



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

CEA Case No.: TN-787		
Induced Voltage (IV) calculation in respect of PTCC proposal for LILO of 400 kV DC NCTPS Stage II – Sunguvarchathiram DC line at proposed 400 kV Ennore SEZ Super Critical Thermal Power Plant (1.478 km)- regd.		
S. No	Reference No.	Dated
(i)	TANTRANSCO: SE/TR-I/EE/TSM/AEE/F.PTCC/D. No. 84	12.11.2025
(ii)	Email: EMD Parameters	09.01.2025
(iii)	TANTRANSCO: Undertaking for Provisional Approval	06.01.2025
(iv)	BSNL: SR-PTCC/MTN0004/04	12.12.2025
(v)	Southern Railway: W.384/3/2/1247	04.12.2025

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

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 kV Ennore SEZ Super Critical Thermal Power Plant	121	63	0.016	163	67	NA	NA

As per the details submitted by BSNL vide reference (iv) above, no telephone exchanges are falling in the EPR zone of the proposed substation.

Telecommunication details from Defense are pending and the power utility has shown urgency for charging of the line and requested for provisional PTCC approval vide above reference (iii). Taking above into consideration, necessary action regarding issuance of **provisional PTCC approval** for the subject cited transmission line may be taken under intimation to this office.

Digitally signed by
Suman Kumar Maharana
Date: 12-01-2026
11.05.49 Engineer,

To,

1.	Divisional Engineer (PTCC), Southern Zone	BSNL, Inspection Circle, 1st Floor, Raj Bhavan Exchange No. 26, Sardar Patel Road, Guindy, Chennai-600032	
2.	General Manager (S&T)	Southern Railway, Head Quarters Office, S&T Branch, Chennai - 600003	
3.	Superintending Engineer/Transmission- I	TANTRANSCO, 5th floor, TANTRANSCO HQ, 144, Anna Salai, Chennai - 600002	Copy for Information

ANNEXURE-I

CEA Case No.: TN-787		Map Scale : 1 cm= 500 m			
Name of the Power line: LILO of 400 kV DC NCTPS Stage II – Sunguvarchathiram DC line at proposed 400 kV Ennore SEZ Super Critical Thermal Power Plant		Total Length : 1.478 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: SR-PTCC/MTN0004/04 **Dated** 12.12.2025

1.	Exge to Jn of K H Road to Jn Kamraj Nagar to Ulganathapuram to Thalankuppam to Nettukuppam	Out of Parallelism
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ANNEXURE-II

CEA Case No.: TN-787 Name of the Power line: LILO of 400 kV DC NCTPS Stage II – Sunguvarchathiram DC line at proposed 400 kV Ennore SEZ Super Critical Thermal Power Plant			Map Scale : 1 cm= 500 m Total Length : 1.478 km S.R. Value : 25000 Ohm-cm		
S.No.	Telecom. Details	Length of Parallelis m in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.

Southern Railway Letter No: W.384/3/2/1247 Dated 15.04.2025					
1.	MAS – GDR	0.8	0.00042	34641	15
2.	MAS-GPD	0.8	0.00042	34641	15
3.	TVT-PON	0.8	0.00042	34641	15