

I/32899/2024



सत्यमेव जयते

भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
विद्युत संचार विकास प्रभाग
Power Communication Development Division

CEA Case No. : PNB-380		
Induced Voltage (IV) calculation for 220 kV D/C Transmission Line from 400 kV Dhanasu S/s to 220 kV Doraha S/s using existing LILO portion of 220 kV RTP-Sahnewal at 220 kV Gaunsgarh S/s – Regd.		
S. No	Reference No.	Dated
(i)	PSTCL: 61/T.S-II	18.01.2023
(ii)	PSTCL: 3299	02.01.2024
(iii)	BSNL: DET/PTCC/ND/DV-10193/PB-937/2023-24/ (Received vide PSTCL e-mail dated 02.01.2024)	07.06.2023
(iv)	Northern Railway: 342-SIG/1/PTCC/2022-23/02/02	07.02.2023
(v)	Defense: B/46937/Sigs7(b)/3196	07.07.2023

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

EPR zone for 220 kV 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
400 kV Dhanasu S/s	243	35	0.3	5691	3682	122	12

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 400 kV Substations.

Taking above into consideration, necessary action regarding issuance of PTCC approval for the subject cited transmission line may be taken under intimation to this office.

Encl.: As above

Director

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To,

1.	Divisional Engineer (PTCC), Northern Zone	O/o PGM(N), QA & Inspection Circle D-Tax Building, Eastern Court Janpath, New Delhi	
2.	GM (S&T) Northern Zone	Norther 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

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ANNEXURE-I

CEA Case No.: PNB-380			Map Scale : 1 cm= 500 m		
Name of the Power line: 220 kV D/C Transmission Line from 400 kV Dhanasu S/s to 220 kV Doraha S/s using existing LILO portion of 220 kV RTP-Sahnewal at 220 kV Gaunsgarh S/s			Length : 28.842 km		
			S.R. Value : 5000 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/2022-23/02/02 Dated 07.02.2023					
<u>Affected Blocks & Telecom Circuits Details</u>					
1	Ludhiana R/s to Dhandari Kalan R/s	-Out of Parallelism-			
2	Dhandari Kalan R/s to Sahnewal R/s	-Out of Parallelism-			
3	Sahnewal R/s to Doraha R/s	4.70	0.0008	15200	12
4	Doraha R/s to Chawa Pail R/s	5.0	0.0031	21200	66
5	Chawa Pail R/s to Khanna R/s	-Out of Parallelism-			