGE to DP.0001(R)	IV LESS THAN 430 V			
19.	EXGE to DP.0002(S)				
20.	EXGE to DP.0003(T)				
21.	EXGE to DP.0004(U)				
22.	EXGE to DP.0005(V)				
23.	EXGE to DP.0006(W)				
24.	EXGE to DP.0007(X)				
25.	EXGE to DP.0008(Y)				
VII GTR- KNK	KUNKALAGUNTA TELEPHONE EXCHANGE				
1.	EXGE to P.21 to DP.2101(A)	IV LESS THAN 430 V			
2.	EXGE to P.21 to DP.2102(B)				
3.	EXGE to P.21 to DP.2103(C)				
4.	EXGE to P.21 to DP.2104(D)				
5.	EXGE to P.21 to DP.2105(E)				
6.	EXGE to P.21 to DP.2106(F)				
7.	EXGE to P.21 to DP.2107(G)				
8.	EXGE to P.21 to DP.2108(H)				
9.	EXGE to P.21 to DP.2109(I)				
10.	EXGE to P.21 to DP.2110(J)				
11.	EXGE to DP.0001(K)				
12.	EXGE to DP.0002(L)				
13.	EXGE to DP.0003(M)				
14.	EXGE to DP.0004(N)				
15.	EXGE to DP.0005(O)				
16.	EXGE to DP.0006(P)				
17.	EXGE to DP.0007(Q)				

I/28565/2023

18.	EXGE to DP.0008(R)	IV LESS THAN 430 V			
19.	EXGE to DP.0009(S)				
20.	EXGE to DP.0010(T)				
21.	EXGE to DP.0011(U)				
VIII GTR-RAV	RAVIPADU TELEPHONE EXCHANGE				
1.	EXGE to DP-0001(A)	IV LESS THAN 430 V			
2.	EXGE to DP.0002(B)				
3.	EXGE to DP.0003(C)				
4.	EXGE to DP.0004(D)				
5.	EXGE to P.21 to DP.2101(E)				
6.	EXGE to P.21 to DP.2102(F)				
7.	EXGE to P.21 to DP.2103(G)				
8.	EXGE to P.21 to DP.2104(H)				
9.	EXGE to P.21. to DP.2105(I)				
10.	EXGE to P.21 to DP.2106(J)				
11.	EXGE to P.21 to DP.2107(K)				
12.	EXGE to P.21 to DP.2108(L)				
13.	EXGE to P.21 to DP.2109(M)				
14.	EXGE to DP.0005(N)				
IX GTR-SGP	SANTHAGUDIPADU TELEPHONE EXCHANGE				
1.	EXGE to DP.0001(A)	IV LESS THAN 430 V			
2.	EXGE to DP.0002(B)				
3.	EXGE to DP.0003(C)				
4.	EXGE to DP.0004(D)				
5.	EXGE to DP.0005(E)				

I/28565/2023

6.	EXGE to DP.0006(F)	IV LESS THAN 430 V							
7.	EXGE to DP.0007(G)								
8.	EXGE to DP.0008(H)								
9.	EXGE to DP.0009(I)								
10.	EXGE to DP.0010(J)								
11.	EXGE to DP.0011(K)								
12.	EXGE to DP.0012(L)								
13.	EXGE to DP.0013(M)								
14.	EXGE to DP.0014(N)								
15.	EXGE to DP.0015(O)								
X	GUNDLAPALLI TELEPHONE EXCHANGE								
GTR-GDP									
1.	EXGE to DP.0001(A)					IV LESS THAN 430 V			
2.	EXGE to DP.0002(B)								
3.	EXGE to DP.0003(C)								
4.	EXGE to DP.0004(D)								
5.	EXGE to DP.0005(E)								
6.	EXGE to DP.0006(F)								
7.	EXGE to DP.0007(G)								
8.	EXGE to DP.0008(H)								
9.	EXGE to DP.0009(I)								
10.	EXGE to DP.0010(J)								
11.	EXGE to DP.0011(K)								
12.	EXGE to DP.0012(L)								
13.	EXGE to DP.0013(M)								
14.	EXGE to DP.0014(N)								
15.	EXGE to DP.0015(O)								

I/28565/2023

XI	PETLURIVARIPALEM TELEPHONE				
GTR- PRP	EXCHANGE				
1.	EXGE to DP.0001(A)	IV LESS THAN 430 V			
2.	EXGE to DP.0002(B)				
3.	EXGE to DP.0003(C)				
4.	EXGE to DP.0004(D)				
5.	EXGE to DP.0005(E)				
6.	EXGE to DP.0006(F)				
7.	EXGE to DP.0007(G)				
8.	EXGE to DP.0008(H)				
9.	EXGE to DP.0009(I)				
10.	EXGE to DP.0010(J)				
11.	EXGE to DP.0011(K)				
12.	EXGE to DP.0012(L)				
13.	EXGE to DP.0013(M)				
	SSA: B WARANGAL				
I A1	GHANPUR TELEPHONE EXCHANGE				
1	EXGE to Ghanpur Bus stand (A1-A2)	IV LESS THAN 430 V			
II B1	GHANPUR TELEPHONE EXCHANGE				
1	EXGE to Ghanpur Local (B1-B2)	IV LESS THAN 430 V			

I/28565/2023

ANNEXURE-II

CEA Case No.: TNG-122		Map Scale : 1 cm= 500 m			
Name of the Power line: 765 kV D/C line from proposed 765/400 kV Warangal S/S to existing Chilakaluripeta 765/400 kV GIS		Total Length : 195.932 km			
		S.R. Value : 10000 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 letter no. SG.85/4/3/PTCC/SCRTS202155 RTD Dated 29.03.2022					
1.	Ippaguda (IPG) – Ghanpur (GNP)	0.6	0.00005	19940	1
2.	Ghanpur (GNP) – Nashkal (NSKL)	Out of parallelism			0
3.	Nashkal (NSKL) – Pindial (PQL)	Outside IV consideration zone			
4.	Mattampalli (MTMP) – Raghapuram (SSLM)	3.55	0.0005	12428	6
5.	Raghapuram (SSLM) – Janpahad (JNPH)	3.55	0.0051	12809	65
6.	Nadikudi Jn (NDKD) – Tummalacheruvu	6.8	0.0020	15230	30
7.	Tummalacheruvu (TMLU) – Piduguralla (PGRL)	8.5	0.0134	15706	210
8.	Piduguralla (PGRL) - Piduguralla New	7.3	0.0008	17902	14
9.	Piduguralla New – Bellamkonda (BMKD)	1.8	0.0002	14172	3
10.	Piduguralla New PGRN) – Nakarikallu (NKRL)	4.8	0.0114	17443	199
11.	Nakarikallu (NKRL) – Rompicherla (RCLA)	19.3	0.0019	18196	35
12.	Rompicherla (RCLA) – Savalyapuram (SYM)	Out of parallelism			0
13.	Savalyapuram (SYM) – Santamanguluru (SAB)				0
14.	Santamanguluru (SAB) – Munumaka (MUK)				0
15.	Munumaka (MUK) – Narasaraopet (NRT)	4.9	0.0005	19230	10
16.	Narasaraopet (NRT) – Satuluru (STUR)	Outside IV consideration zone			

I/28565/2023

Tele : 23019746

TNC-122

Directorate General of Signals
Signals 7
General Staff Branch
Integrated HQ of MoD, (Army)
DHQ PO, New Delhi – 110011


B/46937/Sigs 7(b)/2607/

14 Nov 2021

Warora-Kurnool Transmission Limited
Site Office: Ground Floor#001,
Sai Prema Nilayam Apartments, Brindavan Gardens
Kishanguda, Telangana-501218

**PTCC PROPOSAL FOR 765KV D/C TRANSMISSION LINE FROM WARANGAL
(NEW) TO PGCIL SUBSTATION AT CHILAKALURIPETA**

1. Refer your letter No WKTL/HYD/2021/117 dt 25 Sep 2021 (copy att).
2. No Objection Certificate (NOC) is accorded based on inputs provided as per Map sheets received vide your letter mentioned above.
3. Documents alongwith map sheets (in original) are returned herewith for your further necessary action.


(Anurag Mishra)
Lt-Col
GSO 1 (Comn)
for SO-in-C

Enclosures : As above**Copy to :-**

✓ The Director (PTCC), CEA
Power Communication Development Division
NRPC Complex, 18-A Shaheed Jeet Singh Marg
Katwaria Sarai, New Delhi – 110016

for information

The DET(PTCC), Northern Zone
O/o PGM (North), QA & Inspection Circle,
D-Tax Building, Eastern Court, Janpath
New Delhi-110001

