

**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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CEA Case No. : RAJ-714		
Induced Voltage (IV) calculation for PTCC proposal of 765 kV D/C Sikar-II to Aligarh Transmission Line [Length - 264 km]-Regd.		
S. No	Reference No.	Dated
(i)	POWERGRID: NI/Alwar/PASTL/PTCC	07.06.2023
(ii)	POWERGRID e-mail	30.08.2023
(iii)	BSNL: DET/PTCC/ND/DV-10210/Raj-1418/2023-24	23.06.2023
(iv)	North Western Railway: SG/158/NWR/PTCC/916	09.06.2023
(v)	Defense: B/46937/Sigs7(b)/3392	17.08.2023

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. It is also noted from the topo sheet that the Transmission Line is crossing one more Railway Line of North Central Railway, between Hodal Railway Station (Haryana) and Kosi Kalan Railway Station (U.P). Specifics of Induced Voltage for this section is placed at Annexure-III. The screening factors as applicable have been considered. DG Signals, MoD have issued No Objection Certificate (NOC) vide above reference (v).

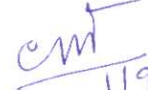
EPR zone for proposed S/S is mentioned below:

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

  
 Director 11/9/23

I/30034/2023<sup>To</sup>,

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) NWR	North Western Railway, Headquarter Office, Room No. 136, First Floor, Near Jawahar Circle, Jaipur - 302017	Annexure-II
3.	GM (S&T) NCR	HQ Office, North Central Railway Ganga Parisar, Subedarganj Prayagraj	Annexure-III
4.	Chief General Manager, POWERGRID	POWERGRID ,Alwar	Copy for information.

ANNEXURE-I

CEA Case No.: RAJ-714			Map Scale : 1 cm= 500 m		
Name of the Power line: 765 kV D/C Sikar-II to Aligarh Transmission Line.			Total Length : 264 km		
			S.R. Value : 2500 Ohm-cm		
S.No.	Telecom. Details	Length of Paralleli sm in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
BSNL: DET/PTCC/ND/DV-10210/Raj-1418/2023-24 Dated 23.06.2023					
<u>Affected Blocks &amp; Telecom Circuits Details</u>					
1.	Kotputli Tele. Exch. To Dable Road				
2.	Kotputli Tele. Exch. To Panchayat Samiti				
3.	Kotputli Tele. Exch. To Nagarpalika Tiraha				
4.	Kotputli Tele. Exch. To Bensur Road				
5.	Kotputli Tele. Exch. To Gopalpur Road				
6.	Kotputli Tele. Exch. To Laxmi Nagar				
7.	Kotputli Tele. Exch. To Nagaji Kigor				
8.	Kotputli Tele. Exch. To Sakti Vihar				
9.	Panchayat Samiti to Krisna Talkies Mor				IV Less than 430V
10.	Nagar Palika Tiraha to Anaaj Mandi				
11.	NH8 chauraha to Anaaj Mandi				
12.	Sardar School to TV Tower				
13.	N.P Tiraha to SDM Office				
14.	TE Route to Holi Gate				
15.	TE Route to Navdya Mod				
16.	Nainital Bank to Court Kotputli				
17.	N.P Tirha to SDM Office				
18.	Badhala ki Dhani (BSNL Office) to Palsana City				

I/30034/2023

Badhala ki Dhani (BSNL Office) to

Govardhanpura

IV Less than 430V

19.	Govardhanpura
20.	Badhala ki Dhani (BSNL Office) to Sundarpura
21.	Palsana City to Khandela Mod
22.	Palsana City to Ramlila Maidaan
23.	Palsana City to Holi Chowk
24.	Palsana City to Holi Chowk
25.	Palsana to Prithipura
26.	Shrimadhapur to Cinema Hall
27.	Cinema Hall to Girls School
28.	Shrimadhapur to Chopar Bazaar
29.	Shrimadhapur to Bajaj Mohla
30.	Bajaj Mohla to Mandi Gate
31.	Shrimadhapur to Bus Stand
32.	Shrimadhapur to Railway Underpass
33.	Shrimadhapur to Jalpali Mod
34.	Shrimadhapur to Jalpali Mod
35.	Mandi Gate to Kabristan
36.	Kabristan to Kalyanpura
37.	Thoi Exchange to Chopad Bazaar
38.	Thoi Exchange to Bus Stand
39.	Thoi Exchange to Thoi Chauraha
40.	Thoi to Jharli
41.	Thoi to Kanwat
42.	Bhadwari to Jawarnagar
43.	Jajad to Srimadhavpura
44.	Khandela to Dhudh Walo ka Bal



I/30034/2023

ANNEXURE-II

CEA Case No.: RAJ-714			Map Scale : 1 cm= 500 m		
Name of the Power line: 765 kV D/C Sikar-II to Aligarh Transmission Line.			Total Length : 264 km		
			S.R. Value : 2500 Ohm-cm		
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.

North Western Railway: SG/158/NWR/PTCC/916 Dated 09.06.2023

Affected Blocks & Telecom Circuits Details

1.	Ajerka to Harsauli		Out of Parallelism		
2.	Harsauli to Khairthal	0.45	0.0009	24580	22
3.	Khairthal to Parisal		Out of Parallelism		
4.	Parisal to Alwar Junction		Out of Parallelism		
5.	Ringus Junction to Baori Thikaria		Out of Parallelism		
6.	Baori Thikaria to Palsana	2.3	0.0018	33370	60
7.	Palsana to Sikar Junction		Out of Parallelism		
8.	Ringus Junction to Shri Madhopur		Out of Parallelism		
9.	Shri Madhopur to Kachera	0.6	0.0013	31250	41
10.	Kachera to Kanwat		Out of Parallelism		
11.	Kanwat to Bhagega		Out of Parallelism		

I/30034/2023

ANNEXURE-III

CEA Case No.: RAJ-714			Map Scale : 1 cm= 500 m		
Name of the Power line: 765 kV D/C Sikar-II to Aligarh Transmission Line.			Total Length : 264 km		
			S.R. Value : 2500 Ohm-cm		
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
Induced Voltage for North Central Railway Line based on the Topo Map.					
<u>Affected Blocks &amp; Telecom Circuits Details</u>					
1.	Hodal R/s to Kosi Kalan R/s	Out of Parallelism			