



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**  
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CEA Case No.: TN-772		
<b>Induced Voltage (IV) calculation in respect of PTCC proposal for 400 kV SC OH line from 400 kV AIS Ottiyambakkam to Perumbakkam (OH-UG Gantry) and UG cable from Perumbakkam to 400 kV GIS Tharamani (OH: 7 km, UG cable: 14.138 km = 21.138 km)-regd.</b>		
S. No	Reference No.	Dated
(i)	TANTRANSCO: SE/TR-I/EE/TSM/AEE/F.PTCC/D.No. 94	13.12.2024
(ii)	TANTRANSCO: Email regarding BSNL letter	23.01.2026
(iii)	TANTRANSCO: EMD parameters	05.02.2026
(iv)	BSNL: SR-PTCC/STN 6393/04	07.05.2025
(v)	CEA: CEA-PS-11(14)/51/2025-PCD Division I/49958/2025	02.06.2025
(vi)	BSNL Letter: DGM(CP&DCM)/PTCC/TN TRANS CO. Corres/2025-26/04	23.01.2025
(vii)	Southern Railway: W.384/3/2/1240	09.01.2025
(viii)	Defense: B/46937/Sigs 7(b)/4306	13.02.2025

The PTCC proposal submitted vide above references (i), (ii) and (iii) has been examined. The LF induction on Block and Telecom circuits of Southern Railway with respect to details furnished vide above reference (vii) has been computed. The voltage likely to be induced on paralleling Block and Telecom circuits of Southern Railway under Single Line to Ground fault condition are enclosed at Annexure-I. The screening factors as applicable have been considered.

DG Signals, MoD has issued No Objection Certificate (NOC) vide reference (viii) (attached as Annexure –II).

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 Tharamani GIS	94.5	63	0.01	44	NA	NA	NA

As per the details submitted by BSNL vide reference (iv), there are 13 exchanges within the 8 km periphery of the proposed transmission line. No Telecom Exchange is falling within the EPR zone of proposed SS. Further, BSNL has informed that marking of cables pertaining to these 13 exchanges will take at least three months and has therefore recommended issuance of provisional PTCC clearance vide reference (vi) citing route energization shouldn't be affected.

Taking above into consideration, necessary action for issuance of provisional PTCC route approval (RAC) shall be taken under intimation to this office in the stipulated period as specified in PTCC Manual and subsequent CLPTCC meetings.

As per the decision taken in 111th and 112th CLPTCC meeting, necessary instructions for “*Deemed Energization approval*” shall be specified while issuing provisional RAC

Encl.: As above

**Chief 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.	GM (S& T) Southern Railway	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**

<b>CEA Case No.:</b> TN-772		<b>Map Scale</b> : 1 cm= 500 m			
<b>Name of the Power line:</b> 400 kV SC OH line from 400 kV AIS Ottiyambakkam to Perumbakkam (OH-UG Gantry) and UG cable from Perumbakkam to 400 kV GIS Tharamani		<b>Total Length:</b> 21.138 km			
		<b>S.R. Value</b> : 15000 Ohm-cm			
<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>Southern Railway Letter No.:</b> W.384/3/2/1240 <b>Dated:</b> 09.01.2025					

**Block circuits of Chennai Beach – Velachery Section**

1.	Tiruvallikeni – Light House	Out of Parallelism			
2.	Light House – Mundakakanni Amman Koli				
3.	Mundakakanni Amman Koli – Thirumayilai				
4.	Thirumayilai – Mandaiveli				
5.	Mandaiveli – Greenways Road				
6.	Greenways Road – Kotturpuram				
7.	Kotturpuram – Kasthurba Nagar				
8.	Kasthurba Nagar – Indra Nagar				
9.	Indra Nagar – Tiruvanmiyur				
10.	Tiruvanmiyur – Tharamani	0.5	0.0008	23099	18
11.	Tharamani – Perungudi	1.5	0.0025	23099	58
12.	Perungudi - Velachery	1.5	0.0025	23099	58

**Block circuits of Chennai Beach – Villupuram Section**

1.	Kodambakkam – Mambalam	Out of Parallelism			
2.	Mambalam – Saidapet	IV less than 1V			
3.	Saidepet – Guindy				

4.	Guidy – St. Thomas Mount	IV less than 1V
5.	St. Thomas Mount - Palavantangal	
6.	Palavantangal – Minambakkam	
7.	Minambakkam- Tirusulam	
8.	Tirusulam – Pallavaram	
9.	Pallavaram – ChromePET	
10.	ChromePET – Tambaram Sanitorium	
11.	Tambaram Sanitorium – Tambaram	

Annexure II



Directorate General of Signals  
(Signals 7)  
General Staff Branch  
Integrated HQ of MoD (Army)  
Room No  
DHQ PO, New Delhi - 110011

B/46937/Sigs-7(b)/4306

13 Feb 2025

Er. T. Srivakumar, B.E.  
Superintending Engineer/Transmission-I &  
Secretary/Power, SLPTCC  
5<sup>th</sup> Floor, TANTRANSCO HQ  
144, Anna Salai  
Chennai-600 002

EE/TSM	EE/WORKS
EE/PROJ	SUPDT
 SE / Transmission-I	

01315

**PTCC ROUTE APPROVAL FOR ERECTION OF 400KV SC LINE ON MC/DC TOWER WITH TWIN MOOSE ACSR CONDUCTOR FROM OTTIYAMBAKKAM 400KV AIS SS UPTO PERUMBAKKAM (OH-UG GANTRY) AND LAYING OF 400KV SINGHLE CIRCUIT (ICX2500 SQ.MM, CU/PD) UG CABLE FROM THE PERUMBAKKAM (OH-UG GANTRY) TO THARAMANI 400/230KV GIS SS OF OTTIYAMBAKKAM-THARAMANI 400KV FEEDER REG**

1. Ref your letter No. SE/TR-I/EE/TSM/AEE/F.PTCC/D. 94 dt 13 Dec 24.
2. No Objection Certificate (NOC) is **accorded** based on inputs provided as per Map sheet received vide your letter mentioned above.
3. Documents alongwith map sheets (in original) are returned herewith for your further necessary action.



(Puneet Lakhanpal)  
Lieutenant Colonel  
General Staff Officer Grade-1(Communication)  
for Additional Director General(Telecommunication)

**Enclosures:** As above

**Internal:-**

HQ Southern Comd (Sigs) - for info pl.