

I/33152/2024



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. : MRA-1219		
Induced Voltage (IV) calculation for LILO of 220 kV Nagothane to Wadkhal Transmission Line at 220/33 kV Nagothane TSS [Length - 0.75 km] - Regd.		
S. No	Reference No.	Dated
(i)	MSETCL: MSETCL/CO/PS/PTCC/In/B-596/No03317	17.05.2023
(ii)	MSETCL: e-Mail	12.01.2024
(iii)	BSNL: IC/MBI/PTCC/MRA-2586/03	25.11.2023
(iv)	Central Railway: N.153/PTCC/220kV/MAH-836	21.08.2023
(v)	Defense: B/46937/Sigs7(b)/3383	01.09.2023

The PTCC proposal submitted vide reference (i) & (ii) has been examined. The LF induction on Block and Telecom circuits of BSNL & 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 & Central Railway under Single Line to Ground fault condition are enclosed at Annexure-I & Annexure-II respectively. The screening factors as applicable have been considered. DG Signals, MoD has issued No Objection Certificate (NOC) vide reference (v).

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
220kV Nagothane TSS	42	28	0.136	330	204	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 Substation.

In view of the above, it is requested that PTCC route approval may be issued for the subject transmission line under intimation to this office.

Encl.: As above

Chief Engineer

I/33152/2024^{To,}

1.	Divisional Engineer (PTCC), Western Zone	QA & Inspection circle, 1 st floor, D- wing, BSNL Admin Bldg., Junu Tara Road, Santacruz (West), Mumbai-400054	
2.	GM (S&T)	O/o Pr. Chief S&T Engineer Central Railway Mumbai	
3.	Chief Engineer (Proj. Scheme Dept.) MSETCL	O/o Chief Engineer MSETCL, Mumbai	Copy for information.

I/33152/2024

ANNEXURE-I

CEA Case No.: MRA-1219 Name of the Power line: LILO of 220 kV Nagothane to Wadkhal Transmission Line at 220/33 kV Nagothane TSS			Map Scale : 1 cm= 500 m Total Length: 0.75 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.
BSNL Letter No: IC/MBI/PTCC/MRA-2586/03 Dated 25.11.2023					
<u>Affected Blocks & Telecom Circuits Details</u>					
1	NGTN Exchange to NGTN Local	IV Less than 430 V			
2	NGTN Exchange to Police Station				
3	IPCL Exchange to Benswadi				
4	Sukali Exchange to Sukali Local				

I/33152/2024

ANNEXURE-II

CEA Case No.: MRA-1219			Map Scale : 1 cm= 500 m		
Name of the Power line: LILO of 220 kV Nagothane to Wadkhal Transmission Line at 220/33 kV Nagothane TSS			Total Length: 0.75 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.
Central Railway Letter No: N.153/PTCC/220kV/MAH-836 Dated 21.08.2023					
<u>Affected Blocks & Telecom Circuits Details</u>					
1	Kasu R/s to Nagothane R/s	0.70	0.012	27480	330
2	Nagothane R/s to Roha R/s	Out of Parallelism			