



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
Division

CEA Case No. : PNB-379		
Induced Voltage (IV) calculation for LILO of 220 kV Jamalpur - Dhandari Kalan Transmission line at 220 kV Sherpur S/s. [Length- 1.880 km]– Regd.		
S. No	Reference No.	Dated
(i)	PSTCL: 1118/TS-II	28.10.2022
(ii)	PSTCL: e-Mail	20.03.2025
(iii)	BSNL: DET/PTCC/ND/DV-10144/PB-935/2023-2024/	04.11.2023
(iv)	Northern Railway: 342-SIG/1/PTCC/2022-23/10/07	26.10.2022
(v)	Defense: B/46937/Sigs7(b)/3575	14.12.2023

The PTCC proposal submitted vide reference (i) & (ii) has been examined. The LF induction on block & telecom circuits of Northern Railway with respect to details furnished vide above references (iv) has been computed. The voltages likely to be induced on paralleling block & telecom circuits 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 & DG Signals, MoD has issued No Objection Certificate (NOC) vide reference (iii) & (v) respectively.

EPR zone for proposed S/S is mentioned below:

Name of the proposed Substation	Half diagonal distance, D/2 (mts)	Fault Current I (KA)	Resistance of Earth Mat, R (ohms)	d (mts) at 430 V	d (mts) at 650 V	d (mts) at 7kV	d (mts) at 10kV
220 kV Sherpur S/s	73	50	0.3	2474	1612	83	37

As per the Telecom Details submitted by BSNL vide above reference (iii), no telephone exchange of BSNL is falling within the EPR zone of proposed Substation.

Taking above into consideration, necessary action for issuance of PTCC route approval (RAC) shall be taken under intimation to this office in the stipulated period as specified in PTCC Manual and subsequent CLPTCC meetings

Chief Engineer

To,

1.	Divisional Engineer (PTCC), Northern Zone	O/o PGM(N), QA & Inspection Circle D-Tax Building, Eastern Court Jan path, New Delhi	
2.	GM (S&T) Northern Zone	Northern Railway HQ, Baroda House New Delhi	
3.	Addl. S.E/TS-II PSTCL	O/o C.E/TS, 3 rd Floor Shakti Sadan, Patiala	Copy for information

ANNEXURE-I

CEA Case No.: PNB-379			Map Scale : 1 cm= 500 m		
Name of the Power line: LILO of 220 kV Jamalpur - Dhandari Kalan Transmission line at 220 kV Sherpur S/s.			Total Length : 1.880 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: 342-SIG/1/PTCC/2022-23/10/07

Dated 26.10.2022

Affected Blocks & Telecom Circuits Details

1.	Philaur R/s to Ladhowal R/s	Out of Parallelism			
2.	Ladhowal R/s to Ludhiana R/s	Out of Parallelism			
3.	Ludhiana R/s to Dhandari Kalan R/s	1.0	0.0007	18500	13
4.	Dhandari Kalan R/s to Sahnewal R/s	Out of Parallelism			
5.	Sahnewal R/s to Doraha R/s	Out of Parallelism			
6.	Doraha R/s to Chawapail R/s	Out of Parallelism			
7.	Ludhiana R/s to Model Gram R/s	Out of Parallelism			
8.	Model Gram R/s to Badowal R/s	Out of Parallelism			
9.	Ludhiana R/s to Gill R/s	Out of Parallelism			
10.	Gill R/s to Jassowal R/s	Out of Parallelism			