



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**

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<b>CEA Case No. : RAJ-833</b>		
<b>Induced Voltage (IV) calculation for PTCC proposal of LILO of 220kV S/C Akal- Giral line at 220 kV GSS Sheo (4.12 km)- regd.</b>		
<b>S. No</b>	<b>Reference No.</b>	<b>Dated</b>
(i)	RRVPNL: RVPN/SE (QC, Insp. & Montg.)/XEN (PTCC)/F.2079-A-00350-Rajkaj No.13895825	28.02.2025
(ii)	RRVPNL: RVPN/SE (QC, Insp. & Montg.)/XEN (PTCC)/F.2079-A-00350-Rajkaj No.15565471	27.05.2025
(iii)	Email	17.06.2025
(iv)	BSNL: DE/PTCC/NZ/ BSNL-TD/DV-10544/RAJ-1593/2025-26	05.06.2025
(v)	North Western Railway: SG/158/NWR/PTCC/1080	27.03.2025
(vi)	Defense: B/46937/Sigs 7(b)/4582	23.04.2025

The PTCC proposal submitted vide above references (i), (ii) and (iii) has been examined. The LF induction on Block and Telecom circuits of BSNL 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 BSNL under Single Line to Ground fault condition is enclosed at Annexure-I. The screening factors as applicable have been considered. North Western Railway vide reference (v) and ADG (Telecommunications) vide reference (vi) has issued No Objection Certificate (NOC) for charging of the line.

EPR Zones for proposed substations are mentioned below.

Name of the proposed SS	Half Diagonal Distance, D/2 (mts)	Fault Current, I (k A)	Resistance of earthmat, R (Ohms)	d (mts) at 430 V	d (mts) at 650 V	d (mts) at 7 kV	d (mts) at 10 kV
220kV GSS Sheo	180	25	0.18	1704	1066	NA	NA

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.

Encl.: As above

**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.	Superintending Engineer (QC, Insp. & Montg.)	Vidyut Bhawan , Janpath, Jyoti Nagar, Jaipur- 302205	Copy for information

**ANNEXURE-I**

<b>CEA Case No.:</b> RAJ-833 Name of the Power line: LILO of 220kV S/C Akal – Giral line at 220kV GSS Sheo			<b>Map Scale</b> : 1 cm= 500 m <b>Total Length</b> : 4.12 km <b>S.R. Value</b> : 20000 Ohm-cm		
<b>S.No.</b>	<b>Telecom. Details</b>	<b>Length of Parallelis m in Km.</b>	<b>Mutual Coupling in Ohms.</b>	<b>Effective Fault current in Amps.</b>	<b>I.V in Volts.</b>
<b>BSNL Letter No:</b> DE/PTCC/NZ/ BSNL-TD/DV-10544/RAJ-1593/2025-26      Dated 05.06.2025					
1.	Sheo - Bhiyad	1.65	0.0045	24189	109