



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

CEA Case No. : UP-557		
Induced Voltage (IV) calculation for PTCC approval of 400 kV D/C Shamli to Aligarh Transmission Line [Length- 240.996 km]-Regd.		
S. No	Reference No.	Dated
(i)	UPPTCL: 276/ETD/Shamli/	10.02.2021
(ii)	UPPTCL: e-Mail	12.06.2024
(iii)	BSNL: DET/PTCC/ND/DV-9855/UP-945/2024-25/	07.06.2024
(iv)	Northern Railway: 342-SIG/1/PTCC/2020-21/03/09	10.03.2021
(v)	Defense: B/46937/Sigs7(b)/2353	16.04.2021

The PTCC proposal submitted vide reference (i) & (ii) has been examined. The LF induction on Block and Telecom circuits of BSNL & Northern 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 & Northern 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 400 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 kV Shamli S/s	150	30	0.473	4800	3125	154	63

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 PGM (North), QA & Inspection Circle D-Tax Building, Eastern Court, Janpath New Delhi-110001	
2.	GM (S&T)	Northern Railway Baroda House, Delhi	
3.	Executive Engineer UPPTCL	ETD 220 kV S/s, Shamli	Copy for information .

ANNEXURE-I

CEA Case No.: UP-557			Map Scale : 1 cm= 500 m		
Name of the Power line: 400 kV D/C Shamli to Aligarh Transmission Line.			Total Length : 241 km		
			S.R. Value : 7500 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 Letter No: DET/PTCC/ND/DV-9855/UP-945/2024-25/			Dated 07.06.2024		
<u>Affected Blocks & Telecom Circuits Details</u>					
1	Chhatari Telephone Exchange				Induced Voltage computation is not required
2	Phalasu Telephone Exchange				
3	Korara Tower				
4	Khanpur Tower				
5	Chitsona Tower				
6	BB Nagar Tower				
7	Shekhpur Tower				
8	Sorawa Tower				
9	Shikarpur Exchange & Tower				
10	MurtiVihar Shikarpur Tower				
11	Simbholi Tower				
12	Rampura Tower				

ANNEXURE-II

CEA Case No.: UP-557		Map Scale : 1 cm= 500 m			
Name of the Power line: 400 kV D/C Shamli to Aligarh Transmission Line.		Total Length : 241 km			
		S.R. Value : 7500 Ohm-cm			
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
Northern Railway Letter No: 342-SIG/1/PTCC/2020-21/03/09		Dated 10.03.2021			
Affected Blocks & Telecom Circuits Details					
1	Hind R/s to Shamli R/s	-Out of Parallelism-			
2	Shamli R/s to Kandhla R/s	-Out of Parallelism-			
3	Kandhla R/s to Qasimpur Kheri R/s	-Out of Parallelism-			
4	Jaruada Nara R/s to Mansurpur R/s	-Out of Parallelism-			
5	Mansurpur R/s to Khatauli R/s	-Out of Parallelism-			
6	Khatauli R/s to Sakhuti Tanda R/s	3.8	0.0033	18150	60
7	Sakhuti Tanda R/s to Daurala R/s	-Out of Parallelism-			
8	Daurala R/s to Pabli khas R/s	-Out of Parallelism-			
9	Pabli khas R/s to Meerut Cant R/s	-Out of Parallelism-			
10	Meerut City R/s to Kharkhauda R/s	-Out of Parallelism-			
11	Kharkhauda R/s to Kailli R/s	-Out of Parallelism-			
12	Kailli R/s to Hapur R/s	-Out of Parallelism-			
13	Babugarh R/s to Kuchesar Road R/s	-Out of Parallelism-			
14	Kuchesar Road R/s to Simbhaoli R/s	3	0.0045	15300	69
15	Simbhaoli R/s to Garhmukteshwar R/s	-Out of Parallelism-			
16	Hafizpur R/s to Gulaothi R/s	-Out of Parallelism-			
17	Gulaothi R/s to Baral R/s	-Out of Parallelism-			
18	Baral R/s to Bulandshahar R/s	-Out of Parallelism-			

19	Bulandshahar R/s to Khurja City R/s	-Out of Parallelism-			
20	Harduaganj R/s to Atraulli Road R/s	2	0.0023	24750	57
21	Atraulli Road R/s to Dibai R/s	-Out of Parallelism-			
22	Dibai R/s to Rajghat Narora R/s	-Out of Parallelism-			