



सत्यमेव जयते

**भारत सरकार**  
**Government of India**  
**विद्युत मंत्रालय**  
**Ministry of Power**  
**केन्द्रीय विद्युत प्राधिकरण**  
**Central Electricity Authority**  
**विद्युत संचार विकास प्रभाग**  
**Power Communication Development Division**

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<b>CEA Case No. : RAJ-730</b>		
<b>Induced Voltage (IV) calculation for 765 kV D/C Bhadla-II to Sikar-II 2nd Transmission Line [Length- 313.873km]- Regd.</b>		
<b>S. No</b>	<b>Reference No.</b>	<b>Dated</b>
(i)	PBSTL: PGNR1/PBSTL/PTCC/40	31.10.2023
(ii)	PGCIL: e-Mail	22.07.2024
(iii)	BSNL: DET/PTCC/ND/RAJ-1477/2024-2025/	14.06.2024
(iv)	North Western Railway: SG/158/NWR/PTCC/939	20.11.2023
(v)	Defense: B/46937/Sigs7(b)/3593	11.12.2023

The PTCC proposal submitted vide reference (i) and (ii) has been examined. The LF induction on Block and Telecom circuits of BSNL & North Western 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 & North Western 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 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
765 kV Sikar-II Substation	659	50	0.037	2176	1216	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.

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 GM (North), QA & Inspection Circle D-Tax Building, Eastern Court, Janpath New Delhi-110001	Annexure-I
2.	GM (S&T) NWR	North Western Railway, Headquarter Office, Room No. 136, First Floor, Near Jawahar Circle, Jaipur - 302017	Annexure-II
3.	PBSTL	PBSTL , Sikar Rajasthan	Copy for information.

**ANNEXURE-I**

<b>CEA Case No.:</b> RAJ-730			<b>Map Scale</b> : 1 cm= 500 m		
<b>Name of the Power line:</b> 765 kV D/C Sikar-II to Bhadla-II 2 <sup>nd</sup> Transmission Line.			<b>Total Length</b> : 313.873 km		
			<b>S.R. Value</b> : 30000 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:** DET/PTCC/ND/RAJ-1477/2024-2025/ Dated 14.06.2024

**Affected Blocks & Telecom Circuits Details**

1.	Danta Ex. to Danta Hospital Cabinet	IV Less than 430 V
2.	Danta Hospital to 132 kV GSS	
3.	Danta Hospital to Danta main bus stand	
4.	Danta Hospital to Suliwayas road pillar	
5.	Danta Hospital to Pansari Mohalla pillar	
6.	Danta Hospital to Jhagdee Sadan pillar	
7.	Danta main bus stand to Madan singh market	
8.	Danta main bus stand to Post office road	
9.	Pansari Mohalla pillar to Chopad PP	
10.	Danta Ex to SBI Pillar	
11.	Danta Ex to Bus Stand Ramgarh	
12.	SBI Pillar Ramgarh to AVVNL Ramgarh	
13.	Bus Stand Ramgarh to SBI Pillar Ramgarh	
14.	SBI Pillar Ramgarh to Ramesh Mandir Ramgarh	
15.	Palsana Ex to Palasana Market	
16.	Palasana Market to Khandela Road	
17.	Khandela Mod to Hospital Pillar	
18.	Hospital Pillar to Choudhary Market	
19.	Palsana Ex to Sundarpura	
20.	Mamta Pillar to Gouvita Road	

21.	Ranoli Ex to Ranoli Bazaar	IV Less than 430 V
22.	Ranoli Ex to Bus Stand	
23.	Ranoli Ex to Trilokpura	
24.	Ranoli Ex to Kochor Road	
25.	Ranoli Ex to Ranoli Bazaar	
26.	Ranoli Ex to Railway Crossing	

**ANNEXURE-II**

CEA Case No.: RAJ-730 Name of the Power line: 765 kV D/C Sikar-II to Bhadla-II 2 <sup>nd</sup> Transmission Line.			Map Scale : 1 cm= 500 m Total Length : 313.873 km S.R. Value : 30000 Ohm-cm		
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
<b>North Western Railway: SG/158/NWR/PTCC/939 Dated 20.11.2023</b>					
<b><u>Affected Blocks &amp; Telecom Circuits Details</u></b>					
1.	Nokhra to Sird	Out of Parallelism			
2.	Sird to Bap	Out of Parallelism			
3.	Nagaur to Badwasi	Out of Parallelism			
4.	Badwasi to Alai	Out of Parallelism			
5.	Alai to Chilo	Out of Parallelism			
6.	Chilo to Nokha	2.5	0.0023	20500	47
7.	Nokha to Surpura	1.5	0.0004	20200	8
8.	Khatu to Khunikhuna	Out of Parallelism			
9.	Khunikhuna to Didwana	Out of Parallelism			
10.	Didwana to Ladnu	2.5	0.0033	28500	94
11.	Ladnu to Surajgarh	Out of Parallelism			
12.	Baori Thikaria to Palsana	Out of Parallelism			
13.	Palsana to Sikar	3.0	0.00309	28400	88