



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.: BHR-204		
Induced Voltage (IV) calculation for PTCC proposal of 220 kV D/C Dehri Son GSS to Pusauli GSS Transmission Line [Length- 53.596 km]– Regd.		
Reference:		
S. No.	Reference No.	Dated
(i)	BSPTCL Letter No: Tele/PTCC/09/2024/112	14.08.2024
(ii)	BSPTCL: e-Mail	23.01.2025
(iii)	BSNL: DE/ER/PTCC/EBR060820246114/CEA/01 (Received on 25.02.2025)	10.01.2025
(iv)	East Central Railway : ECR-HQ0SnT(CPTC)/1/2023-O/oDy.CSTE/HQ/ECR	14.08.2024
(v)	Defense : B/46937/Sigs 7(b)/4118	15.10.2024

The PTCC proposal submitted vide reference (i) & (ii) has been examined. The LF induction on Block and Telecom circuits of BSNL & East Central 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 & 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).

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

Chief Engineer

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

ANNEXURE-I

CEA Case No.: BHR-204 Name of the Power line: 220 kV D/C Dehri Son GSS to Pusauli GSS Transmission Line			Map Scale : 1 cm= 500 m Total Length : 53.596 km S.R. Value : 150000 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 : DE/ER/PTCC/EBR060820246114/CEA/01 Date 10.01.2025

Affected Blocks & Telecom Circuits Details

1	Telephone Exchange Pusauli	IV computation is not required on Tower and Exchanges.
2	Telephone Exchange Kundra	
3	Telephone Exchange Dalmianagar	
4	Telephone Exchange Sasaram	
5	Telephone Exchange Nauhara	

ANNEXURE-II

CEA Case No.: BHR-204 Name of the Power line: 220 kV D/C Dehri Son GSS to Pusauli GSS Transmission Line			Map Scale : 1 cm= 500 m Total Length : 53.596 km S.R. Value : 150000 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 : ECR-HQ0SnT(CPTC)/1/2023-O/oDy.CSTE/HQ/ECR Date: 14.08.2024					
<u>Affected Blocks & Telecom Circuits Details</u>					
1	Muthani R/s to Pusauli R/s	-Out of Parallelism-			
2	Pusauli R/s to Kundra R/s	3.0	0.01	22200	222
3	Kundra R/s to Shivsagar Road R/s	2.5	0.0074	21400	158
4	Shivsagar Road R/s to Khumahu R/s	2.0	0.0058	18800	109
5	Khumahu R/s to Sasaram R/s	2.5	0.0044	18000	79
6	Sasaram R/s to Karwandhiya R/s	3.0	0.0039	19200	75
7	Karwandhiya R/s to Pahleza R/s	1.5	0.0027	22000	59
8	Pahleza R/s to Dehri on Sone R/s	-Out of Parallelism-			