



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. : RAJ-741		
Induced Voltage (IV) calculation for 220 kV D/C Baran to Kelwara Transmission Line [Length- 57.307 km]– Regd.		
S. No	Reference No.	Dated
(i)	RRVPNL: RVPN/SE(QC,Insp.&Montg.)/XEN(PTCC)/F.1994-A-00202-RajkajNo-8303599	24.06.2024
(ii)	RRVPNL: e-Mail	08.07.2025
(iii)	BSNL: DET/PTCC/ND/DV-10345/RAJ-1464/2024-2025/	27.06.2024
(iv)	West Central Railway: WCR-N/HQ/120/PTCC/CORR/T-50-Pt-III,	29.04.2024
(v)	Defense: B/46937/Sigs7(b)/37834	28.05.2024

The PTCC proposal submitted vide reference (i) and (ii) has been examined. The LF induction on Block and Telecom circuits of West 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 West Central Railway under Single Line to Ground fault condition are enclosed at Annexure-I. The screening factors as applicable have been considered. DET (NZ), BSNL and DG Signals, MoD has issued No Objection Certificate (NOC) vide reference (iii) & (V) respectively.

EPR zone for 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 Kelwara S/s	132	17.738	0.361	1834	1168	N.A	N.A

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 GM (North), QA & Inspection Circle D-Tax Building, Eastern Court, Janpath New Delhi-110001	
2.	GM (S&T) WCR	West Central Railway, 1 st Floor Annex Building PF No 6, Jabalpur	
3.	SE (QC, Insp. & Montg.)	Room No 320, Vidyut Bhawan, Jyoti Nagar Jaipur- Rajasthan	Copy for information.

ANNEXURE-I

CEA Case No.: RAJ-741			Map Scale : 1 cm= 500 m		
Name of the Power line: 220 kV D/C Baran to Kelwara Transmission Line			Total Length : 57.307 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.
West Central Railway: WCR-N/HQ/120/PTCC/CORR/T-50-Pt-III, Dated 29.04.2024					
<u>Affected Blocks & Telecom Circuits Details</u>					
1.	Antah to Bijora	Out of Parallelism			
2.	Bijora to Sundlak				
3.	Sundlak to Baran	5.5	0.0038	22500	86
4.	Baran to Chhajawa	9.0	0.0134	18500	248
5.	Chhajawa to piplod Road	Out of Parallelism			