

I/31290/2023



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. : MP-504		
Induced Voltage (IV) calculation in respect of PTCC proposal for 400 kV D/C Pachora – Bhopal Transmission Line (143.954 km) - regd.		
S. No	Reference No.	Dated
(i)	M/s Rajgarh Transmission Ltd: GRIL/PT/TBCB/RERA/2022-23/RTL-99	17.01.2023
(ii)	M/s Rajgarh Transmission Ltd: GRIL/PT/TBCB/RERA/2022-23/RTL-489	17.10.2023
(iii)	M/s Rajgarh Transmission Ltd: Email	26.10.2023
(iv)	BSNL: PTCC/WR/2021-22/MP-802	16.05.2023
(v)	West Central Railway: WCR/N-HQ/120 PTCC-CORR-T-50-Pt-III Case 377	31.05.2023

The PTCC proposal submitted vide reference (i) & (iii) has been examined. Vide reference (iv) above, BSNL has intimated that there are no O/H as well as U/G cable existing within vicinity of 8 km near the proposed power line. The LF induction on communication circuits of West Central Railway with respect to details furnished vide above reference (v) have been computed. The voltages likely to be induced on paralleling communication cables of West Central Railway under Single Line to Ground fault conditions are enclosed at Annexure-I. The screening factors as applicable have been considered.

EPR details for the proposed substations are given 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
400/220 kV Pachora	172.72	44.1	0.22	3724.32	2405.32	66.67	NIL

As per the details submitted by BSNL, no telecom exchanges are falling within the EPR zone of the proposed substation.

Telecommunication details from Defense are awaited, however, M/s Rajgarh Transmission Ltd have shown urgency for charging the transmission line vide above reference (ii).

Taking above into consideration, necessary action for issuance of provisional PTCC route approval may be taken under intimation to this office.

Encl.: As above

Director

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To,

1.	Divisional Engineer (PTCC), Western Zone	QA & Inspection circle, 1 st floor, D- wing, BSNL Admin Bldg., Junu Tara Road, Santacruz (West), Mumbai-400054	
2.	GM (S&T)	West Central Railway, O/o GM(S&T), 1 st floor, Annex II Building, Jabalpur	
3.	Lt. Col., GSO 1 (Comm)	Directorate General of Signals, Signals 7, General Staff Branch, Integrated HQ of MoD (Army), DHQ PO, New Delhi – 110011	With a request to forward TD/NOC at the earliest for IV calculation and recommendation for Final RAC
4.	M/s Rajgarh Transmission Ltd	2 nd floor, Novus Tower, Plot no. 18, Sector 18, Gurugram - 122015	Copy for information

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ANNEXURE-I

CEA Case No.: MP-504 Name of the Power line: 400 kV D/C Pachora – Bhopal Transmission Line		Map Scale : 1 cm= 500 m Total Length : 143.954 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.
West Central Railway Letter No: WCR/N-HQ/120 PTCC-CORR-T-50-Pt-III Case 377 Date: 31.05.2023					
1	Pachor Road – Parhanamau	3.5	0.0012	29167	34
2	Parhanamau - Sarangpur	4.1	0.0071	30282	215
3	Sarangpur - Shajapur	Out of parallelism			0