



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-516B		
Induced Voltage (IV) calculation for PTCC proposal of Diversion of 400 kV Vindhyachal – Satna Ckt 3 & 4 between Tower location No. 114 and 148 [Length- 10.586 km]– Regd.		
S. No	Reference No.	Dated
(i)	PGCIL: Vindhyachal/TLM/7087	05.07.2024
(ii)	PGCIL: Vindhyachal/TLM/7110	25.07.2024
(iii)	PGCIL: e-Mail	29.08.2024
(iv)	BSNL: IC/MBI/PTCC/MP	29.07.2024
(v)	West Central Railway: WCR/N-HQ/120 PTCC-T-50-Pt-III Cases-402	11.03.2024
(vi)	Defense: B/46937/Sigs7(b)/3724	09.04.2024

The PTCC proposal for Diversion of ckt 3&4 of 400 kV DC Transmission line submitted vide reference (i), (ii) and (iii) has been examined. The LF induction on Block and Telecom circuits of BSNL & West Central Railway with respect to details furnished vide above reference (iv) & (v) has been computed. The voltage likely to be induced on paralleling Block and Telecom circuits of BSNL & West 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. DG Signals, MoD has issued No Objection Certificate (NOC) vide reference (vi) (attached as Annexure –III).

As per the details submitted by BSNL vide reference (iv) above, no telephone exchanges are falling in the EPR zone of the proposed substation.

All Sub stations are existing therefore EPR calculation is not warranted. Taking above into consideration, necessary action regarding issuance of PTCC approval for the subject cited transmission line may be taken under intimation to this office.

Encl.: As above

Chief Engineer

To,

1.	Divisional Engineer (PTCC), Western Zone	QA & Inspection circle, 1 st floor, D- wing, BSNL Admin Bldg., Junu Tara Road, Santa Cruz (West), Mumbai-400054	
2.	GM (S&T) West Central Railway	1 st Floor , Annex II building, P.F. No. 6, Jabalpur	
3.	General Manager(PGCIL)	Vindhyachal TL office, NH-3, NTPC Township, Vindhyanagar , Distt.- Singrauli (MP)	Copy for information.

ANNEXURE-I

CEA Case No.: MP-516B			Map Scale : 1 cm= 500 m		
Name of the Power line: Diversion of 400 kV Vindhyachal – Satna Ckt 3 & 4 between Tower location No. 114 and 148			Length : 10.586 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.
BSNL Letter No: IC/MBI/PTCC/MP Dated 29.07.2024					
1	Sarai – Rajmilan				IV calculation NOT required (All unarmored OFC cables)
2	Bargawan –Devra				
3	Devra – Tingudi				
4	Tingudi – Makri				
5	Makri – Obari				
6	Devra –Ujjaini				
7	Ujjaini – Pachore				
8	Gajra Bahera – Bakhul				
9	Ujjaini - Majhauri				

ANNEXURE-II

CEA Case No.: MP-516B			Map Scale : 1 cm= 500 m		
Name of the Power line: Diversion of 400 kV Vindhyachal – Satna Ckt 3 & 4 between Tower location No. 114 and 148			Length : 10.586 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.
West Central Railway Letter No: WCR/N-HQ/120 PTCC-T-50-Pt-III Cases-402 Dated 11.03.2024					
1	Saraigram - Gajarahara	Outside IV consideration zone			
2	Gajarahara-Deoragram	3.34	0.0024	28195	68
3	Deoragram – Majhouli	1.56	0.0043	28391	122
4	Majhouli - Bargawan	Outside IV consideration zone			