



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

CEA Case No. : AND-734		
Induced Voltage (IV) calculation in respect of PTCC proposal for LILO of ckt-II of existing 400 kV VTS-Sattenapalli at 400/220 kV GIS Thallayapalem (1.2 km)- regd.		
S. No	Reference No.	Dated
(i)	TCAPL: CE/Projects/SE400kV/EE1/DEE 2/F.LILO Thallayapalem/D.No.259/2023	27.09.2023
(ii)	TCAPL: CE/Projects/SE400kV/EE1/DEE 2/F.LILO Thallayapalem/D.No.10/2024	08.04.2024
(iii)	BSNL: SR-PTCC/SAP5626/6	29.02.2024
(iv)	South Central Railway:SG.85/4/3/PTCC/SCR/2023-24/AP-19 RTD	10.01.2024
(v)	Defense: B/46937/Sigs 7(b)/3553	08.12.2023

The PTCC proposal submitted vide above reference (i) and (ii) has been examined. The LF induction on Block and Telecom circuits of BSNL and South Central Railway with respect to details furnished vide above reference (iii) and (iv) respectively have been computed. The voltage likely to be induced on paralleling Block and Telecom circuits of BSNL and South 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

DG Signals, MoD have issued No Objection Certificate (NOC) vide reference (v) (enclosed as Annexure III)

EPR Zones for proposed substations are mentioned below.

Name of the proposed SS	Half Diagonal Distance, D/2 (mts)	Fault Current, I (kA)	Resistance of earthmat, R (Ohms)	d (mts) at 430 V	d (mts) at 650 V	d (mts) at 7 kV	d (mts) at 10 kV
400/220 kV Thallayapalem S/S	174.69	35	0.19	2527	1612	NA	NA

As per the details submitted by BSNL, no telecom exchanges are lying in the EPR zone of the proposed substation.

Taking above into consideration, necessary action for issuance of PTCC route approval may be taken under intimation to this office.

Encl.: As above


22/4/24

Chief Engineer,

To,

1.	Divisional Engineer (PTCC), Southern Zone	BSNL, Inspection Circle, 2 nd Floor, Sanchar Complex, WMS Compound, Jayanagar 5 th Block, 9 th Main, 47 th Cross, Bangalore-560041	
2.	GM S&T	Office of Principal Chief Signal & Telecom Engineer, 7 th Floor, Rail Nilayam, Secunderabad-500025	
3.	Chief Engineer Projects	APTransco, Vidyut Soudha, Gunadala, Vijayawada-520004, Andhra Pradesh	For Information

ANNEXURE-I

CEA Case No.: AND-734			Map Scale : 1 cm= 500 m		
Name of the Power line: LILO of ckt-II of existing 400 kV VTS-Sattenapalli at 400/220 kV GIS Thallayapalem			Total Length : 1.2 km		
			S.R. Value : 1000 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. SR-PTCC/SAP5626/6 Date: 29.02.2024					
1	All cables from Mandadam Exchange		Out of parallelism		
2	All cables from Secretariat Exchange		Out of parallelism		
3	All cables from Ibrahimpatnam Exchange		Out of parallelism		
4	All cables from Brahimpatnam Exchange		Out of parallelism		

ANNEXURE-II

CEA Case No.: AND-734			Map Scale : 1 cm= 500 m		
Name of the Power line: LILO of ckt-II of existing 400 kV VTS-Sattenapalli at 400/220 kV GIS Thallayapalem			Total Length : 1.2 km		
			S.R. Value : 1000 Ohm-cm		
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
South Central Railway Letter No.: SG.85/4/3/PTCC/SCR/2023-24/AP-19 RTD Date: 10.01.2024					
1	Kondapalli(KI)- Rayanapadu(RYP)		Out of parallelism		
2	Rayanapadu(RYP)- Vijayawada West Cabin(BZA-W)		Out of parallelism		
3	Vijayawada West Cabin(BZA-W)- Vijayawada Bulb Cabin(VBC)		Out of parallelism		
4	Vijayawada Bulb Cabin(VBC)- Vijayawada Jn(BZA)		Out of parallelism		