



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-257		
Induced Voltage (IV) Calculation for PTCC proposal of 220 kV D/C line from ± 800 kV HVDC Kurukshetra (Bhadson) SS of PGCIL to 220 kV Ramana-Ramani S/s (Length: 23.409 kms).		
S. No	Reference No.	Dated
(i)	Ch-71/EST-40/220	09.09.2024
(ii)	BSNL: DE/PTCC/ND/DV-10399/HR-888/2023-24	21.09.2024
(iii)	Northern Railway: 342-SIG/1/PTCC/2024-25/09/05	24.09.2024
(iv)	Defense: B/46937/Sigs 7(b)/4163	06.02.2025

The PTCC proposal submitted vide reference (i) has been examined. The LF induction on communication circuits of Northern Railway with respect to details furnished vide above reference (iii) has 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), NZ, BSNL vide reference (ii) and DG Signals, MoD vide reference (iv) have given their NOC for charging the line.

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 Ramana-Ramani Substation	156.7	28	0.121	1078	660	NA	NA

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.

As per the decision taken in 111th and 112th CLPTCC meeting, necessary instructions for "Deemed Energization approval" shall be specified while issuing RAC.

Encl.: As above

Chief Engineer

To,

1.	Divisional Engineer (PTCC), Northern Zone	BSNL, O/o PGM(North), QA & Inspection Circle D-Tax Building, Eastern Court, Janpath New Delhi-110001
2.	GM (S&T), Northern railway	Baroda House, Railway HQ, New Delhi
3.	Executive Engineer	Transmission System Division, HVPNL, Karnal

ANNEXURE-I

CEA Case No.: HRA-257 Name of the Power line: 220 kV D/C line from \pm 800 kV HVDC Kurukshetra (Bhadson) SS of PGCIL to 220 kV Ramana-Ramani S/s			Map Scale : 1 cm= 500 m Total Length : 23.409 km S.R. Value : 15000 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/2024-25/09/05 Date: 24.09.2024					
1	Kurukshetra to Amin	Out of parallelism			
2	Amin to Nilokheri	3.7	0.0076	22895	174
3	Nilokheri to Taraori	Out of parallelism			
4	Taraori to Baini Khurd	Out of parallelism			