



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. : MP-549		
Induced Voltage (IV) calculation for LILO of 765 kV S/C Satna-Gwalior Transmission Line at 765 kV Karera S/s [Length- 42.745 km]– Regd.		
S. No	Reference No.	Dated
(i)	KPTL: KPTL/TL/PTCC/18	03.04.2025
(ii)	KPTL: e-Mail	02.07.2025
(iii)	BSNL: IC/MBI/PTCC/MP	26.08.2025
(iv)	North Central Railway: NCR/S&T/2074/Telecom/PTCC(Part-2)	22.09.2025
(v)	Defense: B/46937/Sigs7(b)/4677	29.07.2025

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

EPR zone for proposed 765 kV 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
765 kV Karera S/s	255	24	0.124	1516	916	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.

Signed by Suman Kumar
Maharana
Date: 04-11-2025 17:16:40
Chief Engineer

To,

1.	Divisional Engineer (PTCC), Western Zone	QA & Inspection circle, 1 st floor, D- wing, BSNL Bldg., Santa Cruz (West), Mumbai-400054	
2.	GM (S&T) North Central Railway	O/o PCSTE, S&T Dept. North Central Railway Ganga Parisar, Prayagraj	
3.	Lead – S.T.L Construction M/s Karera Power Transmission Limited	T-15A, Third Floor, Salcon Rasvillas Saket, New Delhi, India	Copy for information

ANNEXURE-I

CEA Case No.: MP-549			Map Scale : 1 cm= 500 m		
Name of the Power line: LILO of 765 kV S/C Satna-Gwalior Transmission Line at 765 kV Karera S/s.			Total Length : 42.745 km		
			S.R. Value : 50000 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 Central Railway: NCR/S&T/2074/Telecom/PTCC(Part-2)			Dated 22.09.2025		
<u>Affected Blocks & Telecom Circuits Details</u>					
1.	Kotra R/s to Sonagir R/s	2.0	0.003	16000	48
2.	Sonagir R/s to Datia R/s	-Out of Parallelism-			