

I/29716/2023



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.: BHR-180		
Induced Voltage (IV) calculation for PTCC proposal of 220 kV D/C Annour (BGCL) to Digha (New) Transmission Line [Length- 47.149 km]– Regd.		
Reference:		
S. No.	Reference No.	Dated
(i)	BSPTCL Letter No: Tele/PTCC/17/2021/23	11.01.2022
(ii)	BSPTCL Letter No: Tele/PTCC/17/2021/141	28.07.2023
(iii)	BSNL: DET/PTCC/ER/EBR170120223748/IV/1	17.07.2023
(iv)	East Central Railway : ECR-HQ0SnT(CPTC)/1/2020-O/oDy.CSTE/HQ/ECR/2066	03.03.2022
(v)	Defense : B/46937/Sigs 7(b)/2748	16.02.2022

The PTCC proposal submitted vide reference (i) & (ii) has been examined. The LF induction on Block and Telecom circuits of BSNL and East Central 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 East Central Railway under Single Line to Ground fault condition are enclosed at Annexure-I & Annexure-II respectively. The screening factors as applicable has been considered. DG Signals, MoD has issued No Objection Certificate (NOC) vide reference (v).

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
220/132/33 kV Digha S/S	103	28	0.042	179	83	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 Substation.

Taking above into consideration, necessary action regarding issuance of PTCC approval for the subject cited transmission line might be taken under intimation to this office.

Encl.: As above.

Director

I/29716/2023 To,

1.	Divisional Engineer (PTCC), Eastern Zone	BSNL QA & Inspection Circle, QA Bhawan, EP-GP Block, Sector-V Kolkata	
2.	General Manager (S&T)	O/o GM (S&T) East Central Railway Hajipur	
3.	Chief Engineer (Telecom & OPGW)	Bihar State Power Transmission Co. Ltd. 4 th Floor, Vidyut Bhawan Patna	Copy for information

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ANNEXURE-I

CEA Case No.: BHR-180			Map Scale : 1 cm= 500 m		
Name of the Power line: 220 kV D/C Annour (BGCL) to Digha (New) Transmission Line.			Total Length : 47.179 km		
			S.R. Value : 7500 Ω-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/ER/EBR170120223748/IV/1 Date: 17.07.2023

Affected Blocks & Telecom Circuits Details

1	Rampur BTS	IV Calculation not required (Telephone Exchange)			
2	Garkha Exchange	IV Calculation not required (Telephone Exchange)			
3	Pirauna BTS	IV Calculation not required (Telephone Exchange)			
4	Parsa Exchange	IV Calculation not required (Telephone Exchange)			
5	Basant Exchange	IV Calculation not required (Telephone Exchange)			
6	Aami BTS	IV Calculation not required (Telephone Exchange)			
7	Dighwara Exchange	IV Calculation not required (Telephone Exchange)			

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ANNEXURE-II

CEA Case No.: BHR-180 Name of the Power line: 220 kV D/C Amnour (BGCL) to Digha (New) Transmission Line.			Map Scale : 1 cm= 500 m Total Length : 47.179 km S.R. Value : 7500 Ω-cm		
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
East Central Railway Letter No: ECR-HQ0SnT(CPTC)/1/2020-O/oDy.CSTE/HQ/ECR/2066 Date: 03.03.2022					
<u>Affected Blocks & Telecom Circuits Details</u>					
1	Goadenganj-Baragopal	4.0	0.0013	15860	21
2	Baragopal-Dighwara	8.5	0.0076	16870	128
3	Dighwara-Sitalpur	5.0	0.0008	18980	15
4	Sitalpur-Nayagaon	-Out of Parallelism-			
5	Nayagaon-Parmanandpur	-Out of Parallelism-			
6	Patna-Pulwarisharif	-Out of Parallelism-			
7	Pulwarisharif-Danapur	-Out of Parallelism-			