

I/27606/2023



सत्यमेव जयते

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**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-700		
PTCC approval for 400 kV 2 x D/C (Twin HTLS) Bikaner-II to Khetri Transmission Line (Part-II) associated with transmission scheme for evacuation of power from Solar Energy Zones in Rajasthan (8.1 GW) under Phase-II Part-F through TBCB [136 km]-Regd.		
S. No	Reference No.	Dated
(i)	POWERGRID: POWERGRID/PBTSL/PTCC/14	02.03.2022
(ii)	POWERGRID e-mail	23.03.2023
(iii)	POWERGRID e-mail	11.04.2023
(iv)	POWERGRID e-mail	12.04.2023
(v)	POWERGRID e-mail	19.04.2023
(vi)	BSNL: DET/PTCC/ND/DV-10161/Raj-1398/2022-2023	20.01.2023
(vii)	North Western Railway: SG/158/NWR/PTCC/884	17.03.2022
(viii)	Defense: B/46937/Sigs7(b)/2802/	05.05.2022

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

As Khetri is an existing substation and the proposed Bikaner-II substation end is not covered in the subject cited package of transmission line, EPR verification is not required.

Taking above into consideration, necessary action regarding issuance of PTCC approval for the subject cited transmission line might be taken under intimation to this office.

Encl.: As above

**Chief Engineer**

I/27606/2023 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)	North Western Railway, Headquarter Office, Room No. 136, First Floor, Near Jawahar Circle, Jaipur - 302017	Annexure-II
4.	Executive Director (NR-I), POWERGRID	POWERGRID RHQ, NR-I, Faridabad	Copy for information.

I/27606/2023

ANNEXURE-I

CEA Case No.: RAJ-700					
Name of the Power line: 400 kV 2 x D/C (Twin HTLS) Bikaner-II to Khetri Transmission Line (Part-II) associated with transmission scheme for evacuation of power from Solar Energy Zones in Rajasthan (8.1 GW) under Phase-II Part-F through TBCB		Map Scale : 1 cm= 500 m			
		Total Length : 136 km			
		S.R. Value : 25,000 Ohm-cm			
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
BSNL: DET/PTCC/ND/DV-10161/Raj-1398/2022-2023 Dated 20.01.2023					
<b><u>Affected Blocks &amp; Telecom Circuits Details</u></b>					
1.	TE Ratangarh to Sangam Circle 200 pair 2.8 km			IV less than 430 V	
2.	TE Ratangarh to ITI + AEN 200 Pair . 3.2 KM			IV less than 430 V	
3.	TE Ratangarh to Ramchander Park 200 Pair. 1.8 KM			IV less than 430 V	
4.	TE Ratangarh to Hospital Pillar 200 + 100 Pair, 0 9 KM			IV less than 430 V	
5.	TE Ratangarh to Churu Road 200 Pair, 1,5 KM			IV less than 430 V	
6.	TE Ratangarh to Salasar Road 400 Pair, 0.5 KM			IV less than 430 V	
7.	TE Ratangarh to Sardarshar Road 50 Pair, 2.5 KM			IV less than 430 V	
8.	Ramchanda Park to Hudera Village 50 Pair, 5 KM			IV less than 430 V	
9.	TE Ratangarh to Garh 300 Pair, 1 5 KM			IV less than 430 V	
10.	TE Ratangarh to Treasury 200 Pair, 1,6 KM			IV less than 430 V	

I/27606/2023

11.	TE Ratangarh to Minara Pillar 200 Pair, 2.5 KM	IV less than 430 V
12.	TE Ratangarh to Lal Pulia 400 Pair 1.3 KM	IV less than 430 V
13.	TE Ratangarh to Railway Stn 50 Pair 0 7 KM	IV less than 430 V
14.	TE Ratangarh to Fourth Pulia 800 Pair 0.5 KM	IV less than 430 V
15.	TE Ratangarh to Ghoom Chakar 200 Pair 1.5 KM	IV less than 430 V
16.	TE Ratangarh to Bhargav Chowk 100 Par 1.8 KM	IV less than 430 V
17.	TE Ratangarh to Holi Dora 100 Pair 11.5 km	IV less than 430 V
18.	TE Ratangarh to Hari Das Kl Dav 100 Pair 2 KM	IV less than 430 V
19.	TE Gorisar to PNB Gorisar 5 pair 0.3 km	IV less than 430 V
20.	TE Gorisar to Main Road 50 pair 0.5 km	IV less than 430 V
21.	Daudsar to BOB Bank 5 5 pair 0.2 km	Out of parallelism
22.	Gogasar to SBI bank 10 pair 0.2 KM	Out of parallelism
23.	Abosar to Chajjusar 50 pair 1.5 KM	IV less than 430 V
24.	Chajjusar to Gopal Puliya 20 pair 1 KM	IV less than 430 V
25.	Lachadsar to Panchayat Bhavan 50 pair 0.6 KM	IV less than 430 V
26.	Lachadsar to Gramin Bank 50 pair 0.8 KM	IV less than 430 V
27.	TE Rajaldesar to Dhani Bus 100 pair 0.9 KM	IV less than 430 V
28.	TE Rajaldesar to Old Bus Stand 400 pair x 2 1.2 KM	Out of parallelism
29.	TE Rajaldesar to Vishwkarma 100 pair 0.7 KM	Out of parallelism
30.	TE Rajaldesar to Police Thana 50 pair 0.6 KM	IV less than 430 V

31.	TE Rajaldesar to Bus Stand NH-II 50 pair 0.2 KM	IV less than 430 V			
32.	Gorisar to Khudera Bara 6 Fiber Armoured OF cable 12 KM	5.1	0.0301	18832	567
33.	Kayamsar to Tedi 50 pair 4 KM	IV less than 430 V			
34.	Kayamsar to Godiya Bada 50 pair 5 KM	IV less than 430 V			
35.	Kayamsar to Takhalsar 50 pair 5 KM	IV less than 430 V			
36.	Kayamsar to Lawenda 50 pair 6 KM	2.505	0.07845	22593	1773
37.	Kayamsar to Hatamsar 100 pair 4 KM	IV less than 430 V			
38.	Kayamsar to Rasoolpur 200 pair 3 KM	IV less than 430 V			
39.	Kayamsar to Narsara 50 pair 2 KM	2.645	0.02635	22252	586
40.	Kayamsar to Swami Ki Dhani 20 pair 2 KM	IV less than 430 V			
41.	Kayamsar to Godiya Chota 50 pair 4 KM	IV less than 430 V			
42.	Kayamsar to Takhalsar 50 pair 6 KM	IV less than 430 V			
43.	Tihawali to Sadensar 50 pair, 100 pair 3 KM	IV less than 430 V			
44.	Tihawali to Tihay 50 pair, 100 pair 4 KM	2	0.0242	23207	562
45.	Tihay to Bakarwasi 50 pair 2.5 KM	2.67	0.0424	23132	981
46.	Tihawali to Timoli 50 pair 8 KM	IV less than 430 V			
47.	Tihawali to Nayagli 20 pair, 2 KM	1.34	0.02177	23481	511
48.	Tihawali to Sadensar, 100 Pair 3 KM	IV less than 430 V			
49.	Sadensar to Balod Choti wali 50 pair 5 KM	IV less than 430 V			
50.	Sadensar to Dabari 50 pair 5 KM	IV less than 430 V			
51.	Mandawa to Wahidpura 50 pair 5.5 KM	3.8	0.08241	22730	1873
52.	Nua to Lumas Ka Bus 20 pair 6.5 KM	3.9	0.08223	23484	1932
53.	Nua to Hetamsar 50 pair, 20 pair, 10 pair 5.5 KM	2.159	0.0649	23484	1524
54.	Nua to Siryasar 100 pair 7 KM	2.816	0.0538	23672	1274

I/27606/2023

55.	Bhimisar to Bharu 20 pair 6 KM	IV less than 430 V			
56.	Bakara to Darwala 50 pair 5 KM	3.71	0.0472	26800	1264
57.	Bidasar to Bidasar 50 pair ( 4KM)	IV less than 430 V			
58.	Binjusr to Agaririlalan 100 + 50 pair 4.5 KM	Out of parallelism			
59.	Binjusr to Patusari 50 pair 3.5 KM	IV less than 430 V			
60.	Jasatpur Exchange to Charawas village 50 pair 8 KM	7.4	0.06567	29936	1963
61.	Jasatpur Exchange to Meena Ki Dhani 10 pair 8 KM	Out of parallelism			
62.	Jasatpur Exchange to Kharkhara 20 pair 6 KM	Out of parallelism			
63.	Kolihan Excjange to Nanuwali Baoti 20 pair 3 KM	Out of parallelism			
64.	Barau Exch to Nangli Sale'i Singh 50 pair 6 KM	IV less than 430 V			
65.	Barau Exch to Banleoti village 20 pair 4 KM	IV less than 430 V			
66.	Kolihan Exchange to Khetri city 2 x 400 pair, 1 x 200 pair, 1 x 100 pair 1 x 50 pair 4 KM each	Out of parallelism			
67.	Kolihan Exchange to Khetri city 2 x 50 pair, 1 x 20 pair, 03 KM)	Out of parallelism			
68.	Kolihan Exchange to chiteri village 50 pair 5 KM	Out of parallelism			
69.	Chiteni village to Tihara Village 10 pair 5 KM	Out of parallelism			
70.	Khetri to Kolihan City cable 50 par 4 KM	Out of parallelism			
71.	Mandwa to Nua Armoured OF cable 6 Fibre 16 KM	10.5	0.05076	24474	1242
72.	Wahidpura to Sigra Armoured OF cable 6 Fibre 6 KM	Out of parallelism			

I/27606/2023

ANNEXURE-II

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		<b>Total Length</b> : 136 km			
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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/884 Dated 17.03.2022</b>					
<b><u>Affected Blocks &amp; Telecom Circuits Details</u></b>					
1.	Nawalgarh to Dundlod Mukundgarh	Out of IV consideration zone			
2.	Dundlod Mukundgarh to Nua	2.1	0.01259	25414	321
3.	Nua to Jhunjhunu	10.5	0.02147	25774	553
4.	Jhunjhunu to Ratansahar	3.6	0.00051	27180	14
5.	Ratansahar to Nari Khetri	Out of IV consideration zone			
6.	Nari Khetri to Chirawa	Out of IV consideration zone			
7.	Chirawa to Surajgarh	Out of IV consideration zone			
8.	Fatehpur Shekhawati to Kayamsar	4.05	0.0039	22164	87
9.	Kayamsar to Ramgarh Shekhawati	1.2	0.0049	22040	108
10.	Ramgarh Shekhawati to Bissau	Out of IV consideration zone			
11.	Bissau to Churu	Out of IV consideration zone			
12.	Ratangarh West cabin to Rajaldesar	5.25	0.00052	17373	9
13.	Rajaldesar to Churu	27	0.02452	18516	454
14.	Ratangarh West cabin to Sardarsahar	7.9	0.0103	17053	176
15.	Ratangarh West Cabin to Ratangarh Jn.	2	0.0002	17967	5
16.	Ratangarh Jn. To Parihar	Out of IV consideration zone			
17.	Ratangarh Jn. To Molisar	13.9	0.0208	18286	380

I/27606/2023

18.	Molisar to Juharpura	5.9	0.003	19798	60
19.	Juharpura to Churu	Out of IV consideration zone			