



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**  
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CEA Case No. : UP-669		
Induced Voltage (IV) calculation for PTCC proposal of LILO of one circuit of 400 kV D/C Greater Noida to Pali Transmission Line at 400 kV TPJKPTL S/s [Length-0.8 km] - Regd.		
S. No	Reference No.	Dated
(i)	TPJKPTL: TPJKPTL/PTCC/LILO/TL/05	11.02.2025
(ii)	TPJKPTL: TPJKPTL/PTCC/LILO/TL/161	24.09.2025
(iii)	BSNL: DE/PTCC/NZ/ BSNL-TD/DV-10595/UP-1246/2025-26	10.09.2025
(iv)	Northern Railway: 342-SIG/1/PTCC/2025-23/05/05	13.05.2025
(v)	North Central Railway: NCR/S&T/2074/PTCC(Part-2)	29.04.2025
(vi)	NMRC: NMRC/PTCC/?TELE-SIG/Cables/663	24.09.2025

The PTCC proposal submitted vide reference (i) & (ii) has been examined. The LF induction on Block and Telecom circuits of Northern Railway, North Central Railway and Noida Metro with respect to details furnished vide above reference (iv), (v) & (vi) has been computed. The voltage likely to be induced on paralleling Block and Telecom circuits of Northern Railway, North Central Railway and Noida Metro under Single Line to Ground fault condition are enclosed at Annexure-I, Annexure-II and Annexure-III respectively. The screening factors as applicable have been considered.

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 TPJKPTL GIS S/s	73	63	0.0889	878	566	N.A	N.A

As per the Telecom Details submitted by BSNL vide above reference (iii), there is no copper cable or Armored OFC within 8 km boundary and hence IV computation is not done. Six BTS are present within 8 km boundary and they are not falling within the EPR zone of proposed 400 kV S/s.

Telecommunication details from Defense are still pending and vide above reference (ii), transmission utility has shown urgency for charging of line and has requested for provisional PTCC approval. Taking above into consideration, necessary action for issuance of provisional 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 111<sup>th</sup> and 112<sup>th</sup> CLPTCC meeting, necessary instructions for "Deemed Energization approval" shall be specified while issuing provisional RAC.

**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)	Northern Railway Baroda House, New Delhi	
3.	GM (S&T)	North Central Railway HQ Office (S&T Branch), Prayagraj	
4.	JGM (AFC&Tele)	Noida Mtro Rail Corporation Ltd. 3 <sup>rd</sup> Floor, Ganga Shopping Complex Sector-29, Noida	
5	Director General of Signals	General Staff Branch, Integrated HQ, MoD (army), Sena Bhawan, DHQ, PO, New Delhi- 110 105	With a request to provide details of Telecom assets/ NOC at the earliest for issuance of final RAC.
6	CEO- TP Jalupura Kurja Power Transmission Ltd.	Shtabdi Bhawan, B-12&13 Sector-4, Noida	Copy for information.

**ANNEXURE-I**

<b>CEA Case No.:</b> UP-669			<b>Map Scale</b> : 1 cm= 500 m		
<b>Name of the Power line:</b> LILO of one circuit of 400 kV D/C Greater Noida to Pali Transmission Line at 400 kV TPJKPTL S/s.			<b>Total Length</b> : 0.8 km		
			<b>S.R. Value</b> : 2500 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 Railway: 342-SIG/1/PTCC/2025-23/05/05			Dated 13.05.2025		
<b><u>Affected Blocks &amp; Telecom Circuits Details</u></b>					
1	Delhi R/s to Shahdara R/s				-Out of Parallelism-
2	Shahdara R/s to Sahibabad R/s				-Out of Parallelism-
3	Sahibabad R/s to Ghaziabad R/s				-Out of Parallelism-
4	Ghaziabad R/s to Chipyana Buzurg R/s				-Out of Parallelism-
5	Sahibabad R/s to Anand Vihar R/s				-Out of Parallelism-
6	Anand Vihar R/s to Hazrat Nizamuddin R/s				-Out of Parallelism-
7	Ghaziabad R/s to Mahrauli R/s				-Out of Parallelism-
8	Ghaziabad R/s to Guldhar R/s				-Out of Parallelism-
9	Shahdara R/s to Noli R/s				-Out of Parallelism-

**ANNEXURE-II**

<b>CEA Case No.:</b> UP-669			<b>Map Scale</b> : 1 cm= 500 m		
<b>Name of the Power line:</b> LILO of one circuit of 400 kV D/C Greater Noida to Pali Transmission Line at 400 kV TPJKPTL S/s.			<b>Total Length</b> : 0.8 km		
			<b>S.R. Value</b> : 2500 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>
North Central Railway: NCR/S&T/2074/PTCC(Part-2)			Dated 29.04.2025		
<b><u>Affected Blocks &amp; Telecom Circuits Details</u></b>					
1	Dankaur R/s to Maripat R/s	-Out of Parallelism-			

**ANNEXURE-III**

<b>CEA Case No.:</b> UP-669			<b>Map Scale</b> : 1 cm= 500 m		
<b>Name of the Power line:</b> LILO of one circuit of 400 kV D/C Greater Noida to Pali Transmission Line at 400 kV TPJKPTL S/s.			<b>Total Length</b> : 0.8 km		
			<b>S.R. Value</b> : 2500 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>
NMRC: NMRC/PTCC/?TELE-SIG/Cables/663 Dated 24.09.2025					
<b><u>Affected Blocks &amp; Telecom Circuits Details</u></b>					
<b><u>Kanpur-Lucknow Section</u></b>					
1	Train Depot to Metro Depot Station	0.15	0.0006	23400	14
2	Metro Depot Station to GNIDA office Station	0.35	0.0014	22500	32
3	GNIDA office Station to Delta-1 Station	-Out of Parallelism-			
4	Delta-1 Station to Aplha -1 Station	-Out of Parallelism-			
5	Aplha -1 Station to Pari Chowk Station	-Out of Parallelism-			
6	Pari Chowk Station to KP-2 Station	-Out of Parallelism-			
7	KP-2 Station to Sector-148 Station	-Out of Parallelism-			