



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**

\*\*\*\*\*

<b>CEA Case No. : UP-645</b>		
<b>Induced Voltage(IV) calculation for PTCC proposal of LILO of Ckt-I of 400 kV D/C Orai (PGCIL) to Orai Transmission Line at 400 kV Garautha S/s [Length-51.965 km] - Regd.</b>		
<b>S. No</b>	<b>Reference No.</b>	<b>Dated</b>
(i)	UPPTCL: 237/ETDJ	12.02.2024
(ii)	UPPTCL: e-Mail	12.08.2024
(iii)	BSNL: DET/PTCC/ND/DV-10350/UP-1189/2023-2024/	11.07.2024
(iv)	Northern Central Railway: NCR/S&T/2074/Telecom/PTCC(Part-2)	10.07.2024
(v)	Defense: B/46937/Sigs7(b)/3745	18.04.2024

The PTCC proposal submitted vide reference (i) & (ii) has been examined. The LF induction on block & telecom circuits of North Central Railway with respect to details furnished vide above references (iv) has been computed. The voltages likely to be induced on paralleling block & 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 NZ,BSNL and DG Signals, MoD have issued No Objection Certificate (NOC) vide reference (iii) & (v) respectively.

EPR zone for 400 kV 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
400 kV Garautha S/s	188	37.8	0.07	969	577	N.A	N.A

As per the Telecom Details submitted by BSNL vide above reference (iii), no telephone exchange of BSNL is falling within the EPR zone of proposed Substation.

In view of the above, PTCC route approval may be issued for the subject transmission line under intimation to this office.

Encl.: As above

**Chief Engineer**

**To,**

1.	Divisional Engineer (PTCC), Northern Zone	BSNL, O/o PGM(North), QA & Inspection Circle D-Tax Building, Eastern Court, Janpath New Delhi-110001	
2.	GM (S&T)	HQ Office, S&T Branch North Central Railway Prayagraj	Annexure-I
3.	Executive Engineer UPPTCL	ETD-I 132 kV S/s Jhansi	Copy for information.

**ANNEXURE-I**

<b>CEA Case No.:</b> UP-645			<b>Map Scale</b> : 1 cm= 500 m		
<b>Name of the Power line:</b> LILO of Ckt-I of 400 kV D/C Orai (PGCIL) to Orai Transmission Line at 400 kV Garautha S/s.			<b>Total Length</b> : 51.965 km		
			<b>S.R. Value</b> : 7500 Ohm-cm		
<b>S.No.</b>	<b>Telecom. Details</b>	<b>Length of Parallelism in Km.</b>	<b>Mutual Coupling in Ohms.</b>	<b>Effective Fault current in Amps.</b>	<b>I.V in Volts.</b>
Northern Central Railway:NCR/S&T/2074/Telecom/PTCC(Part-2) Dated 10.07.2024					
<b><u>Affected Blocks &amp; Telecom Circuits Details</u></b>					
1	Parauna R/s to Ait R/s		-Out of Parallelism-		
2	Ait R/s to Bhua R/s		-Out of Parallelism-		