



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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<b>CEA Case No. : HP-79</b>		
<b>Induced Voltage (IV) calculation for PTCC proposal of LILO of 220 kV Bhakra-Jamalpur Transmission Line at 220 kV Tahliwal (Bathu) S/s [Length 0.281 km]– Regd.</b>		
<b>S. No</b>	<b>Reference No.</b>	<b>Dated</b>
(i)	HPPTCL: HPPTCL/DGM/PTCC-Approval/Vol-9/2025-26/321-27	27.05.2025
(ii)	HPPTCL: e-Mail	10.02.2026
(iii)	BSNL: DE/PTCC/NZ/ BSNL-TD/DV-10621/HP-268/2025-26	26.12.2025
(iv)	Northern Railway: 342-SIG/1/PTCC/2025-26/06/08	06.06.2025
(v)	Defense: B/46937/Sigs7(b)/4821	09.10.2025

The PTCC proposal submitted vide reference (i) and (ii) has been examined. The LF induction on Block and Telecom circuits of Northern 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 Northern 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 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
220 kV Tahliwal S/s	62	21.5	0.413	1228	791	17	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.

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 111<sup>th</sup> and 112<sup>th</sup> CLPTCC meeting, necessary instructions for “Deemed Energization approval” shall be specified while issuing RAC.

Digitally signed by  
Suman Kumar Maharana  
Date: 13-02-2026  
14:02:52  
**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) NR	North Railway, Baroda House Delhi	
3.	DGM & Head Trans Designs	HPPTCL Anu, Hamirpur, H.P	Copy for information.

**ANNEXURE-I**

<b>CEA Case No.:</b> HP-79			<b>Map Scale</b> : 1 cm= 500 m		
<b>Name of the Power line:</b> LILO of 220 kV Bhakra-Jamalpur Transmission Line at 220 kV Tahliwal (Bathu) S/s			<b>Total Length:</b> 0.281 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 Railway: 342-SIG/1/PTCC/2025-26/06/08			Dated 06.06.2025		
<b><u>Affected Blocks &amp; Telecom Circuits Details</u></b>					
1.	Una Himachal R/s to Rai Mehatpur R/s	Out of Parallelism			
2.	Rai Mehatpur R/s to Nangal Dam R/s	Out of Parallelism			
3.	Nangal Dam R/s to Anandpur Sahib R/s	Out of Parallelism			