

I/31130/2023



सत्यमेव जयते

भारत 2023 INDIA  
भूद्वयं कुतश्चिन्तम्  
ONE EARTH - ONE FAMILY - ONE FUTURE

**भारत सरकार**  
**Government of India**  
**विद्युत मंत्रालय**  
**Ministry of Power**  
**केन्द्रीय विद्युत प्राधिकरण**  
**Central Electricity Authority**  
**विद्युत संचार विकास प्रभाग**  
**Power Communication Development Division**

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CEA Case No. : TN-693		
<b>Induced Voltage (IV) calculation in respect of PTCC proposal for 765 kV D/C transmission line from proposed 765/400 kV North Chennai GIS Pooling Station to 765/400 kV Ariyalur (Villupuram) Substation (Reach I, II &amp; III) (273.326 km) - regd.</b>		
S. No	Reference No.	Dated
(i)	TANTRANSCO: SE/TR-I/EE/TSM/A1/F.PTCC/D.02/21	20.02.2021
(ii)	TANTRANSCO: CE/TR/SE/TR-I/EE/TSM/AEE1/F.PTCC/D.No. 57	27.07.2023
(iii)	TANTRANSCO: E-mail	20.10.2023
(iv)	BSNL: Email	11.08.2023
(v)	Southern Railway: W.384/3/2/1215	16.03.2021
(vi)	Defense: B/46937/Sigs 7(b)/2661	31.05.2022

The PTCC proposal submitted vide references (i) has been examined. While forwarding TANTRANSCO letter dated 27.07.2023, DET, BSNL vide reference (iv) above, has informed that telecom details from field offices are pending and would be submitted in due course of time. The LF induction on communication cables of Southern Railway with respect to details furnished vide above references (v) have been computed. The voltage likely to be induced on paralleling communication cables of Southern Railway under Single Line to Ground fault condition are enclosed at Annexure-I. The screening factors as applicable have been considered. Vide reference (vi) above, Defense have issued No Objection Certificate (NOC) (enclosed at Annexure-II).

Vide reference (ii) and (iii) above, TANTRANSCO has shown urgency for charging the line for power evacuation and has submitted the undertaking that in case of any damage to telecom assets or personnel, TANTRANSCO will bear the cost. TANTRANSCO has requested for provisional PTCC clearance.

EPR zone for the proposed substation 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
765/400 kV GIS North Chennai S/s	282	30	0.0058	NA	NA	NA	NA
765/400 kV Ariyalur S/s	344	30	0.0998	2051	1241	NA	NA

Details regarding presence of telecom assets of BSNL in the EPR zone would be provided after the submission of telecom details by BSNL.

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

Encl.: As above

*emf*  
(*मंत्र.प.जी*) 20.10.2023

**Director**

**To,**

1.	Divisional Engineer (PTCC), Southern Zone	BSNL, Inspection Circle, 1st Floor, Raj Bhavan Exchange No. 26, Sardar Patel Road, Guindy, Chennai-600032	With a request to forward telecom details at the earliest for IV calculation and EPR zone verification
2.	General Manager (S&T)	Southern Railway, Head Quarters Office, S&T Branch, Chennai - 600003	
3.	Chief Engineer/Transmission (FAC)	TANTRANSCO, 5 <sup>th</sup> floor, TANTRANSCO HQ, 144, Anna Salai, Chennai - 600002	With a request to follow up with BSNL for furnishing of respective TD to this office at the earliest



ANNEXURE-I

CEA Case No.: TN-693				Map Scale : 1 cm= 500 m		
Name of the Power line: 765 kV D/C transmission line from proposed 765/400 kV North Chennai GIS Pooling Station to 765/400 kV Ariyalur (Villupuram) Substation (Reach I, II & III)				Total Length : 273.326 km		
				S.R. Value : 15000 Ohm-cm		
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.	
<b>Southern Railway Letter No: W.384/3/2/1215 Date: 16.03.2021</b>						
1.	V.O.C. Nagar - Tiruvottiyur	0.3	0.00002	29891	1	
2.	Tiruvottiyur - Ennore	1.1	0.0004	32500	13	
3.	Ennore – Attipattu Puduagar	3.5	0.0009	30144	27	
4.	Attipattu Puduagar - Attipattu	0.6	0.0001	35026	4	
5.	Attipattu – Minjur	2.35	0.0006	29507	17	
6.	Minjur - Ponneri	5.7	0.0011	29091	32	
7.	Kadambattur – Tiruvalngadu	9.3	0.0009	22200	20	
8.	Walajabad - Kanchipuram	6.3	0.0030	17667	53	
9.	Walajabad – Palur	1.6	0.0004	15056	6	
10.	Tondarai – Tirukovilur	5.3	0.0024	22500	54	
11.	Tondarai - Tiruvannamalai	6.8	0.0007	21429	15	