



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-575		
Induced Voltage (IV) calculation for PTCC approval of 220 kV D/C Raebareli to Bachrawan Transmission Line [Length– 80.388 km]-Regd.		
S. No	Reference No.	Dated
(i)	UPPTCL: 2339/ETDR/220KVB-R	28.08.2021
(ii)	UPPTCL: 1229/ETDR/	07.11.2023
(iii)	BSNL: DET/PTCC/ND/DV-10080/UP-1055/2022-23/	20.06.2022
(iv)	Northern Railway: 342-SIG/1/PTCC/2021-22/10/05	10.10.2021
(v)	Defense: B/46937/Sigs7(b)/2603	09.11.2021

The PTCC proposal submitted vide reference (i) & (ii) has been examined. The LF induction on Block and Telecom circuits of BSNL & Northern Railway with respect to details furnished vide above reference (iii) & (iv) has been computed. The voltage likely to be induced on paralleling Block and Telecom circuits of BSNL & Northern Railway under Single Line to Ground fault condition are enclosed at Annexure-I & Annexure-II respectively. The screening factors as applicable have been considered. DG Signals, MoD has issued No Objection Certificate (NOC) vide reference (v).

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 Sirsira (Raebareily)S/s	125	28	0.7	5573	3644	225	120

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 regarding issuance of PTCC approval for the subject cited transmission line may be taken 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)	Northern Railway Baroda House, Delhi	
3.	Executive Engineer UPPTCL	ETD 132 kV S/s, Raebareilly	Copy for information.

**ANNEXURE-I**

<b>CEA Case No.:</b> UP-575			<b>Map Scale</b> : 1 cm= 500 m		
<b>Name of the Power line:</b> 220 kV D/C Raebareli to Bachrawan Transmission Line.			<b>Total Length</b> : 80.388 km		
			<b>S.R. Value</b> : 20000 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>

BSNL Letter No: DET/PTCC/ND/DV-10080/UP-1055/2022-23/

Dated 20.06.2022

**Affected Blocks & Telecom Circuits Details**

1	Jaish TE to Bahadurpur Chauraha, 03 Km	-Out of Parallelism-
2	Jaish TE to Bus Stop Chauraha, 01 Km	
3	Karaheri Bazaar TE	
4	Parsadepur TE	

**ANNEXURE-II**

<b>CEA Case No.:</b> UP-575			<b>Map Scale</b> : 1 cm= 500 m		
<b>Name of the Power line:</b> 220 kV D/C Raebareli to Bachrawan Transmission Line.			<b>Total Length</b> : 80.388 km		
			<b>S.R. Value</b> : 20000 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 Letter No: 342-SIG/1/PTCC/2021-22/10/05			Dated 10.10.2021		
<b><u>Affected Blocks &amp; Telecom Circuits Details</u></b>					
1	Rupamau R/s to Fursatganj R/s	-Out of Parallelism-			
2	Fursatganj R/s to Jais R/s	5.5	0.014	13600	190
3	Jais R/s to Bani R/s	-Out of Parallelism-			
4	Bani R/s to Gauriganj R/s	-Out of Parallelism-			
5	Tribediganj R/s to Haiderganj R/s	-Out of Parallelism-			
6	Haiderganj R/s to Chaubsi R/s	-Out of Parallelism-			
7	Chaubsi R/s to Akbarganj R/s	-Out of Parallelism-			