



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. : DL-31		
Induced Voltage (IV) calculation for PTCC proposal of 220 kV D/C 1x1200 sq.mm UG XLPE cable from 220 kV Kashmiri Gate S/s to 220 kV Timarpur GIS.[Length- 5 km]-Regd		
S. No	Reference No.	Dated
(i)	DTL: F.DTL/2012/Manager (T) PII-A2/22-23/Opr.(Proj)/F-20	23.11.2022
(ii)	DTL: F.DTL/2012/Manager (T) PII-A2/23-24/Opr.(Proj)/F-20/136	13.10.2023
(iii)	DTL: F.DTL/2012/Manager (T) PII-A2/24-25/Opr.(Proj)/F-20/35	12.06.2024
(iv)	BSNL: DET/PTCC/ND/DV-10354/ND-244/2024-25/	27.04.2024
(v)	Northern Railway: 342-SIG/1/PTCC/2021-22/02/05	24.02.2022
(vi)	DMRC: DMRC/S&T/Tele/PTCC/MISC/DTL/KG-Timarpur/01	01.11.2022
(vii)	Defense: B/46937/Sigs7(b)/2779/	16.03.2022

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

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
220/132 kV Timarpur S/s	75	40	0.235	1565	1010	26	N.A

As per the Telecom Details submitted by BSNL/MTNL vide above reference (iv), no telephone exchange of BSNL/MTNL 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.

Encl.: As above

Chief Engineer

To,

1.	Divisional Engineer (PTCC), Northern Zone	BSNL, O/o PGM(North), QA & Inspection Circle D-Tax Building, Eastern Court, Janpath New Delhi-110001	Annexure-I
2.	GM (S&T)	Northern Railway, HQ's Office, Baroda House, New Delhi	Annexure-II
3.	Joint General Manager- Telecom	O/o S&T, 5 th Floor NBCC Place, Pragati Vihar Lodhi Road, New Delhi	Annexure-III
4.	Sr. Manager (T), Projects-II-A2	DTL, Room No. R-5, Shaktideep Bldg., Jhandewalan Extn., New Delhi – 110 002	For information

ANNEXURE-I

CEA Case No.: DL-31 Name of the Power line: 220 kV D/C 1x1200 sq.mm UG XLPE cable from 220 kV Kashmiri Gate S/s to 220 kV Timarpur GIS.			Map Scale : 1 cm= 500 m Total Length : 5 km S.R. Value : 7500 Ohm-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/ND/DV-10354/ND-244/2024-25/ Dated 27.04.2024					
<u>Affected Blocks & Telecom Circuits Details</u>					
1	Timarpur Exchange to Juvenile Home, PIJF Cable	1.3	0.0063	15600	98
2	IP college to Bela Road, PIJF Cable	1.3	0.0071	25100	178

ANNEXURE-II

CEA Case No.: DL-31			Map Scale : 1 cm= 500 m		
Name of the Power line: 220 kV D/C 1x1200 sq.mm UG XLPE cable from 220 kV Kashmiri Gate S/s to 220 kV Timarpur GIS.			Total Length : 5 km		
			S.R. Value : 7500 Ohm-cm		
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
Northern Railway Letter No: 342-SIG/1/PTCC/2021-22/02/05			Dated 24.02.2022		
<u>Affected Blocks & Telecom Circuits Details</u>					
1	Delhi Jn R/s to Subzi Mandi R/s	1.2	0.00017	29600	5
2	Subzi Mandi R/s to Delhi Azadpur R/s	1.4	0.00017	18000	3
3	Delhi Azadpur R/s to Adarsh Nagar R/s	-Out of Parallelism-			
4	Adarsh Nagar R/s to Badli R/s	-Out of Parallelism-			
5	Badli R/s to Holambi Kalan R/s	-Out of Parallelism-			

ANNEXURE-III

CEA Case No.: DL-31			Map Scale : 1 cm= 500 m		
Name of the Power line: 220 kV D/C 1x1200 sq.mm UG XLPE cable from 220 kV Kashmiri Gate S/s to 220 kV Timarpur GIS.			Total Length : 5 km		
			S.R. Value : 7500 Ohm-cm		
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
DMRC Letter No: DMRC/S&T/Tele/PTCC/MISC/DTL/KG-Timarpur/01 Dated 01.11.2022					
<u>Affected Blocks & Telecom Circuits Details</u>					
1	Marked Communication Cable by Signaling wing of DMRC	3.1	0.0008	27100	22