



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/AND-690 / 543-545

Date: 06.05.2019

The Divisional Engineer Telecom,
PTCC, T&D circle, BSNL,
No.26, 1st floor, Raj Bhavan Exchange,
Sardar Patel Road,
Guindy, Chennai-600032

Subject: Induced Voltage calculation in respect of PTCC proposal for 220 kV DC line from proposed 400/220 kV SS Kalikiri to 220 kV SS Madanapalli

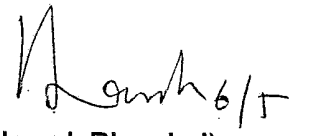
Reference: i) BSNL letter no. SR-PTCC/SAP-2299/03 dated 15.02.2019
ii) South Central Railway letter no. SG.85/4/3/PTCC/SCRAP201912 RTD dated 19.03.2019

Sir,

The instant PTCC proposal 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 has been computed. The Soil Resistivity (SR) value has been taken as 50,000 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 (SLG) fault condition have been computed and are enclosed at Annex-I & II respectively. The screening factors, as applicable, have been considered.

Telecommunication details from Defense are pending and the power authority has shown urgency for charging the line. In view of this, you are requested to issue provisional PTCC route approval.

Encl.: As above


(Naresh Bhandari)
Chief Engineer

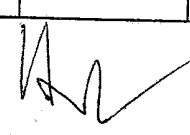
Copy to:

1. GM (S&T), South Central Railway, Head Quarters Office, Signal & Telecomm Branch, Rail Nilayam, Secunderabad, Telangana – 500025 (Annexure – II only)
2. Chief Engineer, Construction, APTRANSCO, Vidhyut Soudha, Vijayawada -520008

etc M/C

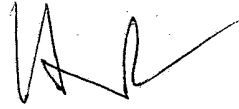
CEA Case No.: AND-690

Case No.SAP-2299		SSA: Tirupathi			
Name of the power line		Proposed 220 KV DC line from proposed 400/220 KV SS Kalikiri to 220 KV SS Madanapalli.			
Length:	29.330 Kms	Map Scale :	1 cm = 500 mts		
SR value :	50000 ohm cms	Type of BSNL telecom cable : PIJF			
Sl.No.	Name of Telecom line	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
I	MADANAPALLI Exge UG cables				
1	Exge to Pillar 22 to DP 2255				
2	Exge to Pillar 37 to DP 3749				
3	Exge to Pillar 38 to DP 3840				
4	Exge to Pillar 44 to DP 4466				
5	Exge to Pillar 47 to DP 4749				
6	Exge to Pillar 54 to DP 5464				
7	Exge to Pillar 57 to DP 5736				
8	Exge to Pillar 72 to DP 7257				
9	Exge to Pillar 79 to DP 7939				
II	MADANAPALLI RLU-I Exge UG cables				
1	Exge to Pillar 21 to DP 2121				
2	Exge to Pillar 22 to DP 2235				
3	Exge to Pillar 35 to DP 3533				
4	Exge to Pillar 36 to DP 3621				
III	NIMMANAPALLI Exge UG cables				
1	Exge to Pillar 21 to DP 2133				
2	Exge to Pillar 21 to DP 2141				
3	Exge to Pillar 31 to DP 3129				
4	Exge to Pillar 31 to DP 3131				
5	Exge to Pillar 99 to DP 9910				
IV	CHINNATHIPPASAMUDRAM Exge UG cables				
1	Exge to Pillar 21 to DP 2127				
2	Exge to Pillar 22 to DP 2238				
3	Exge to Pillar 31 to DP 3145				


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 विद्युत मंत्रालय/Ministry of Power
 भारत सरकार/Govt. of India
 नई दिल्ली/New Delhi-66

Annex-I


V	VAYALPADU Exge UG cables				
1	Exge to Pillar 21 to DP 2153	}	IV	LESS	THAN 430 V
2	Exge to Pillar 22 to DP 2245				
3	Exge to Pillar 23 to DP 2335				
4	Exge to Pillar 24 to DP 2415				
5	Exge to Pillar 31 to DP 3134				
6	Exge to Pillar 32 to DP 3217				
7	Exge to Pillar 33 to DP 3328				
8	Exge to Pillar 34 to DP 3427				
9	Exge to Pillar 35 to DP 3547				
VI	CHINTARPARTHY Exge UG cables				
1	Exge to Pillar 21 to DP 2151	}	IV	LESS	THAN 430 V
2	Exge to Pillar 22 to DP 2255				
3	Exge to Pillar 31 to DP 3144				
VII	KALIKIRI Exge UG cables				
	Exge to Pillar 21 to DP 2130	}	IV	LESS	THAN 430 V
	Exge to Pillar 22 to DP 2206				
	Exge to Pillar 23 to DP 2305				
	Exge to Pillar 24 to DP 2425				
	Exge to Pillar 25 to DP 2540				
	Exge to Pillar 26 to DP 2632				
	Exge to Pillar 31 to DP 3142				
					OUT OF PARALLELISM


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ANNEXURE - II

Case No.: AND-690 Name of the Power line: 220 kV DC line from proposed 400/220 kV SS Kalikiri to 220 kV SS Madanapalli		Map Scale : 1cm=500mts Total Length : 29.33 Km. S.R. Value : 50,000 Ohms-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					
Ref. No. SG.85/4/3/PTCC/SCRAP201912 RTD dated 19.03.2019					
1	Kurabalakota (KBA) – Madanapalle Road(MPL)	0.8	0.0002	10000	2
2	Madanapalle Road (MPL) – Vayalpad (VLD)	5.6	0.0017	8000	14
3	Vayalpad (VLD) – Kalikiri (KCI)	11.9	0.0162	10000	162
4	Kalikiri (KCI) – Piler (PIL)	OUT OF PARALLELISM			0


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