



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. : UP-643		
Induced Voltage(IV) calculation for PTCC proposal of LILO of 220 kV C.B. Ganj - OCBTL Transmission Line at 220 kV Bareilly S/s [Length-0.662 km] - Regd.		
S. No	Reference No.	Dated
(i)	UPPTCL: 68/ETDB/	10.01.2024
(ii)	UPPTCL: e-Mail	23.02.2024
(iii)	BSNL: DET/PTCC/ND/DV-10333/UP-1183/2023-2024/	16.03.2024
(iv)	Northern Railway: 342-SIG/1/PTCC/2023-24/03/01	01.03.2024
(v)	North Eastern Railway: NER-HQOSndT(TELE)/1/2024-O/OPCSTE/HQ/NER	25.01.2024
(vi)	Defense: B/46937/Sigs7(b)/3605	09.08.2024

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

EPR zone for 400 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 Bareilly GIS S/s	71	24	0.09	286	165	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.

In view of the above, PTCC route approval may be issued for the subject transmission line 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	
2.	GM (S&T)	Northern Railway Baroda House, New Delhi	
3.	GM (S&T)	O/o GM (S&T) North Eastern Railway, Gorakhpur	
4.	Executive Engineer UPPTCL	ETD - UPPTCL Near LIC Office, Rampur Garden Bareilly	Copy for information.

ANNEXURE-I

CEA Case No.: UP-643			Map Scale : 1 cm= 500 m		
Name of the Power line: LILO of 220 kV C.B. Ganj - OCBTL Transmission Line at 220 kV Bareilly S/s.			Total Length : 0.662 km		
			S.R. Value : 30000 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: 342-SIG/1/PTCC/2023-24/03/01 Dated 01.03.2024					
<u>Affected Blocks & Telecom Circuits Details</u>					
1	Bareilly R/s to Ram Ganga R/s		-Out of Parallelism-		
2	Ram Ganga R/s to Basharatganj R/s		-Out of Parallelism-		
3	Parsa Khera R/s to Clutterbuck ganj R/s		-Out of Parallelism-		
4	Clutterbuck ganj R/s to Bareilly R/s		-Out of Parallelism-		
5	Bareilly R/s to Bareilly Cant R/s		-Out of Parallelism-		
6	Bareilly Cant R/s to Rasuiya R/s		-Out of Parallelism-		

ANNEXURE-II

CEA Case No.: UP-643			Map Scale : 1 cm= 500 m		
Name of the Power line: LILO of 220 kV C.B. Ganj - OCBTL Transmission Line at 220 kV Bareilly S/s.			Total Length : 0.662 km		
			S.R. Value : 30000 Ohm-cm		
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
North Eastern Railway: NER-HQOSndT(TELE)/1/2024-O/OPCSTE/HQ/NER Dated: 25.01.2024					
<u>Affected Blocks & Telecom Circuits Details</u>					
1	Ghatpuri R/s to Makrandpur R/s		-Out of Parallelism-		
2	Makrandpur R/s to Bamiyana R/s		-Out of Parallelism-		
3	Bamiyana R/s to Ramganga Bridge R/s		-Out of Parallelism-		
4	Ramganga Bridge R/s to Bareilly R/s		-Out of Parallelism-		
5	Bareilly R/s to Bareilly City R/s		-Out of Parallelism-		
6	Bareilly City R/s to Izzatnagar R/s		-Out of Parallelism-		
7	Izzatnagar R/s to Dohna R/s		-Out of Parallelism-		
8	Dohna R/s to Bhojipura R/s		-Out of Parallelism-		