



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-675		
Induced Voltage (IV) calculation for PTCC proposal of 400 kV D/C Jalpura – THDC TPS Khurja Transmission Line [Length-80.85 km] - Regd.		
S. No	Reference No.	Dated
(i)	M/s TPJKPTL: TPJKPTL/PTCC/Main/TL/40	21.06.2025
(ii)	M/s TPJKPTL: e-Mail	19.11.2025
(iii)	BSNL:DET-PTCC/NZ/BSNL-TD/DV-10613/UP-1247/2025-26/	13.11.2025
(iv)	North Central Railway: NCR/S&T/2074/Telecom/PTCC(Part-2)	11.08.2025
(v)	Defense: B/46937/Sigs7(b)/4907	10.10.2025

The PTCC proposal submitted vide reference (i) & (ii) has been examined. The LF induction on Block and Telecom circuits of North Central 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 North Central 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 vide reference (iii) has mentioned that only BTS and Un-Armored OFC is present within 8km boundary and hence, IV computation is not done. DG Signals, MoD has issued No Objection Certificate (NOC) vide reference (v).

EPR zone for 400 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 Jalpura S/s	77	63	0.07	710	448	N.A	N.A

As per the Telecom Details submitted by BSNL vide above reference (iii), no telephone exchange/BTS 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	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.	Project Manager M/s TP Jalpura Khurja Power Transmission Limited	Plot No-181, Ground Floor, Block-K Mangolpuri, Delhi	Copy for information

ANNEXURE-I

CEA Case No.: UP-675		Map Scale : 1 cm= 500 m			
Name of the Power line: 400 kV D/C Jalpura – THDC TPS Khurja Transmission Line.		Total Length : 80.85 km			
		S.R. Value : 7500 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 11.08.2025
1.	Chhipyana Buzurg R/s to Maripat R/s	-Out of Parallelism-			
2.	Maripat R/s to Dadri	5.0	0.0015	42000	63
3.	Dadri R/s to Ajaobpur	7.5	0.0013	39500	51
4.	Ajaibpur R/s to Dankaur	3.0	0.0005	38000	19
5.	Dankaur R/s to Wair	6.5	0.0011	36400	40
6.	Wair R/s to Chola	4.0	0.00167	37000	62
7.	Chola R/s to Sikandpur	5.5	0.0016	36000	58
8.	Sikandpur R/s to Khurja	5.0	0.0018	38000	68
9.	Khurja R/s to Danwar	6.5	0.0019	44000	84
10.	Danwar R/s to Somna	-Out of Parallelism-			