



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

CEA Case No. : PNB-387		
Induced voltage calculation for PTCC proposal of LILO of one ckt of 400 kV Ludhiana – Koldam D/C line at 400kV Ropar SS (6.747 km)regd.		
S. No	Reference No.	Dated
(i)	PSTCL: Endst. No. 3707	29.02.2024
(ii)	PSTCL Letter: Memo No.- 5001	02.05.2024
(iii)	PSTCL Email	16.05.2024
(iv)	BSNL: DE/PTCC/ND/DV-10320/PB-943/2024-2025	08.05.2024
(v)	Northern Railway: 342-SIG/1/PTCC/2023-24/03/02	06.03.2024
(vi)	Defense: B/46937/Sigs 7(b)/3768	02.05.2024

The PTCC proposal submitted vide reference (i), (ii) and (iii) has been examined. The LF induction on communication circuits of Northern Railway with respect to details furnished vide above reference (v) have been computed. The voltage likely to be induced on paralleling communication cables of Northern Railway under Single Line to Ground fault condition are enclosed at Annexure-I. The screening factors as applicable have been considered.

DET PTCC, BSNL (NZ) vide reference (iv) and DG Signals; MoD vide reference (vi) has issued No Objection Certificate (NOC)

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
400 kV Ropar SS	207.5	35	0.3	4859	3144	104	10

As per the details submitted by BSNL vide reference (iv) above, no telephone exchanges are falling in the EPR zone of the proposed substation.

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

Encl.: As above

Chief Engineer

To,

1.	Divisional Engineer (PTCC), Northern Zone	BSNL O/o PGM (N), QA & Inspection Circle, D-Tax Building, Eastern Court, Janpath, New Delhi 110001	
2.	GM/S&T	Northern Railway, Headquarter Office, Baroda House, New Delhi	
3.	Chief Engineer	3 rd Floor, Shakti Sadan, Opp. Kali Mata Mandir, Patiala - 147001	Copy For Information

CEA Case No.: PNB-387 Name of the Power line: LILO of one ckt of 400 kV Ludhiana – Koldam D/C line at 400kV Ropar SS			Map Scale : 1 cm= 500 m Total Length : 6.747 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.
Northern Railway Letter No.: 342-SIG/1/PTCC/2023-24/03/02 Date: 06.03.2024					
1	Rup Nagar – Ghanauli	1.132	0.0001	33951	3
2	Ghanauli – Bharatgarh	5.754	0.0082	32686	268
3	Bharatgarh – Kiratpur Sahib	Out of Parallelism			