



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. : UP-633		
Induced Voltage (IV) calculation for LILO of 220 kV Greater Noida-Metro Depot Transmission Line at 220 kV Jalpura S/s and LILO of 220 kV Sector-148 - Metro Depot Transmission Line at 220 kV Knowledge Park-05 S/s – Regd.		
S. No	Reference No.	Dated
(i)	UPPTCL: 1411/ETD-II/Noida/220kV Multicircuit (received on 10.10.2023)	22.06.2023
(ii)	UPPTCL: 2959/ETD-II/Noida	30.12.2023
(iii)	BSNL: DET/PTCC/ND/DV-10278/UP-1154/2023-24/	21.12.2023
(iv)	Northern Central Railway: एनसीआर/एसएंडटी/2074/टेलीकॉम/पीटीसीसी(पार्ट-2)	03.11.2023
(v)	Defense: B/46937/Sigs7(b)/3556	28.11.2023

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

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 kV Jalpura S/s	102	28	0.15	894	557	N.A	N.A
220 kV KP-05 S/s	96	28	0.15	842	524	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 220 kV Substations.

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

Director

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)	North Central Railway Ganga Parisar, Prayagraj	
3.	Executive Engineer UPPTCL	ETD-II Sector-20, Noida	Copy for information.

ANNEXURE-I

CEA Case No.: UP-633					
Name of the Power line: LILO of 220 kV Greater Noida-Metro Depot Transmission Line at 220 kV Jalpura S/s and LILO of 220 kV Sector-148 - Metro Depot Transmission Line at 220 kV Knowledge Park-05 S/s			Map Scale : 1 cm= 500 m		
			S.R. Value : 5000 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 Central Railway Letter No: एनसीआर/एसएंडटी/2074/टेलीकॉम/पीटीसीसी(पार्ट-2) Dated 03.11.2023					
<u>Affected Blocks & Telecom Circuits Details</u>					
LILO of 220 kV Greater Noida-Metro Depot Transmission Line at 220 kV Jalpura S/s [Length = 16 km]					
1	Ajaibpur R/s to Dadri R/s	1.75	0.0004	24500	10
2	Dadri R/s to Maripat R/s	6.40	0.0091	15300	14
3	Maripat R/s to Chipiyana Buzurg R/s	0.90	0.0014	20300	29
LILO of 220 kV Sector-148 - Metro Depot Transmission Line at 220 kV Knowledge Park-05 S/s [Length = 11.7km]					
1	Ajaibpur R/s to Dadri R/s	1.75	0.0004	14600	6
2	Dadri R/s to Maripat R/s	4.90	0.0008	12400	10
3	Maripat R/s to Chipiyana Buzurg R/s	-Out of Parallelism-			