



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. : ASM-31		
Induced Voltage(IV) calculation for PTCC proposal of 220 kV D/C Rangia-Amingaon Transmission Line [Length-28.021 km] - Regd.		
S. No	Reference No.	Dated
(i)	AEGCL: AEGCL/GM(P&D)/PTCC/G-121/2021/330(6)	08.04.2022
(ii)	AEGCL: AEGCL/GM(P&D)/PTCC/G-121/Part-2/696	22.07.2024
(iii)	NERSIP: e-Mail	06.11.2024
(iv)	BSNL: DET/PTCC/ER/EAS160820213449/03	13.06.2024
(v)	NEFR: N/146/2/10Pt.VI(TC)	20.09.2023
(vi)	Defense: B/46937/Sigs7(b)/2843	15.07.2022

The PTCC proposal submitted vide reference (i), (ii) & (iii) has been examined. The LF induction on block & telecom circuits of Northeast Frontier Railway with respect to details furnished vide above references (v) has been computed. The voltages likely to be induced on paralleling block & telecom circuits of Northeast Frontier Railway under Single Line to Ground fault condition are enclosed at Annexure-I. The screening factors, as applicable, have been considered. DET-PTCC EZ,BSNL and DG Signals, MoD have issued No Objection Certificate (NOC) vide reference (iv) & (vi) respectively.

EPR zone for 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 Amingaon S/s	80	35	0.11	636	394	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 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.

Chief Engineer

To,

1.	Divisional Engineer (PTCC), Eastern Zone	BSNL, O/o QA & Inspection Circle QA Bhawan, EP-GP Block Sector-V, Salt lake, Kolkata	
2	GM (S&T)	North East Frontier Railway Maligaon, Guwahati	Annexure-I
3	GM (P&D), AEGCL	1 st Floor, Bijlee Bhawan Paltan Bazaar, Guwahati	

ANNEXURE-I

CEA Case No.: ASM-31			Map Scale : 1 cm= 500 m		
Name of the Power line: 220 kV D/C Rangia-Amingaon Transmission Line.			Total Length: 28.021 km		
			S.R. Value : 50000 Ohm-cm		
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
North East Frontier Railway Letter No: N/146/2/10Pt.VI(TC) Dated 19.07.2022					
<u>Affected Blocks & Telecom Circuits Details</u>					
1	Ghograpar R/s – Rangiya R/s	-Out of Parallelism-			
2	Rangiya R/s – Kendukona R/s	5.0	0.0187	16500	309
3	Kendukona R/s – Baihata R/s	3.5	0.0145	15800	230
4	Rangiya R/s – Khandikar R/s	2.5	0.0080	22400	180
5	Khandikar R/s – Goreswar R/s	-Out of Parallelism-			