



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-793 & MP-530		
Induced Voltage (IV) calculation for PTCC proposal of 220 kV D/C Transmission Line from 220 kV Neemuch (PGCIL) S/s to Chanderiya (HZL Switching) S/s [Length- 64.17 km]- Regd.		
S. No	Reference No.	Dated
(i)	Hindustan Zinc Limited: HZL/SPTL/NCTL/2024/20	14.10.2024
(ii)	Hindustan Zinc Limited: e-mail	13.11.2025
(iii)	BSNL: DE/PTCC/NZ/ BSNL-TD/DV-10537/RAJ-1587/2025-26	13.05.2025
(iv)	BSNL: IC/MBI/PTCC/MP	10.01.2025
(v)	West Central Railway: WCR-N/HQ/120/PTCC/CORR/T-50-Pt-III,Case-429	02.01.2025
(vi)	Defense: B/46937/Sigs7(b)/4243 (Received via e-mail dated:13.11.2025)	19.02.2025

The PTCC proposal submitted vide reference (i) & (ii) has been examined. The LF induction on Block and Telecom circuits of BSNL (as submitted by DET-PTCC, WZ) & 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 (as submitted by DET-PTCC, WZ) & 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. DET-PTCC, NZ BSNL and DG Signals, MoD has issued No Objection Certificate (NOC) vide reference (iii) & (vi) 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
220/132 kV HZL Switching S/s	110	50	0.0844	970	604	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.	Divisional Engineer (PTCC), Western Zone	QA & Inspection circle, 1 st floor, D- wing, BSNL Admin Bldg., Junu Tara Road, Santa Cruz (West), Mumbai-400054	
3.	GM (S&T) WCR	O/o GM (S&T), 1st Floor Annex-II Building, Jabalpur	
4	Chief Manager- Projects	Hindustan Zinc Limited Udaipur, Rajasthan	Copy for information.

ANNEXURE-I

CEA Case No.: RAJ-793 & MP-530			Map Scale : 1 cm= 500 m		
Name of the Power line: 220 kV D/C Transmission Line from 220 kV Neemuch (PGCIL) S/s to Chanderiya (HZL Switching) S/s			Total Length : 64.17 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.
BSNL: IC/MBI/PTCC/MP			Dated 10.01.2025		
<u>Affected Blocks & Telecom Circuits Details</u>					
1.	Jaat Exchange to Khaatikheda (24 F OFC is assumed to be armored)	5.0	18000	0.0056	101

ANNEXURE-II

CEA Case No.: RAJ-793 & MP-530			Map Scale : 1 cm= 500 m		
Name of the Power line: 220 kV D/C Transmission Line from 220 kV Neemuch (PGCIL) S/s to Chanderiya (HZL Switching) S/s			Total Length : 64.17 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: WCR-N/HQ/120/PTCC/CORR/T-50-Pt-III,Case-429			Dated 02.01.2025		
<u>Affected Blocks & Telecom Circuits Details</u>					
1.	Parsoli R/s to Bassi Berisal R/s	2.0	0.0041	21500	88