

I/33150/2024



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-1217		
Induced Voltage (IV) calculation for LILO of 220 kV ONGC - Panvel Transmission Line at 220 kV Karanjade TSS [Length – 1.90 km] – Regd.		
S. No	Reference No.	Dated
(i)	MSETCL: MSETCL/CO/PS/PTCC/In/B-595/No01935	21.03.2023
(ii)	MSETCL: e-Mail	12.01.2024
(iii)	BSNL: IC/MBI/PTCC/MRA-2584/03	25.11.2023
(iv)	Central Railway: N.153/PTCC/220kV/MAH-833	05.04.2023
(v)	Defense: B/46937/Sigs7(b)/3292	24.07.2023

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 Karanjade 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/33150/2024^{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/33150/2024

ANNEXURE-I

CEA Case No.: MRA-1217			Map Scale : 1 cm= 500 m		
Name of the Power line: LILO of 220 kV ONGC - Panvel Transmission Line at 220 kV Karanjade TSS			Total Length: 1.90 km		
			S.R. Value : 25000 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-2584/03 Dated 25.11.2023

Affected Blocks & Telecom Circuits Details

1	Old Panvel Exch area, Paramount Hospital, MCCH	IV Less than 430 V
2	Shivaji Statue chowk, Old Panvel Exch area	
3	Dombala college, Kapad gali, Old Panvel Exch area	
4	Nagar Palika, Old Panvel Exch area	
5	Takka, Visrali naka, Old Panvel Exch area	
6	New Panvel Exch area, Sector 12 to 19	
7	New Panvel Exch area, Sector 1 to 13	
8	New Panvel Exch area, Khanda colony	
9	KL 5/32 sector 3E	
10	KL 5/32 sector 4E, averest	
11	Steel, disma, bhima	
12	Bhima complex	
13	KL E/6 sector 3E	
14	KLE5/8 sector 3	
15	Everest Tower sector 4	
16	Sector 1,2,3,4 krishana petrol pump	
17	Sector 13 , LIG, steel market, kirokpada	
18	Ridhi sidhi	
19	Bhima, disma	
20	Sector 17,35,12,34	
21	Sector 6,6A,7,36,5	
22	Sector 10,14,11,8,9	
23	Sector 15,16,18,20,21,22,23,24	

I/33150/2024

ANNEXURE-II

CEA Case No.: MRA-1217 Name of the Power line: LILO of 220 kV ONGC - Panvel Transmission Line at 220 kV Karanjade TSS			Map Scale : 1 cm= 500 m Total Length: 1.90 km S.R. Value : 25000 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-833 Dated 05.04.2023					
<u>Affected Blocks & Telecom Circuits Details</u>					
1	Kharghar to Panvel	Out of Parallelism			
2	Panvel to Taloje	Out of Parallelism			
3	Panvel to Apta	1.40	0.0014	18800	26
4	Panvel to Mohape	Out of Parallelism			
5	Panvel to Jasai	1.80	0.0248	20100	498