



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-739		
Induced Voltage (IV) calculation in respect of PTCC proposal for LILO of 400kV D/C Kayathar – Thennampatti line at Virudhunagar (70.209 km)- regd.		
S. No	Reference No.	Dated
(i)	TANTRANSCO: Lr. No.07627/SE/TR-I/EE/TSM/AEE/F.PTCC	06.11.2023
(ii)	TANTRANSCO: Email	04.07.2024
(iii)	BSNL: SR-PTCC/STN 5383/05	05.01.2024
(iv)	Southern Railway: W.384/3/2/1231	24.11.2023
(v)	Defense: B/46937/Sigs 7(b)/3595/	31.01.2024

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

Vide reference (v) above, DG Signals, MoD has issued No Objection Certificate (NOC) (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
765/400 kV Virudhunagar SS	298.3	44.1	0.1	2761	1726	NA	NA

As per the details submitted by BSNL vide reference (iii) above, no telephone exchanges are falling 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

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.	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

ANNEXURE-I

CEA Case No.: TN-739		Map Scale : 1 cm= 500 m			
Name of the Power line: : LILO of 400kV D/C Kayathar – Thennampatti line at Virudhunagar		Total Length : 70.209 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.
BSNL Letter No.- SR-PTCC/STN 5383/05		Date: 05.01.2024			
I	MANIYACHI TELEPHONE EXCHANGE				
1	Exge to DP.0002	1.721	0.0003	23387	7
2	Exge to DP.0022	IV less than 430V			
3	Exge to DP.0022				
4	Exge to DP.0028A				
5	Exge to DP.00296				
6	Exge to DP.0037				
7	Exge to DP.0037A				
8	Exge to DP.0039				
9	Exge to DP.0040				
II	KOVILPATTI TELEPHONE EXCHANGE				
1	Exge to P.0053 to DP.5315	IV less than 430V			
2	Exge to P.0053 to DP.5325				
3	Exge to P.0053 to DP.5332				
4	Exge to P.0023 to DP.2315				
5	Exge to P.0023 to DP.2316				
6	Exge to P.0023 to DP.2307				
7	Exge to P.0046 to DP.4622				

8	Exge to P.0046 to DP.4608	4.148	0.0004	16720	7
9	Exge to P.0046 to DP.4646	IV less than 430V			
10	Exge to P.0061 to DP.6177				
11	Exge to P.0061 to DP.6121				
12	Exge to P.0061 to DP.6175				
13	Exge to P.0061 to DP.6120				
14	Exge to P.0022 to DP.2257				
15	Exge to P.0022 to DP.2245				
16	Exge to P.0022 to DP.2236				

ANNEXURE-II

CEA Case No.: TN-739			Map Scale : 1 cm= 500 m		
Name of the Power line: : LILO of 400kV D/C Kayathar – Thennampatti line at Virudhunagar			Total Length : 70.209 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.
Southern Railway Letter No.- W.384/3/2/1231			Date: 24.11.2023		
1.	Vanchi Maniyachchi- Narikkinanar	3.377	0.0008	23745	19
2.	Vanchi Maniyachchi - Kadambur	9.34	0.0164	22812	374
3.	Kadambur – Kovilpatti	10.003	0.0013	18769	24
4.	Kovilpatti- Nalli	12.327	0.0014	19932	28
5.	Nalli- Satur	11.217	0.001	23435	23
6.	Satur-Tulukapatti	Outside IV consideration zone			

E-mail: webstar@nic.in

Annexure III

Directorate General of Signals
 Signals 7
 General Staff Branch
 Integrated HQ of MoD, (Army)
 DHO FO, New Delhi – 110011

TN-739

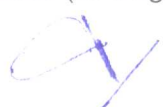
B/46937/Sigs 7(b)/3595/

Jan 2024

Superintending Engineer/Transmission-I &
 Secretary/Power, SLPTCC
 TamilNadu Transmission Corporation
 5th Floor, TANTRANSCO HQ,
 144, Anna Salai, Chennai-600 002

**PTCC ROUTE APPROVAL FOR ERECTION OF 400KV DC LINE ON DC
 TOWERS WITH QUAD MOOSE ACSR CONDUCTOR BY MAKING LILO OF
 EXISTING KAYATHAR-THENNAMPATTI 400KV DC LINE AT VIRUDHUNAGAR
 765/400KV SS-REG.**

1. Refer your Lr. No. 07627/SE/TR-I/EE/TSM/AEE/F.PTCC/ dt 06 Nov 2023 (copy att).
2. **No Objection Certificate (NOC) is accorded** based on inputs provided as per Map sheets 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)

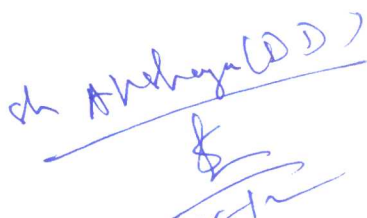
Enclosures : As above

Copy to :-

The Director (PTCC), CEA
 Power Communication Development Division
 NRPC Complex, 18-A Shaheed Jeet Singh Marg
 Katwaria Sarai, New Delhi – 110016

- for information

The DET(PTCC), Northern Zone
 Bharat Sanchar Nigam Limited
 O/o PGM (North), QA & Inspection Circle,
 D-Tax Building, Eastern Court, Janpath
 New Delhi-110001


 Sh. Anshu Singh (DD)

PCD Division
 File No. 173
 8.2.24