



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-852		
Induced Voltage (IV) calculation for LILO of 220 kV S/C Bhadra to Chirawa Transmission Line at 220 kV Chainpura Chota S/s [Length- 4.52 km]– Regd.		
S. No	Reference No.	Dated
(i)	RRVPNL: RVPN/SE(QC,Insp.&Montg.)/XEN(PTCC)/F.2107-A-00392-RajkajNo-15116339	06.05.2025
(ii)	RRVPNL: e-Mail	08.09.2025
(iii)	BSNL: DE/PTCC/NZ/DV-10588/RAJ-1611/2025-26/	26.08.2025
(iv)	North Western Railway: SG/158/NWR/PTCC/1132	17.07.2025
(v)	Defense: B/46937/Sigs7(b)/40803	26.06.2025

The PTCC proposal submitted vide reference (i) and (ii) has been examined. The LF induction on Block and Telecom circuits of North Western 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 Western 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
220kV Chainpur Chota S/s	144	25	0.339	2694	1734	20	NA

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) NWR	O/o S&T, Room No 136, North Western Railway Near Jawahar Circle, Jaipur	
3.	SE (QC, Insp. & Montg.)	Room No 320, Vidyut Bhawan, Jyoti Nagar Jaipur- Rajasthan	Copy for information.

ANNEXURE-I

CEA Case No.: RAJ-852			Map Scale : 1 cm= 500 m		
Name of the Power line: LILO of 220 kV S/C Bhadra to Chirawa Transmission Line at 220 kV Chainpura Chota S/s.			Total Length : 4.52 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 Western Railway: SG/158/NWR/PTCC/1132			Dated 17.07.2025		
<u>Affected Blocks & Telecom Circuits Details</u>					
1.	Sdulpur to Suratpura Jn.		Out of Parallelism		
2.	Suratpura Jn. to Narwasi		Out of Parallelism		
3.	Narwasi to Sidhmukh		Out of Parallelism		