



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

No.: CEA/PCD/PTCC/TN-684/40-42

Date 15.01.2021

Subject: - Induced voltage calculation in respect of 400 kV D/C Edayarpalam station to Udumalpet station transmission line – Regd.

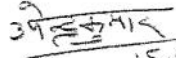
Reference: -

- | | |
|---|-------------------|
| (i) PGCIL Ref. No. SR-II/UDPT TLC/EU-Line/PTCC/2019 | Dated: 14.09.2019 |
| (ii) BSNL Ref. No. SR-PTCC/STN 2743/03 | Dated: 08.12.2020 |
| (iii) Southern Railway Ref. No. W.384/3/2/1203 | Dated: 23.09.2019 |
| (iv) Defense Ref. No. B/46937/Sigs 7(b)/1836 | Dated: 15.11.2020 |

The PTCC proposal submitted vide ref. (i) has been examined. The LF induction on the BSNL Telecom Lines, Block and Communication circuits of Southern Railway as per details furnished vide ref. (ii) and (iii) respectively has been examined. The Soil Resistivity value has been taken as 20,000 Ohms-cm. Voltages likely to be induced on paralleling BSNL Telecom Lines, Block and Communication circuits of Southern Railway under single line to ground fault condition are enclosed at Annex-I and Annex-II respectively. The screening factors as applicable have been considered. NOC accorded by the Defense vide ref. (iv) above for the line is enclosed at Annex-III.

Taking above into consideration, kindly take necessary action regarding issuance of PTCC route approval.

Encl.: As above.


15.01.21
(Upendra Kumar)
Chief Engineer

To,

1. DET (PTCC), South Zone, QA & Inspection (T&D) Circle, BSNL, 1st Floor, Raj Bhavan Exchange No. 26, Sardar Patel Road, Guindy, Chennai-600032. (Annex-I & III only)
2. General Manager, S & T, Southern Railway, Headquarters Office, S & T Branch, Chennai-600003. (Annex-II only)

Copy to: Chief Engineer, Udumalpet S/S, PGCIL, SRTS-II, 400 kV substation, P.O. Myvadi, via. Kaniyur, Udumalpet-642203.



(Annex-I)

		SSA: Coimbatore			
Name of PWR line:		400KV D/C Edayarpalayam - Udumalpet Transmission Line			
Length:	47.045	Kms			
TYPE OF BSNL CABLE: PIJF					
Average SR value : 20,000 ohm cms					
Sl.No.	Name of Telecom line	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
Coimbatore SSA Telecom details					
I	CHETTIPALYAM EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
1	EXG-P22-DP22005	} Out of parallelism			
2	EXG-P24-DP24036				
3	EXG-P21-DP21053				
4	EXG-P21A-DP21022				
5	EXG-P23-DP23062				
II	PAPPAMPATTY EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
1	EXG-P21-DP2101	} Out of parallelism			
2	EXG-P25-DP2501				
3	EXG-P25-DP2510				
4	EXG-P22-DP2201				
5	EXG-P22-DP2210	} IV less than 430v			
6	EXG-P24-DP2401				
7	EXG-P23-DP2301	} Out of parallelism			
8	EXG-P23-DP2310				
III	KARADIBHAVI EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
1	EXG-P41-DP4158	IV less than 430v			

Name of PWR line:		400KV D/C Edayarpalayam - Udumalpet Transmission Line			
Length:	47.01 _{1.5}	Kms			
TYPE OF BSNL CABLE: PIJF					
Average SR value : 20,000		ohm cms			
Sl.No.	Name of Telecom line	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
Coimbatore SSA Telecom details					
2	EXG-P41-DP4151				
3	EXG-P41-DP4143				} IV less than 430V
4	EXG-P41-DP4277				
5	EXG-P41-DP4223				
IV	SANJERIPUDUR EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	
1	EXG-P33-DP3313				
2	EXG-P31-DP3119				} IV less than 430V
3	EXG-P31-DP3104				
4	EXG-P31-DP3160				
5	EXG-P31-DP3116				
6	EXG-DP0019				
V	SULTANPET EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
1	EXG-P22-DP2218				
2	EXG-P32-DP3213				} IV less than 430V
3	EXG-P32-DP3206				
4	EXG-P31-DP3161				
5	EXG-P41-DP4113				
6	EXG-P41-DP4104				

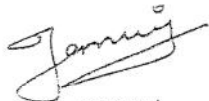
Name of PWR line:		400KV D/C Edayarpalayam - Udumalpet Transmission Line			
Length:	47.0: 3	Kms			
TYPE OF BSNL CABLE: PIJF					
Average SR value : 20,000 ohm cms					
Sl.No.	Name of Telecom line	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
Coimbatore SSA Telecom details					
7	EXG-P45-DP4517				
8	EXG-P12-DP1238				IV less than 430V
9	EXG-P43-DP4305				
10	EXG-P31-DP3119				
VI	METTUBAVI EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	
1	EXG-P20-DP2010				
2	EXG-P20-DP2020				IV less than 430V
3	EXG-P20-DP2030				
4	EXG-P21-DP2110				
5	EXG-P23-DP2310				
VII	JAKKARPALAYAM EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	
1	EXGE - P21-DP2110				IV less than 430V
2	EXGE - P24-DP2410				
3	EXGE - P24-DP2420				
VIII	NEGAMAM EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
1	EXGE - P23-DP2310				IV less than 430V
2	EXGE - P24-DP2410				
3	EXGE - P25-DP2510				

Name of PWR line:		400KV D/C Edayarpalayam - Udumalpet Transmission Line			
Length:	47.076	Kms			
TYPE OF BSNL CABLE: PIJF					
Average SR value : 20,000 ohm cms					
Sl.No.	Name of Telecom line	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
Coimbatore SSA Telecom details					
4	EXGE - P25-DP2520				IV less than 430V
IX	POOLAVADI EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
1	EXGE - P21 - DP2102				IV less than 430V
2	EXGE - P22 - DP2205				
3	EXGE - P23 - DP2307				
4	EXGE - P23 - DP2309				
X	V. VELUR EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
1	EXGE - P21-DP2104				IV less than 430V
2	EXGE - P22-DP2210				
3	EXGE - P22-DP2213				
4	EXGE - P22-DP2226				
5	EXGE - P23-DP2301				
6	EXGE - P32-DP3215				
7	EXGE - P32-DP3218				
8	EXGE - P33-DP3301				
9	EXGE - P33-DP3303				
10	EXGE - P23-DP2303				
XI	PADAPPAMPATTI EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts

Name of PWR line:		400KV D/C Edayarpalayam - Udumalpet Transmission Line			
Length:	47.5	Kms			
TYPE OF BSNL CABLE: PIJF					
Average SR value : 20,000 ohm cms					
Sl.No.	Name of Telecom line	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
Colombatore SSA Telecom details					
1	EXGE - P21-DP2101	} IV less than			
2	EXGE - P21-DP2102				
3	EXGE - P21-DP2103				
4	EXGE - P21-DP2104				
5	EXGE - P24-DP2401				
6	EXGE - P33-DP3301				
7	EXGE - P34-DP3401				
8	EXGE - P34-DP3402				430 V
9	EXGE - P41-DP4101				
XII	MURUNGAPATTI EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
1	EXGE - P22-DP2201	} IV less than			
2	EXGE - P22-DP2202				
3	EXGE - P22-DP2203				
4	EXGE - P33-DP3301				
5	EXGE - P33-DP3302				
6	EXGE - P33-DP3303				
7	EXGE - P33-DP3304				430 V
8	EXGE - INZ- DP0001				

Name of PWR line:		400KV D/C Edayarpalayam - Udumalpet Transmission Line			
Length:	47.036	Kms			
TYPE OF BSNL CABLE: PIJF					
Average SR value : 20,000 ohm cms					
Sl.No.	Name of Telecom line	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
Coimbatore SSA Telecom details					
XIII	THUNGAVI EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
1	EXGE - P21-DP2101	}	IV less than 430V		
2	EXGE - P00-DP0001				
3	EXGE - P26-DP2601				
4	EXGE - INZ- DP0004				
5	EXGE - INZ- DP0003				
XIV	UDUMALAIPETTAI EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
1	EXGE - P59-DP5902	}	IV less than 430V		
2	EXGE - P46-DP4601				
3	EXGE - P50-DP5002				
4	EXGE - P21-DP2101				
5	EXGE - P26-DP2601				
6	EXGE - P29-DP2902				
7	EXGE - P93-DP9301				
8	EXGE - P67-DP6701				
9	EXGE - P27-DP2701				
XV	KANIYUR EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
1	EXGE - P31-DP3101				IV less than 430V

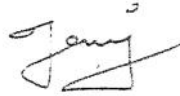
Name of PWR line:		400KV D/C Edayarpalayam - Udumalpet Transmission Line			
Length:	47.07	Kms			
TYPE OF BSNL CABLE: PIJF					
Average SR value : 20,000 ohm cms					
Sl.No.	Name of Telecom line	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
Coimbatore SSA Telecom details					
2	EXGE - P41-DP4101	}	IV		
3	EXGE - P51-DP5101		less		
4	EXGE - P52-DP5201				
5	EXGE - P54-DP5401			tham 430V	
XVI	KRISHNAPURAM EXCHANGE		LOP in KMs	MC in Ohms	FC in Amps
1	EXGE - P21-DP2101	}	IV		
2	EXGE - P32-DP3201		less		
3	EXGE - P22-DP2201				
4	EXGE - P25-DP2501			tham	
5	EXGE - P28-DP2801				430V


 तनुज/TANUJ
 नामांकित निदेशक-II/Asstt. Director-II
 केन्द्रीय विद्युत प्राधिकरण/C.E.A.
 विभाग-100/Ministry of Power
 भारत सरकार/Govt. of India
 नई दिल्ली/New Delhi-68

ANNEXURE-II

Case No.: TN-684 Name of the Power line: 400 kV D/C Edayarpalam station to Udumalpet station transmission line.			Map Scale : 1 cm = 500 m Total Length: 47.07 km. Average S.R. value : 20,000 ohm-cm		
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohmsec.	Effective Fault Amp/msec.	I.V in Volts.

SOUTHERN RAILWAY Ref. No: W.384/3/2/1203 DATED: 23-09-2019					
Affected Blocks & Telecom Circuits Details					
1	Udumalpet (UDT) to Maivadi road (MVRD)	6.9	0.0027	14522	39



तनुज/TANUJ
 सहायक निदेशक-II/Asstt. Director-II
 केन्द्रीय विद्युत प्राधिकरण/C.E.A.
 विद्युत मंत्रालय/Ministry of Power
 भारत सरकार/Govt. of India
 नई दिल्ली/New Delhi-68

तनुज/TANUJ
 सहायक निदेशक-II/Asstt. Director-II
 केन्द्रीय विद्युत प्राधिकरण/C.E.A.
 विद्युत मंत्रालय/Ministry of Power
 भारत सरकार/Govt. of India
 नई दिल्ली/New Delhi-68

Tele : 23019746

TN-684

(Annex-III)

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

B/46937/Sigs 7(b)/1836/

15 Nov 2019

Chief Manager
Power Grid Corporation of India Limited
Southern Region Transmission System-II
400KV Substation
P.O., Myvadi, Via. Kaniyur, Udumalpet-642 203

**PTCC APPROVAL FOR 400KV (QUAD) D/C EDAYARPALAYAM (FUTURE) STATION-
UDUMALPET STATION TRANSMISSION LINE**

1. Ref your letter No SR-II/UDPT TLC/EU-Line/PTCC/2019 dt 14 Sep 2019 (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

Divisional Engineer Telegraph (PTCC)
O/o GM (North); BSNL, QA & Inspection Circle,
CTS Compound, Africa Avenue Road,
Netaji Nagar, New Delhi-110023

} for information