



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.: RAJ-842</b>		
<b>Induced Voltage (IV) calculation for PTCC proposal of 765 kV D/C Bikaner III – Neemrana-II Transmission Line [Length- 345.774 km]– Regd.</b>		
<b>S. No</b>	<b>Reference No.</b>	<b>Dated</b>
(i)	TP Bikaner-III Neemrana-II Transmission Limited: RJ-BN/STACOM/2025/574	26.03.2025
(ii)	TP Bikaner-III Neemrana-II Transmission Limited: e-Mail	24.03.2026
(iii)	BSNL: DE/PTCC/NZ/ BSNL-TD/DV-10728/RAJ-1731/2025-26	19.03.2026
(iv)	North Western Railway: SG/158/NWR/PTCC/1151	14.07.2025
(v)	Defense: B/46937/Sigs7(b)/4869	22.07.2025

The PTCC proposal submitted vide reference (i) & (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 NOC vide above reference (v).

EPR Zones for proposed substation is mentioned below.

Name of the proposed SS	Half Diagonal Distance, D/2 (mts)	Fault Current, I (kA)	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
765kV Bikaner-III S/s	328	44.1	0.17	3878	2854	84	NA

As per the telecom details submitted by DET BSNL, no Telephone Exchanges are lying within the EPR Zone of proposed S/s.

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.

Digitally signed by  
 Suman Kumar Maharana  
 Date: 27-03-2026  
 15:36:29  
**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), NWR	North Western Railway, Headquarter Office, Room No. 136, First Floor, Near Jawahar Circle, Jaipur	
3.	Project Head	TP Bikaner-III Neemrana-II Transmission Limited Flat No-94, 3 <sup>rd</sup> Floor, Pocket-4, Sector-11 Dwarka	Copy for information.

**ANNEXURE-I**

<b>CEA Case No.:</b> RAJ-842		<b>Map Scale</b> : 1 cm= 500 m			
<b>Name of the Power line:</b> 765 kV D/C Bikaner III – Neemrana-II Transmission Line		<b>Total Length</b> : 345.774 km			
		<b>S.R. Value</b> : 10000 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>

<b>BSNL: DE/PTCC/NZ/ BSNL-TD/DV-10728/RAJ-1731/2025-26</b>		<b>Dated</b> 19.03.2026			
1.	Fatehpur to Beswa Armored OFC	-IV less than 430 V-			
2	Kayamsar to Tihwali Armored OFC	-IV less than 430 V-			
3	Wahidpur to Sigra Armored OFC	-IV less than 430 V-			

**ANNEXURE-II**

<b>CEA Case No.:</b> RAJ-842 <b>Name of the Power line:</b> 765 kV D/C Bikaner III – Neemrana-II Transmission Line			<b>Map Scale</b> : 1 cm= 500 m <b>Total Length</b> : 345.774 km <b>S.R. Value</b> : 10000 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/1151			Dated 14.07.2025		
1.	Ratangarh to Sardar Shahar	3.0	0.0013	27500	36
2.	Ratangarh to Molisar	4.0	0.0016	28000	45
3	Molisar to Juharpura	4.5	0.0028	24000	67
4.	Jamsar to Jagdeowala	-Out of Parallelism-			
5	Jagdeowala to Dhirera	3.5	0.0025	26500	66
6	Dhirera to Dulmera	4.0	0.0028	26000	73
7	Dulmera to Lunkaransar	-Out of Parallelism-			
8	Nim Ka Thana to Maonda	-Out of Parallelism-			
9	Maonda to Jilo	3.0	0.0029	23500	68
10	Jilo to Dabla	6.0	0.006	24500	147
11	Dabla to Nizampur	-Out of Parallelism-			
12	Nawalgarh to Dundlod Mukandgarh	-Out of Parallelism-			
13	Dundlod Mukandgarh to Nua	4.0	0.0029	28000	81
14	Nua to Jhunjhunu	-Out of Parallelism-			
15	Laxmangarh Sikar to Fatehpur Shekhawati	-Out of Parallelism-			
16	Fatehpur Shekhawati to Kayamsar	5.0	0.0036	27000	97
17	Kayamsar to Ramgarh Shekhawati	-Out of Parallelism-			