



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. : HRA-252		
Induced Voltage (IV) calculation for PTCC proposal of 220 kV D/C line from 400 kV Jajji (PG) to 220 kV HSIIDC Rai GIS (Length: 25.763 km)- regd		
S. No	Reference No.	Dated
(i)	Ch.159/CW-520-VOL-I	30.11.2023
(ii)	Ch.96/CW-543	25.01.2024
(iii)	HVPN E-mail	09.02.2024
(iv)	BSNL: DET/PTCC/ND/DV-10300/HR-883/2023-2024	23.01.2024
(v)	Northern Railway: 342-SIG/1/PTCC/2023-24/12/05	21.12.2023

The PTCC proposal submitted vide reference (i) has been examined. The LF induction on Block and Telecom circuits of Northern Railway with respect to details furnished vide above reference (iv) respectively have 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 (PTCC), NZ, BSNL has issued No Objection Certificate (NOC) vide reference (iii).

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
220 kV HSIIDC Rai GIS	77.5	30.78	0.212	1099	701	NA	NA

As per the details submitted by BSNL vide reference (iii) above, no telephone exchange is falling in the EPR zone of the proposed substations.

Telecommunication details from DG Signals, MoD are awaited however, vide reference (ii) above, HVPN have informed that all construction related work of the transmission line has completed and the line is awaiting charging due to want of PTCC approval. So as to charge the subject cited transmission line as per schedule, HVPN has requested for issuance of provisional PTCC clearance.

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Taking above into consideration, necessary action for issuance of provisional PTCC route approval may be taken under intimation to this office. LF induction on telecommunication circuits of Defense, will be communicated after the receipt of details from DG Signals, MoD.

Encl.: As above

Chief Engineer

To,

1.	Divisional Engineer (PTCC), Northern Zone	BSNL, O/o GM (North), QA & Inspection Circle D-Tax Building, Eastern Court, Janpath New Delhi-110001
2.	GM (S&T)	Headquarter Office, Baroda House, New Delhi
3.	Executive Engineer	TS Division, HVPN, Panipat

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ANNEXURE-I

CEA Case No.: HRA-252			Map Scale : 1 cm= 500 m		
Name of the Power line: 220 kV D/C line from 400 kV Jajji (PG) to 220 kV HSIIDC Rai GIS			Total Length : 25.763 km		
			S.R. Value : 25000 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/2023-24/12/05 Dated 21.12.2023					
<u>Affected Blocks & Telecom Circuits Details</u>					
1.	Holambi Kalan R/S to Narela R/S	Out of parallelism			
2.	Narela R/S to Rathdhana R/S	Out of parallelism			
3.	Rathdhana R/S to Sonipat R/S	7.8	0.01273	20660	263
4.	Sonipat R/S to Sandal Kalan R/S	3.9	0.000923	15168	14