



भारत सरकार

Government of India

विद्युत मंत्रालय

Ministry of Power

केन्द्रीय विद्युत प्राधिकरण

Central Electricity Authority

पावर कम्युनिकेशन डवलपमेंट प्रभाग

Power Communication Development Division

No.CEA/PCD/PTCC/TN-660 / 551-553

Date:07.05.2019

The Divisional Engineer Telecom (PTCC),
QA & Inspection (T&D) circle, BSNL,
1st floor, Raj Bhavan Exchange,
No.26, Sardar Patel Road,
Guindy, Chennai-600032

Subject: Induced Voltage Calculation in respect of PTCC proposal of 230 kV Single Circuit UG cable from 400 kV Guindy GIS SS to 230 kV R.A.Puram GIS SS

- Ref:** i) BSNL letter no. SR-PTCC/STN-2000/04 dated 11.07.2018
ii) Southern Railway letter no. W.384/3/2/1169 dated 07.02.2018
iii) Defence letter no. B/46937/Sigs 7(b)/1285 dated 05.02.2019

Sir,
The instant PTCC proposal has been examined. The low frequency induction on telecom cables of BSNL and Block & Telecom circuit of Southern Railway with respect to details furnished vide above references have been computed. The average Soil Resistivity (SR) value has been taken as 5,000 Ohm-cm. The voltages likely to be induced on paralleling telecom cables of BSNL and Block & Telecom circuit of Southern Railway under single line to ground fault condition have been computed and are enclosed as Annex-I & II respectively. The screening factors, as applicable, have been considered. Vide ref. (iii) above, Defence Authority has given No Objection Certificate (NOC) (enclosed as Annex-III).
Taking above into consideration, kindly take necessary action for PTCC Route Approval.

Encl.: As above

M/C


(Naresh Bhandari)
Chief Engineer

Copy to:

- i) GM, S & T, Southern Railway, Head Quarters Office, S&T Branch, Chennai-600003
ii) Superintending Engineer, Transmission-I, Tamilnadu Transmission Corporation Ltd, 6th Floor, No. 144, Annasalai, Chennai - 600002

Case No. STN 2000		SSA: Chennai Telephones			
Name of the power line		230 KV Single Circuit UG cable from 400 KV Guindy GIS to 230 KV R.A. Puram GIS SS.			
Length:		10.160	Kms	Map Scale: 1 cm = 500 mts	
SR value: 5000.00 ohm cms		Type of BSNL telecom cable : PIJF			
Sl.No.	Name of Telecom line	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
I	GUINDY RSU Exge UG cables				
1	Exge to Pillar 72	}			IV LESS THAN 430 V
2	Exge to Pillar 70				
3	Exge to Pillar 71				
4	Exge to Pillar 59				
5	Exge to Pillar 54				
6	Exge to Pillar 55				
7	Exge to Pillar 142				
8	Exge to Pillar 147				
9	Exge to Pillar 47				
10	Exge to Pillar 43				
11	Exge to Pillar 141				
II	JONES ROAD RSU Exge UG cables				
1	Exge to Pillar 179	}			IV LESS THAN 430 V
2	Exge to Pillar 189				
3	Exge to Pillar 111				
4	Exge to Pillar 184				
5	Exge to Pillar 106				
6	Exge to Pillar 186				
7	Exge to Pillar 114				
8	Exge to Pillar 182				
9	Exge to Pillar 112				
III	K.K.Nagar MSU Exge UG cables				
1	Exge to Pillar 22	}			IV LESS THAN 430 V
2	Exge to Pillar 23				
3	Exge to Pillar 20				
4	Exge to Pillar 21				
5	Exge to Pillar 41				
6	Exge to Pillar 42				
7	Exge to Pillar 43				
8	Exge to Pillar 30				
9	Exge to Pillar 31				
10	Exge to Pillar 32				
11	Exge to Pillar 10				
12	Exge to Pillar 11				
13	Exge to Pillar 12				

(1/2)

नरेश भंडारी / NARESH BHANDARI
 मुख्य अभियंता / Chief Engineer
 केन्द्रीय विद्युत प्राधिकरण / C.E.A.
 विद्युत मंत्रालय / Ministry of Power
 भारत सरकार / Govt. of India
 नई दिल्ली / New Delhi-66

IV	KOTTURPURAM RSU Exge UG cables				
1	Exge to Pillar 20	}	IV	LESS THAN	430 V
2	Exge to Pillar 22				
3	Exge to Pillar 21				
4	Exge to Pillar 30				
5	Exge to Pillar 31				
6	Exge to Pillar 32				
7	Exge to Pillar 10				
8	Exge to Pillar 11				
9	Exge to Pillar 12				
V	MAMBALAM MSU Exge UG cables				
1	Exge to Pillar 10	}	IV	LESS THAN	430 V
2	Exge to Pillar 12				
3	Exge to Pillar 11				
4	Exge to Pillar 22				
5	Exge to Pillar 21				
6	Exge to Pillar 20				
7	Exge to Pillar 42				
8	Exge to Pillar 41				
9	Exge to Pillar 40				
10	Exge to Pillar 32				
11	Exge to Pillar 31				
12	Exge to Pillar 30				
13	Exge to Pillar 50				
14	Exge to Pillar 51				
15	Exge to Pillar 52				
VI	MYLAPORE RSU Exge UG cables				
1	Exge to Pillar 11	}	IV	LESS THAN	430 V
2	Exge to Pillar 12				
3	Exge to Pillar 13				
4	Exge to Pillar 20				
5	Exge to Pillar 21				
6	Exge to Pillar 22				
7	Exge to Pillar 30				
8	Exge to Pillar 31				
9	Exge to Pillar 32				
VII	VANIMAHAL RSU Exge UG cables				
1	Exge to Pillar 10	}	IV	LESS THAN	430 V
2	Exge to Pillar 11				
3	Exge to Pillar 12				
4	Exge to Pillar 20				
5	Exge to Pillar 21				
6	Exge to Pillar 22				
7	Exge to Pillar 30				
8	Exge to Pillar 31				
9	Exge to Pillar 32				

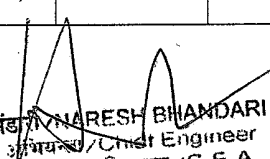
नरेश भंडारी / NARESH BHANDARI
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ANNEXURE – II

Case No: TN-660 Name of the Power Line: 230 kV Single Circuit UG cable from 400 kV Guindy GIS SS to 230 kV R.A.Puram GIS SS		Map Scale : 1cm=500mts Total Length : 10.160 km Soil Resistivity :5,000 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.384/3/2/1169 dated 07.02.2018					
Block and Telecom Circuit details					
1	Rapyapuram (RPM) – Chennai Beach (MSB)	OUTSIDE IV CALCULATION CONSIDERATION ZONE			0
2	Chennai Beach (MSB) – Chennai Egmore (MS)				0
3	Chennai Egmore (MS) – Kodambakkam (MKK)				0
4	Kodambakkam (MKK) – St. Tomas Mount (STM)	4.1	0.0010	10000	10
5	St. Tomas Mount (STM) – Pallavaram (PV)	OUT OF PARALLELISM			0
6	Chennai Beach (MSB) – Chepauk (MCPK)	OUTSIDE IV CALCULATION CONSIDERATION ZONE			0
7	Chepauk (MCPK) – Tirumaylai (MTMY)	OUT OF PARALLELISM			0
8	Tirumaylai (MTMY) – Velachery (VLCY)	2.4	0.0004	10000	4


नरेश भंडारी / NARESH BHANDARI
 मुख्य अभियंता / Chief Engineer
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 विद्युत मंत्रालय / Ministry of Power
 भारत सरकार / Govt. of India
 नई दिल्ली / New Delhi-66

TN-662

Directorate General of Signals
Signals 7
General Staff Branch
Integrated HQ of MoD, (Army)
DHQ PO, New Delhi - 110011

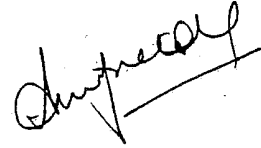
B/46937/Sigs 7(b)/1285/

05 Feb 2019

Superintending Engineer/Transmission-I&Secretary/
Power, SLPTCC,
Tamil Nadu Transmission Corporation Limited
6th Floor, No. 144, Annasalai,
Chennai-600 002.

**PTCC PROPOSAL-LAYING OF 230KV, 1X1200SQ.MM, ALU.XLPE CABLE FROM GUINDY
400KV GIS SS TO R.A. PURAM 230KV GIS SS**

1. Ref your letter No. Lr. No. SE/TR-I/EM/A1/F.PTCC/D.No 223/17 dt 23 Nov.2017 (copy att)
2. No Objection Certificate (NOC) is accorded based on inputs provided vide Map sheets received under your letter mentioned above.
3. Documents alongwith map sheets (in original) are returned herewith for your further necessary action.



(A Rawat)
Maj
GSO 1 (Comn)
for SO-in-C

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