

I/34082/2024



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

CEA Case No. : RAJ-719		
Induced Voltage (IV) calculation for 400 kV D/C Neemuch Chittorgarh Transmission Line [Length- 116.2 km]– Regd.		
S. No	Reference No.	Dated
(i)	Powergrid NTSL: PG/NR-1/TBCB/PNTSL/PTCC/2023/154	25.07.2023
(ii)	BSNL (WZ): PTCC/WR/2023-24/MP-864	20.12.2023
(iii)	BSNL (NZ): DET/PTCC/ND/DV-10256/RAJ-1436/2023-2024/	28.10.2023
(iv)	Western Railway: SG/158/28/10/L-276	27.10.2023
(v)	Defense: B/46937/Sigs7(b)/3480	19.01.2024

The PTCC proposal submitted vide reference (i) has been examined. The LF induction on Block and Telecom circuits of BSNL (WZ), BSNL (NZ) and Western Railway with respect to details furnished vide above reference (ii), (iii) & (iv) respectively have been computed. The voltage likely to be induced on paralleling Block and Telecom circuits of BSNL (WZ), BSNL (NZ) and Western Railway under Single Line to Ground fault condition are enclosed at Annexure-I, II & III respectively. The screening factors as applicable have been considered.

DG Signals, MoD has issued No Objection Certificate (NOC) vide reference (v).

EPR zone for 220 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
400/220 kV Neemuch S/s	105	63	0.1	1433	913	N.A	N.A

As per the Telecom Details submitted by BSNL vide above reference (ii) & (iii), no telephone exchange of BSNL is falling within the EPR zone of proposed 400 kV Neemuch 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

I/34082/2024 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.	Divisional Engineer (PTCC), Western Zone	QA & Inspection circle, 1 st floor, D- wing, BSNL Admin Bldg., Junu Tara Road, Santa Cruz (West), Mumbai-400054	
3.	GM (S&T)	O/o PCSTE, S & T, Station Building Church gate, Mumbai	
4.	DGM, POWERGRID NTSL	POWERGRID NTSL Chittorgarh Rajasthan	Copy for information.

I/34082/2024

ANNEXURE-I

CEA Case No.: RAJ-719 Name of the Power line: 400 kV D/C Neemuch Chittorgarh Transmission Line			Map Scale : 1 cm= 500 m Total Length : 116.20 km S.R. Value : 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.

BSNL (WZ) : PTCC/WR/2023-24/MP-864 Dated 20.12.2023

Affected Blocks & Telecom Circuits Details

1.	Jhantla-Singoli Road, OFC, Armored	Out of parallelism			
2.	Jat-Rajor, OFC, Armored	Out of parallelism			
3.	Kadawas-Singoli, OFC, Non Armored	IV calculation not required.			
4.	Jat-Tumariya, OFC, Non Armored	IV calculation not required.			
5.	Jhantla Exchange	IV calculation not required.			
6.	Kadawasa Exchange	IV calculation not required.			
7.	Jat Exchange	IV calculation not required.			
8.	Jhantla BTS	IV calculation not required.			
9.	Kadawasa BTS	IV calculation not required.			
10.	Jat BTS	IV calculation not required.			
11.	Tumariya BTS	IV calculation not required.			

I/34082/2024

ANNEXURE-II

CEA Case No.: RAJ-719			Map Scale : 1 cm= 500 m		
Name of the Power line: 400 kV D/C Neemuch Chittorgarh Transmission Line			Total Length : 116.20 km		
			S.R. Value : 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.

BSNL (NZ) Letter No: DET/PTCC/ND/DV-10256/RAJ-1436/2023-2024/ Dated 28.10.2023

Affected Blocks & Telecom Circuits Details

1	Sanwariyaji- Bhadsara, Copper, Armored	-Out of Parallelism-
2	Sanwariyaji- Chikardu, Copper, Armored	-Out of Parallelism-
3	Chenchi Exchange	IV calculation not required.
4	Begun Exchange	IV calculation not required.
5	Bijaypur Exchange	IV calculation not required.
6	Ghatiyawali Exchange	IV calculation not required.
7	Shambhupura Exchange	IV calculation not required.
8	Aditya Puram Exchange	IV calculation not required.
9	Sawa Exchange	IV calculation not required.
10	Bhadesar Exchange	IV calculation not required.
11	Bhadsora Exchange	IV calculation not required.
12	Mandfiya Exchange	IV calculation not required.
13	Mangalwar Exchange	IV calculation not required.
14	TE chichi BTS	IV calculation not required.
15	TE Begun BTS	IV calculation not required.
16	Shridev Complex BTS	IV calculation not required.
17	TE Bijaipur BTS	IV calculation not required.
18	Goplapura BTS	IV calculation not required.
19	Ghatiyawali BTS	IV calculation not required.
20	Gilund BTS	IV calculation not required.

I/34082/2024

21	Shamshupura BTS	IV calculation not required.
22	Ochhari Chittorgarh BTS	IV calculation not required.
23	Ochhari BTS	IV calculation not required.
24	Segwa HB Mod BTS	IV calculation not required.
25	Segwa Chittorgarh BTS	IV calculation not required.
26	Bojunda BTS	IV calculation not required.
27	Aditya Cement BTS	IV calculation not required.
28	TE sawa BTS	IV calculation not required.
29	Kanoj BTS	IV calculation not required.
30	Bansen BTS	IV calculation not required.
31	TE Bhadesar BTS	IV calculation not required.
32	TE Bhatsora BTS	IV calculation not required.
33	Near Bus Stand Sanwariya ji BTS	IV calculation not required.
34	TE Mangalwar BTS	IV calculation not required.

I/34082/2024

ANNEXURE-III

CEA Case No.: RAJ-719 Name of the Power line: 400 kV D/C Neemuch Chittorgarh Transmission Line			Map Scale : 1 cm= 500 m Total Length : 116.20 km S.R. Value : 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.
Western Railway Letter No: SG/158/28/10/L-276 Dated 27.10.2023					
<u>Affected Blocks & Telecom Circuits Details</u>					
1	Chittorgarh R/s to Ordi R/s	-Out of Parallelism-			
2	Ordi R/s to Shambhupura R/s	0.80	0.0010	26720	28
3	Shambhupura R/s to Gambhiri Road R/s	1.25	0.0002	26400	5