



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. : MRA-1230		
Induced Voltage (IV) calculation for 220 kV DC line from 400/220kV Jejuri SS to proposed 220kV Rajewadi SS, Pune [Length – 14.336 km] – Regd.		
S. No	Reference No.	Dated
(i)	MSETCL: MSETCL/CO/PS/PTCC/In/B-598/No07336	17.10.2023
(ii)	BSNL: IC/MBI/PTCC/MRA-2598/03	25.11.2023
(iii)	Central Railway: N.153/PTCC/220kV/MAH-854	18.03.2024
(iv)	Defense: B/46937/Sigs7(b)/3579	08.12.2023

The PTCC proposal submitted vide reference (i) has been examined. The LF induction on Block and Telecom circuits of BSNL & Central Railway with respect to details furnished vide above reference (ii) & (iii) 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 (iv).

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 Rajewadi TSS	57	28	0.177	600	377	N.A	N.A

As per the Telecom Details submitted by BSNL vide above reference (ii), 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

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), Central Railway	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.

ANNEXURE-I

CEA Case No.: MRA-1230			Map Scale : 1 cm= 500 m		
Name of the Power line: 220 kV DC line from 400/220kV Jejuri SS to proposed 220kV Rajewadi SS, Pune			Total Length: 14.336 km		
			S.R. Value : 10000 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-2598/03			Dated 25.11.2023		
1	Waghapur – Rajewadi		IV less than 430 V		

ANNEXURE-II

CEA Case No.: MRA-1230			Map Scale : 1 cm= 500 m		
Name of the Power line: 220 kV DC line from 400/220kV Jejuri SS to proposed 220kV Rajewadi SS, Pune			Total Length: 14.336 km		
			S.R. Value : 10000 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-854			Dated 18.03.2024		
1	ABLE-RJW	0.2	0.0019	27610	53
2	RJW-JJR	10.3	0.0055	25874	142
3	JJR-DNJ	Out of Parallelism			