



सत्यमेव जयते

भारत सरकार  
Government of India  
विद्युत मंत्रालय  
Ministry of Power  
केन्द्रीय विद्युत प्राधिकरण  
Central Electricity Authority  
पावर कम्युनिकेशन डवलपमेंट प्रभाग  
Power Communication Development Division

No./CEA/PCD/PTCC/TNG-63/1128-1130

Date : 21.11.2019

The Divisional Engineer Telecom (PTCC),  
QA & Inspection (T&D) circle, BSNL,  
1<sup>st</sup> floor, Raj Bhavan Exchange,  
No.26, Sardar Patel Road,  
Guindy, Chennai-600032

**Subject:** Induced Voltage Calculation in respect of PTCC proposal for 220 kV DC line from 220/132 kV SS Nirmal to proposed upgradation of 220/132/33 kV S/S at Renjal in Nizamabad District.

- Reference:**
- Chief Engineer(Construction), TSTRANSCO No.CPT-310/SE/Const/F.220 KV Renjal SS/PTCC/D.No.1380/2018 dated 27.09.2018
  - BSNL letter no. SR-PTCC/STS/2212/06 dated 16.08.2019
  - South Central Railway letter no. SG.85/4/3/PTCC/SCRTS201840 RTD dated 28.08.2018
  - Defence letter no. B/46937/Sigs 7(b)/1146 dated 15.10.2018

The PTCC proposal submitted vide above ref(i) has been examined. The low frequency induction on telecom cables of BSNL and Block & Telecom circuits of South Central Railway with respect to details furnished vide above references have been computed. The Soil Resistivity (SR) value has been taken as 30,000 & 40,000 Ohm-cm. The voltages likely to be induced on paralleling telecom cables of BSNL and Block & Telecom circuits of South Central Railway under Single Line to Ground fault condition are enclosed at Annex-I & II respectively. The screening factors, as applicable, have been considered. Vide ref. (iv) above, Defence Authority have issued No Objection Certificate (NOC) (a copy enclosed as Annex-III).

Taking above into consideration, kindly take necessary action for PTCC route approval.

**Encl.:** As above

*Upendra Kumar*  
22.11.2019  
(Upendra Kumar)  
Chief Engineer

Copy to:

- GM (S&T), South Central Railway, Head Quarters Office, Signal & Telecomm Branch, Rail Nilayam, Secunderabad, Telangana – 500025 (Annex – II only)
- Chief Engineer, Construction, TSTRANSCO, Vidyut Soudha, Hyderabad - 500082

Case No. SRPTCC/STS/2212		SSA : Nizamabad				
Scale: 1 : 50000						
Name of Power line: 220 KV DC Line from the proposed 400/220 KV SS Nirmal to upgraded 220/132/33 KV SS Renjal in Nizamabad Dist - LF comments.						
Length: 67.70 KMs						
Average SR value : 30,000 & 40,000 & 2 cm					Type of Cable: PIJF	
No	Name of telecom line	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts	Safe Separation Distance
<b>Navipet Exchange</b>						
1	Exchange to Dariyapur	}			— IV less than 430V —	
2	Exchange to Kamalapurr					
3	Exchange to Pothangal X Road					
		2.0	0.0631	7910	499	
<b>Jannepalli Exchange</b>						
1	Exchange to X Road	}			— IV less than 430V —	
2	Exchange to Aitya School- GP Road					
3	Exchange to Post office					
<b>Renjal Exchange</b>						
1	Exchange to AP 38 - DP 1	}				
2	Exchange to AP 38 DP 2					
3	Exchange to AP 38 DP 3					
4	Exchange to AP 38 DP 4					
5	Exchange to AP 38 DP 5					
6	Exchange to AP 38 DP 6					
7	Exchange to AP 39 DP 7					
8	Exchange to AP 39 DP 8					
9	Exchange to AP 39 DP 9					
10	Exchange to AP 39 DP 10					
11	Exchange to AP 39 DP 11					
12	Exchange to AP 39 DP 12					
13	Exchange to AP 39 DP 13					
14	Exchange to AP 39 DP 14					
<b>Pipri Exchange</b>						
1	Exchange to Manthani Cable 1	}			— IV less than 430V —	
2	Exchange to Manthani Cable 2					
3	Exchange to Manthani Cable 3					
<b>Kissannagar Exchange</b>						
1	Exchange to Mupkal	}	2.0	0.0722	7300	527
2	Exchange to Dubba					
3	Exchange to Pillar No 22					
					— IV less than 430V —	

Upendrakumar  
22/11/19  
Engineer  
A. A. ...  
Department of Power  
Government of India

## ANNEXURE - II

Case No.: TNG-63

Name of the Power line: 220 KV DC Line from the proposed  
400/220 KV SS Nirmal to upgraded 220/132/33 KV SS Renjal in  
Nizamabad Dist - LF commentsMap Scale : 1cm=500mts  
Total Length : 67.70Km.  
S.R. Value : 30,000 Ohms-cm  
& 40,000

S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
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**SOUTH CENTRAL RAILWAY**

Ref. No: SG. 85 / 4 / 3 / PTCC / SCRTS 201840 RTD DATED: 28-08-2018

**Affected Blocks & Telcom Circuits Details**

1	Jankampet (JKM) - Navipet(NVT)	1.2	0.0008	8400	7	
2	Navipet (NVT) - Basar(BSX)	0.6	0.0012	8500	10	
3	Basar (BSX) - Dharmabad(DAB)	-----out side iv consideration zone-----				0
4	Jankampet (JKM) - Bodhan(BDHN)	8.0	0.0014	8750	12	
5	Nizamabad (NZZ) - Mamidipalle	-----out side iv consideration zone-----				0
6	Mamidipalli - Armoor	-----out side iv consideration zone-----				0
7	Armoor - Morthad	-----out side iv consideration zone-----				0

*Uspendrakam*  
22/11/19

मुख्य अभियंता / Chief Engineer  
केन्द्रीय विद्युत प्राधिकरण / C.E.A.  
विद्युत मंत्रालय / Ministry of Power  
भारत सरकार / Govt. of India  
नई दिल्ली / New Delhi

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

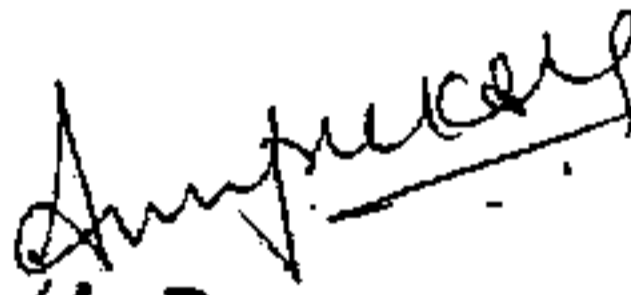
B/46937/Sigs 7(b)/1146/

15 Oct 2018

Chief Engineer  
 Construction  
 Transmission Corporation of Telangana Ltd  
 Vidyut Soudha  
 Hyderabad - 500082

**ERECTION OF 220 KV DC LINE (67.70 KMS) FROM THE PROPOSED 400/220 KV SS  
 NIRMAL TO UPGRADED 220/132/33 KV SS RENJAL IN NIZAMBAD DISTRICT ON  
 TURNKEY BASIS - PTCC PROPOSALS  
 - FORWARDED - REGARDING**

1. Ref your Letter No Lr. No. CPT - 310/SE / Const F. 220 KV renjal SS / PTCC /D.No. 820 /2018.dt 02/06/2018 (copy att).
2. No Objection Certificate (NOC) is accorded based on inputs provided vide Map sheets received under your letter mentioned above.
3. Documents alongwith map sheets (in original) are forwarded herewith for your further action.

  
 (A Rawat)  
 Maj  
 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.