

I/30822/2023



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-625		
Induced Voltage (IV) calculation for PTCC approval for 220 kV Bhadohi-Machhalisahar (400) Transmission Line [Length- 6.56 km]-Regd.		
S. No	Reference No.	Dated
(i)	UPPTCL: 551/ETD-IV(V)/PTCC	23.06.2023
(ii)	UPPTCL: 1018/ETD-IV(V)/PTCC	03.10.2023
(iii)	UPPTCL e-mail	05.10.2023
(iv)	BSNL: DET/PTCC/ND/DV-10234/UP-1132/2023-24	09.08.2023
(v)	Northern Railway: 342-SIG/1/PTCC/2023-24/08/05	16.08.2023
(vi)	North Eastern Railway: NER-HQ0SndT(TELE)/31/2020-O/OPCSTE/HW/NER	21.08.2023

The PTCC proposal submitted vide reference (i), (ii) & (iii) has been examined. The LF induction on Block and Telecom circuits of BSNL and Northern Railway with respect to details furnished vide above reference (iv) & (v) 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 has issued No Objection Certificate (NOC) vide reference (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 (iv), no telephone exchange of BSNL is falling within the EPR zone of proposed 220 kV Bhadohi Substation.

Telecommunication details from Defense are pending and the power utility has shown urgency for charging of the line and requested for provisional PTCC approval vide above reference (ii). Taking above into consideration, necessary action regarding issuance of provisional PTCC approval for the subject cited transmission line may be taken under intimation to this office.

Encl.: As above

Director

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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.	Director General of Signals	General Staff Branch, Integrated HQ, MoD (army), Sena Bhawan, DHQ, PO, New Delhi- 110 105	With a request to provide details of Telecom assets/ NOC at the earliest for issuance of final RAC.
4.	Executive Engineer UPPTCL	ETD-IV, Hydrel Colony Varanasi	Copy for information.

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ANNEXURE-I

CEA Case No.: UP-625		Map Scale : 1 cm= 500 m			
Name of the Power line: 220 kV Bhadohi-Machhalisahar (400) Transmission Line		Total Length : 6.56 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-10234/UP-1132/2023-24 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	

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ANNEXURE-II

CEA Case No.: UP-625			Map Scale : 1 cm= 500 m		
Name of the Power line: 220 kV Bhadohi-Machhalisahar (400) Transmission Line.			Total Length : 6.56 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/2023-24/08/05 Dated 16.08.2023					
<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	2.5	0.008	18550	148
3	Parsipur R/s to Kapsethi R/s	-Out of Parallelism-			