



सत्यमेव जयते

भारत सरकार

Government of India

विद्युत मंत्रालय

Ministry of Power

केन्द्रीय विद्युत प्राधिकरण

Central Electricity Authority

विद्युतसंचारविकासप्रभाग

Power Communication Development Division

No.: CEA/PCD/ PTCC/TN-683/43-45

Date : 15.01.2021

Subject: - Induced voltage calculation in respect of 400 kV (Quad) D/C Pugalur station to Edayarpalayam transmission line – Regd.


Reference: -

- | | |
|---|-------------------|
| (i) PGCIL Ref. No. SR-II/UDPT TLC/PE-Line/PTCC/2019 | Dated: 14.09.2019 |
| (ii) BSNL Ref. No. SR-PTCC/STN 2742/03 | Dated: 08.12.2020 |
| (iii) Southern Railway Ref. No. W.384/3/2/1204 | Dated: 23.09.2019 |
| (iv) Defense Ref. No. B/46937/Sigs 7(b)/1835 | Dated: 28.11.2019 |

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 15,000 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.


(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

Name of PWR line:		A) SSA: Erode			
Name of PWR line:		400KV D/C Pugalur HVDC - Edayarpalayam Transmission Line			
Length:	52.28	Kms			
TYPE OF BSNL CABLE: PIJF					
Average SR Value : 15,000		ohm cms			
Sl.No.	Name of Telecom line	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
Erode SSA Telecom details					
I	MANURPALLYAM (MNP) EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
1	EXG-P22-DP22025	}	IV	less	tham 430V
2	EXG-P22-DP22031				
3	P22-P23-DP23001				
4	P22-P23-DP23020				
5	EXG-P24-24057				
6	P24-P31-DP31011				
7	P24-P31-DP31003				
8	P24-P31-DP31001				
9	EXG-P41-P42-DP42001				
10	EXG-P41-P42-DP42023				
II	METUKKADAI(MKD) EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
1	EXGE-P32-DP32016	}	IV	less	tham 430V
2	EXGE-P41-DP41001				
3	EXGE-P41-DP41010				
4	EXGE-P41-DP41016				
5	EXGE-P41-DP41093				
6	EXGE-P41-DP41111				

		A) SSA: Erode			
Name of PWR line:		400KV D/C Pugalur HVDC - Edayarpalayam Transmission Line			
Length:	52.00	Kms			
TYPE OF BSNL CABLE: PIJF					
Average SR Value : 15,000		ohm cms			
Sl.No.	Name of Telecom line	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
Erode SSA Telecom details					
III	PETAKALIPALYAM(PKP) EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
1	EXG-P21-DP21015	}	IV less	than	430V
2	EXG-P22-DP22012				
3	EXG-P22-DP22024				
4	EXG-INNERZONE-DP0010				
IV	KUNDADAM (KND) EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
1	EXG-P21-DP2116	}	IV less	than	430V
2	EXG-P21-DP2125				
3	EXG-P21-DP2134				
4	EXG-P21-DP2143				
5	EXG-P31-DP3103				
6	EXG-P31-DP3104				
7	EXG-P31-DP3115				
8	EXG-P31-DP3121				
9	EXG-P32-DP3251				
10	EXG-P41-DP4124				
11	EXG-P41-DP4136				
V	UPPARDAM (URD) EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts

		A) SSA: Erode				
Name of PWR line:		400KV D/C Pugalur HVDC - Edayarpalayam Transmission Line				
Length:	52.550	Kms				
TYPE OF BSNL CABLE: PIJF						
Average SR Value :		15,000	ohm cms			
Sl.No.	Name of Telecom line	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts	
Erode SSA Telecom details						
1	EXG-P21-DP21014					
2	EXG-P21-DP21025	} IV				
3	EXG-P21-DP21052					
4	P21-P22-DP2206		} less			
5	P21-P22-DP22028					
6	EXG-P23-DP2306		} than			
7	EXG-INNERZONE-DP0016					
8	EXG-INNERZONE-DP0025				430V	
9	EXG-INNERZONE-DP0085					
VI	UTYHIYUR EXCHANGE		LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
1	UTY Exge - P21 - DP 2112 UTHIYUR	} IV				
2	UTY Exge - P22 - DP 2212 KANGAYAM ROAD P.BUNK					
3	UTY Exge - P23 - DP 2330 KULLAMPALAYAM					
4	UTY Exge - P24 - DP 2430 MUTHALIPALAYAM		} less			
5	UTY Exge - P25 - DP 2507 SAMATHUVAPURAM					
6	UTY Exge - P26 - DP 2620 NOCHIPALAYAM		} than			
7	UTY Exge - P27 - DP 2719C THAYAMPALAYAM				430V	

		A) SSA: Erode			
Name of PWR line:		400KV D/C Pugalur HVDC - Edayarpalayam Transmission Line			
Length:	52.733	Kms			
TYPE OF BSNL CABLE: PIJF					
Average SR Value : 15000		ohm cms			
Sl.No.	Name of Telecom line	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
Erode SSA Telecom details					
8	UTY Exge - P28 - DP2811 AARUTHOLUVU				
VII	NANJIYAMPALYAM EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
1	Exge to Pillar 255 Primary	} IV			
2	Exge to Pillar 253 Primary				
3	Exge to Pillar 252 Primary				
4	Pillar 253 to TRN Politechnic DP 0003				
5	Pillar 252 to Venkittipalayam EB office DP0024			less	
6	Pillar 253 to Maharani politechnic DP052A			them	
7	Pillar 255 to Kuppuchipalayam DP0044				
8	Pillar 253 to RTO office DP026A			430V	
9	Pillar 255 to kuppuchipalayam DP0043				
VIII	KOLATHUPALYAM(KHU) EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
1	EXG-P41-DP41065	} Out of parallelism			
2	P41-P51-DP51005				
3	P41-P51-DP51055				

		B) SSA: Coimbatore			
Name of PWR line:		400KV D/C Pugalur HVDC - Edayarpalayam Transmission Line			
Length:	52.523	Kms			
TYPE OF BSNL CABLE: PIJF					
Average SR value :		15,000	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	SANJERIPUDUR EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
1	EXG-P33-DP3313	} IV less than 430V			
2	EXG-P31-DP3119				
3	EXG-P31-DP3104				
4	EXG-P31-DP3160				
5	EXG-P31-DP3116				
6	EXG-DP0019				
7	EXG-P22-DP2218				
8	EXG-P22-DP2291				
II	SULTANPET EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
1	EXG-P22-DP2218	} IV less than 430V			
2	EXG-P32-DP3213				
3	EXG-P32-DP3206				
4	EXG-P31-DP3161				
5	EXG-P41-DP4113				
6	EXG-P41-DP4104				
7	EXG-P45-DP4517				

		B) SSA: Coimbatore			
Name of PWR line:		400KV D/C Pugalur HVDC - Edayarpalayam Transmission Line			
Length:	52.903	Kms			
TYPE OF BSML CABLE: PIJF					
Average SR value : 15,000		ohm cms			
Sl.No.	Name of Telecom line	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
Coimbatore SSA Telecom details					
8	EXG-P12-DP1238	}	IV less than	430V	
9	EXG-P43-DP4305				
10	EXG-P31-DP3119				
III	KARADIBHAVI EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
1	EXG-P41-DP4158	}	IV less than	430V	
2	EXG-P41-DP4151				
3	EXG-P41-DP4143				
4	EXG-P41-DP4277				
5	EXG-P41-DP4223				
IV	MANDHRIPALAYAM EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
1	EXG-P41-DP4125	}	IV less than	430V	
2	EXG-P41-DP4101				
3	EXG-P41-DP4108				
4	EXG-P31-DP3105				
5	EXG-P31-DP3103				
V	CHETTIPALYAM EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts
1	EXG-P22-DP22005	IV less than 430V			

				B) SSA: Coimbatore			
Name of PWR line:				400KV D/C Pugalur HVDC - Edayarpalayam Transmission Line			
Length:	52.5			Kms			
TYPE OF BSNL CABLE: PIJF							
Average SR value : 15,000				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-P24-DP24036	}	IV less				
3	EXG-P21-DP21053						
4	EXG-P21A-DP21022			than 430V			
5	EXG-P23-DP23062						
VI	METTUBAVI EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts		
1	EXG-P20-DP2010	}	IV				
2	EXG-P20-DP2020			less			
3	EXG-P20-DP2030						
4	EXG-P21-DP2110			than 430V			
5	EXG-P23-DP2310						
VII	PAPPAMPATTY EXCHANGE	LOP in KMs	MC in Ohms	FC in Amps	IV in Volts		
1	EXG-P21-DP2101	}	IV				
2	EXG-P25-DP2501			less			
3	EXG-P25-DP2510						
4	EXG-P22-DP2201			than			
5	EXG-P22-DP2210			430V			
6	EXG-P24-DP2401						

				B) SSA: Coimbatore	
Name of PWR line:			400KV D/C Pugalur HVDC - Edayarpalayam Transmission Line		
Length:	52.75	Kms			
TYPE OF BSNL CABLE: PIJF					
Average SR value : 15,000			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-P23-DP2301	}	IV less than	430v	
8	EXG-P23-DP2310				

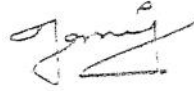
Tanuj

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

ANNEXURE-II

Case No.: TN-683 Name of the Power line: 400 kV (Quad) D/C Pugalur station to Edayarpalayam transmission line.			Map Scale : 1 cm = 500 m Total Length: 52.4 km Average S.R. value : 15,000 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.384/3/2/1204 DATED: 23-09-2019					
<u>Affected Blocks & Telecom Circuits Details</u>					
1	Podanur (PTJ) to Kinathukadavu (CNV)	0.2	0.00004	14982	01



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

Tele : 23019746

TNG-683
Annex-11

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

B/46937/Sigs 7(b)/1835/

28 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 PUGALUR STATION-EDAYARPALAYAM
TRANSMISSION LINE**

1. Ref your letter No SR-II/UDPT TLC/PE-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