

I/32931/2024



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. : MP-501		
Induced Voltage (IV) calculation for 220 kV DCDS Transmission Line from 400 kV Chhegaon S/s to 220/33 kV Saktapur PSS of RUMS [Length- 38.55 km]– Regd.		
S. No	Reference No.	Dated
(i)	MPPTCL: 04-02/PTCC/2704-A/STU-II/1767	01.08.2022
(ii)	MPPTCL: e-Mail	05.01.2024
(iii)	BSNL: DET/PTCC/WR/2021-22/MP-783	19.11.2022
(iv)	Western Railway: SG.158/28/10/L-264 (E-227783)	31.10.2022
(v)	Defense: B/46937/Sigs7(b)/2978	26.09.2022

The PTCC proposal submitted vide reference (i) & (ii) has been examined. The LF induction on Block and Telecom circuits of BSNL & Western 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 & Western 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 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
220 kV Saktapur S/s	123	28	0.883	6949	4556	311	181

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 Saktapur 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

Director

I/32931/2024 To,

1.	Divisional Engineer (PTCC), Western Zone	QA & Inspection circle, 1 st floor, D- wing, BSNL Admin Bldg., Junu Tara Road, Santa Cruz (West), Mumbai-400054	
2.	GM (S&T) Western Railway	O/o CSTE, Station Building Churchgate, Mumbai	
3.	Chief Engineer (Plng. & Design) MPPTCL	Block No.2, Shakti Bhawan Rampur, Jabalpur	Copy for information.

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ANNEXURE-I

CEA Case No.: MP-501 Name of the Power line: 220 kV DCDS Transmission Line from 400 kV Chhegaon S/s to 220/33 kV Saktapur PSS of RUMS.			Map Scale : 1 cm= 500 m Length : 38.55 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 Letter No: DET/PTCC/WR/2021-22/MP-783 Dated 19.11.2022

Affected Blocks & Telecom Circuits Details

1	Nimarkhedhi Exchange A to B & A to C	IV Less than 430 V
2	Dashyaon Exchange A to B & A to C	
3	Bhairukhedha Exchange A to B , A to C & A to D	
4	Gorul Exchange A to B & A to C	
5	Kalmakhi Exchange A to B & A to C	

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ANNEXURE-II

CEA Case No.: MP-501			Map Scale : 1 cm= 500 m		
Name of the Power line: 220 kV DCDS Transmission Line from 400 kV Chhegaon S/s to 220/33 kV Saktapur PSS of RUMS.			Length : 38.55 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-264 (E-227783) Dated 31.10.2022					
<u>Affected Blocks & Telecom Circuits Details</u>					
1	Niramkheri R/s to Kotlakhel R/s	-Out of Parallelism-			
2	Kotlakhel R/s to Atar R/s	5.45	0.0153	18550	284
3	Atar R/s to Sirran (D) R/s	7.15	0.0086	23120	200
4	Sirran (D) R/s to Ajanti R/s	-Out of Parallelism-			