



सत्यमेव जयते


 एकुसु पृथुवकुवु
 ONE EARTH - ONE FAMILY - ONE FUTURE

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-624		
Induced Voltage (IV) calculation for PTCC approval for 220 kV D/C Bhadohi-Rajatalab Transmission Line [Length- 1.481 km]-Regd.		
S. No	Reference No.	Dated
(i)	UPPTCL: 569/ETD-IV(V)/	28.06.2023
(ii)	UPPTCL e-mail	05.10.2023
(iii)	BSNL: DET/PTCC/ND/DV-10232/UP-1130/2023-24/	09.08.2023
(iv)	Northern Railway: 342-SIG/1/PTCC/2023-24/08/04	10.08.2023
(v)	North Eastern Railway: NER-HQ0SndT(TELE)/31/2020-O/OPCSTE/HW/NER	24.08.2023
(vi)	Defense: B/46937/Sigs7(b)/3446	29.09.2023

The PTCC proposal submitted vide reference (i) & (ii) has been examined. The LF induction on Block and Telecom circuits of BSNL and Northern Railway with respect to details furnished vide above reference (iii) & (iv) respectively has been computed. The voltage likely to be induced on paralleling Block and Telecom circuits of BSNL and Northern 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. North Eastern Railway and DG Signals, MoD has issued No Objection Certificate (NOC) vide reference (v) & (vi).

EPR zone for 220 kV S/S at Bhadohi 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
220 kV Bhadohi	103	12	0.50	1354	848	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 220 kV Bhadohi 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

(मंज. ज. की)
 19.10.2023
 Director

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 New Delhi	
3.	Executive Engineer UPPTCL	ETD-IV, Hydrel Colony Varanasi	Copy for information .

ANNEXURE-I

CEA Case No.: UP-624		Map Scale : 1 cm= 500 m			
Name of the Power line: 220 kV Bhadohi-Rajatalab Transmission Line		Total Length : 1.481 km			
		S.R. Value : 20,000 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 Letter No.: DET/PTCC/ND/DV-10232/UP-1130/2023-24/ Dated 09.08.2023

Affected Blocks & Telecom Circuits Details

1	Bhadohi-Jamunipur	IV less than 430 V
2	Bhadohi to Rajpura	
3	Parsipur to Manikpur	
4	Parsipur to Bardaha	
5	Parsipur - Sanwarpur-Darunaha	
6	Parsipur - Baraila-Darunaha	
7	Parsipur -Kandhia	
8	Parsipur - Pushottam	
9	Parsipur - Basantipur	
10	Nai Bazar-Mai-Chitaura	
11	Nai Bazar-Raipur	

I/31083/2023

ANNEXURE-II

CEA Case No.: UP-624		Map Scale : 1 cm= 500 m			
Name of the Power line: 220 kV Bhadohi-Rajatalab Transmission Line		Total Length : 1.481 km			
		S.R. Value : 20,000 Ohm-cm			
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
Northern Railway Letter No.: 342-SIG/1/PTCC/2023-24/08/04 Dated 10.08.2023					
<u>Affected Blocks & Telecom Circuits Details</u>					
1	Mondh R/s to Badhoi R/s		-Out of Parallelism-		
2	Badhoi R/s to Parsipur R/s		-Out of Parallelism-		
3	Parsipur R/s to Kapsethi R/s		-Out of Parallelism-		