



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.: UP-667		
Induced Voltage (IV) calculation for PTCC proposal of 220 kV S/C Sahupuri-Bhadohi Transmission Line. (Length-75.863 km)- regd.		
S. No	Reference No.	Dated
(i)	UPPTCL: 2491/ETD-I(V)/	23.12.2024
(ii)	UPPTCL: 65/ETD-I(V)/	13.01.2025
(iii)	UPPTCL: 161/ ETD-I(V)/	01.02.2025
(iv)	BSNL:DET-PTCC/NZ/BSNL-TD/DV-10446/UP-1209/2024-25/	03.01.2025
(v)	North Central Railway: NCR/S&T/2074/Telecom/PTCC(Part-2)	14.11.2024
(vi)	East Central Railway: 231185/135	22.10.2024
(vii)	Defense: B/46937/Sigs7(b)/4223	11.12.2024

The PTCC proposal submitted vide reference (i), (ii) & (iii) has been examined. The LF induction on Block and Telecom circuits of North Central Railway & East Central Railway with respect to details furnished vide above reference (v) & (vi) has been computed. The voltage likely to be induced on paralleling Block and Telecom circuits of North Central Railway & East Central Railway under Single Line to Ground fault condition are enclosed at Annexure-I & Annexure-II respectively. The screening factors as applicable have been considered. DET-PTCC, BSNL NZ & DG Signals, MoD has issued No Objection Certificate (NOC) vide reference (iv) & (vii) 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
220 kV Bhadohi S/s	76	24	0.08	256	145	N.A	N.A

As per the Telecom Details submitted by BSNL vide above reference (iv), 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.

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

Chief Engineer

To,

1.	Divisional Engineer (PTCC), Northern Zone	BSNL, O/o PGM(North), QA & Inspection Circle D-Tax Building, Jan path, New Delhi	
2.	GM (S&T)	O/o GM (S&T), North Central Railways Prayagraj	
3	GM (S&T)	O/o GM (S&T), East Central Railways Hajipur	
4.	Executive Engineer	O/o Executive Engineer UPPTCL, Varanasi	Copy for information

ANNEXURE-I

CEA Case No.: UP-667 Name of the Power line: 220 kV S/C Sahupuri to Bhadohi Transmission Line.			Map Scale : 1 cm= 500 m Total Length : 75.863 km S.R. Value : 20000 Ohm-cm		
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.

North Central Railway Letter No: NCR/S&T/2074/Telecom/PTCC(Part-2)					Dated 14.11.2024
1.	DDU R/s to BH'K' R/s	1.5	0.0052	18800	67
2.	BH'K'R/s to Jeonathpur R/s	2.0	0.0043	18000	77
3.	Jeonathpur R/s to Ahraura Road R/s	4.0	0.0054	17500	95
4.	Ahraura Road R/s to Kailhat R/s	3.5	0.0040	16200	65

ANNEXURE-II

CEA Case No.: UP-667 Name of the Power line: 220 kV S/C Sahupuri to Bhadohi Transmission Line.			Map Scale : 1 cm= 500 m Total Length : 75.863 km S.R. Value : 20000 Ohm-cm		
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.

East Central Railway Letter No: 231185/135			Dated 22.10.2024		
1.	DDU R/s to Ganj Khawaja R/s	2.0	0.0025	18800	47