



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**



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<b>CEA Case No. : MRA-1324</b>		
<b>Induced Voltage (IV) calculation for PTCC proposal of 220 kV D/C Transmission Line from existing 400 kV Koradi S/s to proposed 220 kV Mankapur S/s. [Length- 10.866 km]– Regd.</b>		
<b>S. No</b>	<b>Reference No.</b>	<b>Dated</b>
(i)	MSETCL: CO/PS/PTCC/In/B-619	26.08.2025
(ii)	Email	31.12.2025
(iii)	BSNL: IC/MBI/PTCC/MRA/03	17.11.2025
(iv)	SOUTH EAST CENTRAL RAILWAY No :SECR/S&T/PTCC/MH/ 1027	29.10.2025
(v)	Central Railway: N.705/T/PTCC/220KV/MAH-972	11.11.2025
(vi)	Defense: B/46937/Sigs-7(b)/5104	04.11.2025

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

EPR zone for proposed S/s is mentioned below:

Name of the proposed Substation	Half diagonal distance , D/2 (mts)	Fault Current I (A)	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 Mankapur S/s	260	43000	0.0143	112	N.A	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.

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

Digitally signed by  
Suman Kumar Maharana  
Date: 02-01-2026  
12:03:32  
**Chief Engineer**

**To,**

1.	Divisional Engineer (PTCC), West Zone	O/o DET (PTCC) , QA & Inspection circle Ground Floor, A-Wing, BSNL Admin Bldg. Juhu Tara Road, Santa Cruz(W), MUMBAI-54	
2.	Principal Chief (S&T)	Principal Chief Signal& Telecom Engineer 2nd Floor, SECR Zonal Hq Building, Bilaspur-495004	Annexure-I
3.	Principal Chief (S&T)	Pr. Chief Signal & Telecom Engineer's office S & T Department, 3 rd. Floor, Annexe Building, Chhatrapati Shivaji Maharaj Terminus, Mumbai-400001	Annexure-II
3.	MSETCL	Chief Engineer (Project Schemes) Maha Transco C.O., 'Prakashganga' Plot no. C-19, E-Block, BKC, Bandra (E), Mumbai-400051	Copy for information.

**ANNEXURE-I**

<b>CEA Case No. : MRA-1324</b>			<b>Map Scale : 1 cm= 500 m</b>		
<b>Name of the Power line: Induced Voltage (IV) calculation for PTCC proposal of 220 kV D/C Transmission Line from existing 400kV Koradi S/s to proposed 220kV Mankapur S/s. [Length- 10.866 km]– Regd.</b>			<b>Total Length : 10.866 km</b>		
			<b>S.R. Value : 20000 Ohm-cm</b>		
<b>S.No.</b>	<b>Telecom. Details</b>	<b>Length of Parallelism in Km.</b>	<b>Mutual Coupling In Ohms.</b>	<b>Effective Fault current In Amps.</b>	<b>I.V in Volts.</b>
<b>South East Central Railway : SECR/ S&amp;T/PTCC/MH/ 1027 Dated 29-10-2025</b>					
<b><u>Affected Blocks &amp; Telecom Circuits Details</u></b>					
1.	Kalumna – Itwari	Out of Parallelism			
2.	Itwari- Nagpur	Out of Parallelism			
3.	Kalumna- Nagpur	Out of Parallelism			
4.	Itwari- Khapri Kheda	5.3	0.000869	17063.59	15
5.	Khapri Kheda - Patansaongi	Out of Parallelism			
6.	Patansaongi- Saoner	Out of Parallelism			

**ANNEXURE-II**

<b>CEA Case No. : MRA-1324</b>			<b>Map Scale : 1 cm= 500 m</b>		
<b>Name of the Power line: Induced Voltage (IV) calculation for PTCC proposal of 220 kV D/C Transmission Line from existing 400kV Koradi S/s to proposed 220kV Mankapur S/s. [Length- 10.866 km]- Regd.</b>			<b>Total Length : 10.866 km</b>		
			<b>S.R. Value : 20000 Ohm-cm</b>		
<b>S.No.</b>	<b>Telecom. Details</b>	<b>Length of Parallelism in Km.</b>	<b>Mutual Coupling In Ohms.</b>	<b>Effective Fault current In Amps.</b>	<b>I.V in Volts.</b>
<b>Central Railway N.705/T/PTCC/220KV/MAH-972 Dated 11-11-2025</b>					
<b><u>Affected Blocks &amp; Telecom Circuits Details</u></b>					
1.	Godhani - Bharatwada	4.85	0.021794	13940	303.80