



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**

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<b>CEA Case No. : ASM-34</b>		
<b>Induced Voltage (IV) calculation for PTCC approval of 400 kV D/C Bongaigaon (PGCIL) to Nangalbibra Transmission Line [Length-122.81 km]-Regd.</b>		
<b>S. No</b>	<b>Reference No.</b>	<b>Dated</b>
(i)	NBTL: NBBG-SPGL-PTCC-LT-335	02.04.2023
(ii)	NBTL: email	11.06.2024
(iii)	BSNL: DE/PTCC/ER/EAS080720235138/01	01.11.2023
(iv)	North East Frontier Railway: N/146/2/10Pt.VI(TC)	11.08.2023
(v)	North East Frontier Railway: N/146/2/10Pt.VI(TC)	22.03.2024
(vi)	Defense: B/46937/Sigs7(b)/3359	31.07.2023

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

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 Nangalbibra S/s	168	30	0.26	2893	1857	20	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 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), 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	Chief Manager - Projects	Nangalbibra Bangaigaon Transmission Limited Sambridhi Complex, Assam	For Information

**ANNEXURE-I**

<b>CEA Case No.: ASM-34</b>			<b>Map Scale : 1 cm= 500 m</b>		
<b>Name of the Power line: 400 kV D/C Bongaigaon (PGCIL) to Nangalbibra Transmission Line.</b>			<b>Total Length : 188.21 km</b>		
			<b>S.R. Value : 50000 Ohm-cm</b>		
<b>S.No.</b>	<b>Telecom. Details</b>	<b>Length of Parallelism in Km.</b>	<b>Mutual Coupling in Ohms.</b>	<b>Effective Fault current in Amps.</b>	<b>I.V in Volts.</b>
<b>North East Frontier Railway Letter No N/146/2/10Pt.VI(TC) Dated 11.08.2023 &amp; 22.03.2024</b>					
<b><u>Affected Blocks &amp; Telecom Circuits Details</u></b>					
1	Kokrajhar R/s – Salakati R/s	-Out of Parallelism-			
2	Salakati R/s – Basugaon R/s	-Out of Parallelism-			
3	Basugaon R/s – Dangtal R/s	-Out of Parallelism-			
4	Bilasipara R/s – Chapar R/s	-Out of Parallelism-			
5	Abhayapuri Assam R/s – Johighopa R/s	5.5	0.01	23150	232
6	Johighopa R/s - Panchratna R/s	7.0	0.025	18950	474
7	Panchratna R/s – Gopalara Town R/s	3.5	0.0108	22650	245
8	Gopalara Town R/s – Krishnai R/s	-Out of Parallelism-			