



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/GUJ-702/ 347349

Date: 25.03.2019

DET (PTCC), Western Zone,
Bharat Sanchar Nigam Limited (BSNL),
O/o DET(PTCC), QA & Inspection Circle,
3rd Floor, D-Wing, BSNL Admin Bldg.,
Juhu Tara Road, Santacruz (West),
Mumbai – 400054.

Subject: Induced Voltage calculation in respect of PTCC proposal of 220 kV D/C Tharad – Deodar line.

Ref: (i) BSNL letter no. IC/MBI/PTCC/GUJ-1868 dated 28.12.2018
(ii) Western Railway letter no. SG.158/28/9(107) dated 25.05.2012

Sir,

The low frequency induction on BSNL and Railway Telecommunication circuits as per details furnished vide above cited references (i) and (ii) respectively has been examined. The Soil Resistivity value has been taken as 25000 Ohms-cm, as per data submitted by Power Authority. Voltages likely to be induced on paralleling BSNL Telecom Cables and Railway Telecommunication circuits under single line to ground fault condition are enclosed at Annex-I&II respectively. The screening factors as applicable have been considered.

As the PTCC proposal was registered before the decision of consideration of Defence, the requirement of Defence Telecom details may be waived off.

Taking above into consideration, kindly take necessary action regarding issue of PTCC route approval.

Encl.: As above

Yours faithfully,

(Naresh Bhandari)
Chief Engineer

Copy to:

- 1) Office of CSTE, Western Railway, S&T Dept. , 5th Floor, Station Building, Churchgate, Mumbai - 400020 (Annex – II only)
- 2) Executive Engineer(Const), GETCO, Division Office, 132 kV S/S Compound, Const.D.O. Deesa - 385535

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TELECOM DETAILS

Case No: GVJ-702

Name of the Power Line: 220KV D/c Tharad -

Deodar cctco line

Map Scale: 1 cm = 500 mtrs

Total Length: 38.728 KM

Average S.R. Value: 25000 22-6M

Sl. No:	Telecom Details	Cable Pair	Length of Parallelism in KM	Mutual Coupling in Ohms.	Effective fault current in Amps	I.V. in Volts	Safe separation in yards
1	Tharad to mahajanpura	100	}	out of 115M	less than 430V	→	
2	mahajanpura to chudmer	20					
3	Tharad to Budhanpur	100	}	-1V less than 430V		→	
4	Tharad to Malupur	20					
5	Tharad to ichanpur	50	}	-1V less than 430V		→	
6	ichanpur to Nagla	20					
7	Dodgam to Jandla	20	}	-1V less than 430V		→	
8	Dodgam to Dhavadara	20					
9	Dodgam to Morlichra	20	}	-1V less than 430V		→	
10	Baigole to Darpura	20					

श्री श्री श्री/नारेश धानदारी
 श्री श्री श्री/Chief Engineer
 आर्या विद्युत निगम, ए.ए.ई. 130V
 विद्युत विभाग/Ministry of Power
 भारत सरकार/Govt. of India
 नई दिल्ली/New Delhi-110055

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TELECOM DETAILS

Case No: _____
 Name of the Power Line: 220KV D/c Tharad
Deodar - aetco line

Map Scale: 1 cm = 500 mtrs.
 Total Length: 38.723 KM
 Average S.R. Value: 25000-1.0cm

Sl. No:	Telecom Details	Cable Pair	Length of Parallelism in KM	Mutual Coupling in Ohms.	Effective fault current in Amps	I.V. in Volts	Safe separation in yards
11	Baiyole to sandhar	50	}				
12	sandhar to Del	20		← less than 420V →			
13	Baiyole to Neshi	20					
14	Moti Pawad to sanaviya	20	}				
15	Moti Pawad to Nani Pawad	20		← less than 420V →			
16	Moti Pawad to Karanjar	50					
17	Karan Sar to Padadar	20					

नेश भंडारी / NARESH BHANDARI
 मुख्य अभियंता / Chief Engineer
 केंद्रीय विद्युत नियंत्रण आयोग / C.E.A.
 विद्युत मंत्रालय / Ministry of Power
 भारत सरकार / Govt. of India
 नई दिल्ली / New Delhi-60

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Baiyole X

Pawad X

GUJ-702


ANNEX-I

TELECOM DETAILS

Case No: _____
 Name of the Power Line: 220KV D/C Tharad
Deodar Line

Map Scale: 1 cm = 500mths.
 Total Length: 38.728 KM
 Average S.R. Value: 25000 Ohm.Cm

Sl. No:	Telecom Details	Cable Pair	Length of Parallelism in KM	Mutual Coupling in Ohms.	Effective fault current in Amps	I.V. in Volts	Safe separation in yards
1A	Deodar to sanadar	20	}	← 1V less than 430V →	}	}	}
2A	Deodar to Surang	50					
3A	Deodar to Vanicha	20					
4A	Deodar to Goda Mesri	50	}	}	}	}	
5A	Deodar to Bhesang	50					
6A	Bhesang to Guliyang Bhesang	20	}	← 1V less than 430V →	}	}	}
6A _a	Deodar to Kotda	100					
6A _b	Deodar to Delwada	20					
CA	Deodar to Ludra	100	}	}	}	}	
6A _d	Ludra to Samla	50					


 नरेश बंधारी / NARESH BHANDARI
 Chief Engineer
 Chief Engineer / C.E.A.
 Ministry of Power
 Govt. of India
 New Delhi-66

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TELECOM DETAILS

Case No: _____
 Name of the Power Line: 220KV D/c Tharad
Deodar getco line

Map Scale: 1 cm = 500 mtrs
 Total Length: 38.728 KM
 Average S.R. Value: 25000 cm

Sl. No:	Telecom Details	Cable Pair	Length of Parallelism in KM	Mutual Coupling in Ohms.	Effective fault current in Amps	I.V. in Volts	Safe separation in yards
7A	kuvala to Dhrandav	20	}				
8A	kuvala to vadiya	100					
9A	kuvala to Naulcha	50				← 1V less than 430V →	
10A	kuvala to Bhadaliya	10					
11A	kuvala to mitha	100					
12A	Mitha to Bhadkaur	50					
13A	Bhadkaur to Vadana	20					
14A	Mithi paldi to kalvi Nandwas	10					
15A	Mithi paldi to coliya	50				← 1V less than 430V →	
16A	coliya to kalvi	20					

(Signature)
 नरेश भारती / NARESH BHANDARI
 मुख्य अभियंता, Chief Engineer
 क्षेत्रीय विद्युत आपूर्ति / C.E.A.
 विद्युत विभाग / Ministry of Power
 भारत सरकार / Govt. of India
 नई दिल्ली / New Delhi-110056

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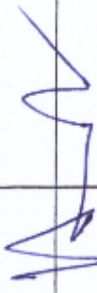
17A Mithi paldi to Ichanodan 20x3

vala

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TELECOM DETAILS

Case No: _____ Map Scale: 1 cm = 500 mtrs.
 Name of the Power Line: 220 kV D/C Tharad - Total Length: 38.728 KM
 Deodar catco line. Average S.R. Value: 25000 Ω - cm

Sl. No:	Telecom Details	Cable Pair	Length of Parallelism in KM	Mutual Coupling in Ohms.	Effective fault current in Amps	I.V. in Volts	Safe separation in yards
17A _a	Mithi paldi to Sardarpur	50, 20	}				
17A _b	Sardarpur to Raval	50					
17A _c	Mithi paldi to Rampur	20					
18A	Mithi paldi to Kuvata	50					
18A _a	Mithi paldi to Mobjay	50					
19A	Kotar wady to Dhunsof	50	3.5		1V less than 430V		
20A	Kotar wady to Saneساد	50	}		 1V less than 430V		
21A	Kotar wady to Phophavati	20					
22A _a	Kotar wady to Nesehi	20					
22A _b	Chibhada to Senuav	10	3.5	0.1036	6000	622	.
23A	Chibhada to Molchany	50	3		1V less than 430V		

श्री अशोक नारायण / Chief Engineer
 ऊर्जा विभाग / Ministry of Power
 भारत सरकार / Govt. of India
 नई दिल्ली / New Delhi-66

TELECOM DETAILS

Case No: _____ Map Scale: 1 cm = 500 m

Name of the Power Line: 220 kV D/C Tharad Total Length: 38.778 KM

Deodar line aetco Average S.R. Value: 2500 ft-cm

Sl. No:	Telecom Details	Cable Pair	Length of Parallelism in KM	Mutual Coupling in Ohms.	Effective fault current in Amps	I.V. in Volts	Safe separation in yards
24A	Lovana to Rantila	20	} ← IV less than 430V →				
25A	Lovana to Mokadia	50,50					
26A	Lovana to Kunwang	50,20					
27A	Lovana to Kasalpur	20					
28A	Lovana to Vajegadh	20					
29A	chamanpura to Jada	50					
30A	chamanpura to Kotda	50,20					
31A	chamanpura to chang-wada	150					

श्री. नरेश/NARESH BHANDARI
मुख्य अभियंता/Chief Engineer
केन्द्रीय विद्युत प्राधिकरण/C.E.A.
विद्युत मंत्रालय/Ministry of Power
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-65

