

I/28023/2023



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-191		
PTCC proposal for 400 kV D/C Naubatpur (BGCL) - Buxar TPP transmission line [Length- 126.192 km]- Regd.		
Reference:		
S. No.	Reference No.	Dated
(i)	BSPTCL Letter No: Tele/PTCC/20/2021/157	15.03.2022
(ii)	BSPTCL Letter No: Tele/PTCC/20/2021/72	10.05.2023
(iii)	CEA E-mail	16.04.2023
(iv)	BSNL: DET/PTCC/ER/EBR060420223910 & EBR080420223923/IV/1	22.02.2023
(v)	East Central Railway : ECR-HQ0SnT(GenI)/13/2022-O/oDy.CSTE/HQ/ECR	19.05.2022
(vi)	Defense : B/46937/Sigs 7(b)/2822	13.04.2022

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 (iv) & (v) respectively, has been computed. The voltage likely to be induced on paralleling Block and Telecom circuits of East Central Railway and BSNL 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 (vi).

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
400/220/132/33 kV Naubatpur	204	44	0.021	234	86	N.A	N.A
Switchyard of 2x 660 MW Buxar TPP	122	50	0.032	332	178	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 might be taken under intimation to this office.

Encl.: As above.

Chief Engineer

I/28023/2023

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

I/28023/2023

ANNEXURE-I

CEA Case No.: BHR-191 Name of the Power line: 400 kV D/C Naubatpur (BGCL) - Buxar TPP transmission line.			Map Scale : 1 cm= 500 m Total Length : 126.192 km S.R. Value : 15000 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(GenI)/13/2022-O/oDy.CSTE/HQ/ECR Date: 19.05.2022					
<u>Affected Blocks & Telecom Circuits Details</u>					
<u>Buxar-Gahmer Section</u>					
1	Buxer to Chausa	-Out of Parallelism-			
2	Chausa to Gahmer	-Out of Parallelism-			
<u>Ara-Garhani Section</u>					
1	Ara to Garhani	5	0.0168	17240	290
2	Garhani to Piro	5.5	0.0087	16080	140

I/28023/2023

ANNEXURE-II

CEA Case No.: BHR-191			Map Scale : 1 cm= 500 m		
Name of the Power line: 400 kV D/C Naubatpur (BGCL) - Buxar TPP transmission line.			Total Length : 126.192 km		
			S.R. Value : 15000 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/EBR060420223910 & EBR080420223923/IV/1 Date: 22.02.2023

Affected Blocks & Telecom Circuits Details

1	Naubatpur Exchange				
1	Naubatpur XGE to Market Pillar				IV less than 430 V
2	Market Pillar to Naubatpur PS				IV less than 430 V
3	Market Pillar to Khagaul Road				IV less than 430 V
4	Market Pillar to Post Office				IV less than 430 V
5	Market Pillar to Bikkram Road				IV less than 430 V
6	Naubatpur XGE to Bikram XGE				IV Calculation not required (Unarmored OFC)
7	Naubatpur XGE to Piplawan XGE				IV Calculation not required (Unarmored OFC)
2	Piplawan Exchange				
1	Piplawan XGE to Masaurhi Road				IV less than 430 V
2	Masaurhi Road to Rampur	2.5	0.006	34540	207
3	Masaurhi Road to Piplawan Market				IV less than 430 V
4	Piplawan Market to Piplawan Village				IV less than 430 V
3	Dulhinbazar Exchange				
1	Dulhinbazar XGE to Pilar-1				IV less than 430 V
2	Pilar-1 to Dulhinbazar chowk				IV less than 430 V
3	Dulhinbazar chowk to Pilar-3				IV less than 430 V

I/28023/2023

4	Dulhinbazar chowk to Naubatpur Road	3	0.0074	32200	238
5	Pilar-1 to Navinagar Road	IV less than 430 V			
6	Navinagar Road to police station	IV less than 430 V			
7	Dulhinbazar XGE to Paliganj XGE	IV Calculation not required (Unarmored OFC)			
4	Paliganj Exchange				
1	Paliganj XGE to Chowk	IV less than 430 V			
2	Chowk to Block				
3	Block to Cort				
4	Cort to Achuaa				
5	Paliganj XGE to Durga Chowk				
6	PNB to Police Station				
7	Police Station to LIC office				
8	Durga Chowk to Hospital				
9	Hospital to Dihpali				
10	Hospital to Chowk				
11	Hospital to Kurkuri				
12	Kurkuri to Bibipur				
13	Chowk to SBI				
14	SBI to Milki				
15	Chowk to Chowk				
5	Sigori Exchange				
1	Sigori XGE to Panchayat Bhavan	IV less than 430 V			
2	Panchayat Bhavan to Naraulimore				
3	Narauli More to Narauli				
4	Narauli More to Jhula Chowk				
5	Sigori XGE to High School				
6	Sigori XGE to Police Station				

I/28023/2023

7	Sigori XGE to Sigori Village	
8	Paliganj XGE to Sigori XGE	IV Calculation not required (Unarmored OFC)
6	Bikram Exchange	
1	Bikram XGE to XGE Gate	IV less than 430 V
2	EXE Gate to Bikram More	
3	Bikram More to Aspura	
4	Aspura to Manjholi	
5	Aspura to Nisipura	
6	Nisipura to Harpura	
7	Bikram More to Telpa	
8	Telpa to Gopalpur	
9	Bikram XGE to Dulhinbazar XGE	IV Calculation not required (Unarmored OFC)
7	Sandes Exchange	
1	Sandash XGE to DP-1	IV less than 430 V
2	DP-1 to PNB Bank	
3	DP-1 to SBI Bank	
4	Sandash XGE to DP-2	
5	DP-2 to UBI Bank	
6	DP-2 to Post Office	
7	Sandash XGE to Azimabad	
8	Pauna Exchange	
1	Pauna XGE to Gramin Bank	IV less than 430 V
2	Pauna XGE to Agra	
3	Pauna XGE to Narayanpur	IV Calculation not required (Unarmored OFC)
4	Pauna XGE to Ara	IV Calculation not required (Unarmored OFC)
9	Garhani Exchange	
1	Garhani XGE to Station Road	

I/28023/2023

2	Garhani XGE to Sasaram Road	IV less than 430 V
3	Garhani XGE to Agra Road	
4	Garhani XGE to Charpokhari XGE	IV Calculation not required (Unarmored OFC)
5	Garhani XGE to 8km boundary	IV Calculation not required (Unarmored OFC)
10	Charpokhari Exchange	
1	Charpokhari XGE to PS Pillar	IV less than 430 V
2	Charpokhari XGE 2 No Pillar	
3	Charpokhari XGE 1 No Pillar	
4	Charpokhari XGE to 8km boundary	IV Calculation not required (Unarmored OFC)
11	Jagdishpur Exchange	
1	Jagdishpur XGE to Nayaka Yola Pillar	IV less than 430 V
2	Market Pillar to Hospital Road PS	
3	Jagdishpur XGE to Police Station	
4	Jagdishpur XGE to Piro	IV Calculation not required (Unarmored OFC)
5	Jagdishpur XGE to 8km boundary	IV Calculation not required (Unarmored OFC)
12	Chausa Exchange	
1	Chausa Exchange to PNB Bank	IV less than 430 V
2	Chausa Exchange to Rampur Dehri XGE	IV Calculation not required (Unarmored OFC)
13	Rajpur Exchange	
1	Rajpur Exchange to PNB Bank	IV less than 430 V
2	Rajpur Exchange to Gramin Bank	
14	Itarhi Exchange	
1	Itarhi Exchange to PNB Bank	IV less than 430 V
2	Itarhi XGE to 8km Boundary	IV Calculation not required (Unarmored OFC)
15	Narayanpur Exchange	
1	Narayanpur Exchange to PNB Bank	IV Calculation not required (Unarmored OFC)
2	Narayanpur Exchange to Gramin Bank	IV Calculation not required (Unarmored OFC)

I/28023/2023

16	Azimabad Exchange	
1	Azimabad Exchange to Akhgaon	IV Calculation not required (Unarmored OFC)
17	Chaugain Exchange	
1	Chaugain Exchange to Bagen	IV Calculation not required (Unarmored OFC)
18	Nawanagar Exchange	
1	Nawanagar Exchange to koransarai XGE	IV Calculation not required (Unarmored OFC)
19	Koransarai Exchange	
1	Koransarai Exchange to 8 km boundary	IV Calculation not required (Unarmored OFC)
2	Koransarai Exchange to chaugain XGE	IV Calculation not required (Unarmored OFC)