

I/29625/2023



**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. : AND-713		
Induced Voltage (IV) calculation in respect of PTCC proposal for 220 kV DC line from 220 kV SS Sullurpeta to the proposed 220 kV SS Racherla (19.16 km) - regd.		
S. No	Reference No.	Dated
(i)	APTRANSCO: CE(Z)KDP/SE(Z)/EE(220-132KV Con)/DEE2/Racherla SS/PTCC/D.No. 308/2021	24.06.2021
(ii)	APTRANSCO: SE/Proj/Field/KDP/DEE-T/AEE-T/F.No.667/ D no. 413/2023	11.05.2023
(iii)	BSNL: SR-PTCC/SAP3758/3	03.01.2022
(iv)	Southern Railway: W.384/3/5/106	11.04.2023
(v)	Defense: B/46937/Sigs 7(b)/3305	24.07.2023

The PTCC proposal submitted vide references (i) & (ii) has been examined. The LF induction on communication cables of BSNL and Southern Railway with respect to details furnished vide above references (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 & 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
220 kV Racherla	115	30	0.2	1489.6	946.5	NIL	NIL

As per the telecom details submitted by BSNL vide above reference (iii), no telecom exchanges are lying within 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

  
 Director 11.8.2023

To,

1.	Divisional Engineer (PTCC), Southern Zone	BSNL, Inspection Circle, 1st Floor, Raj Bhavan Exchange No. 26, Sardar Patel Road, Guindy, Chennai-600032
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2.	General Manager (S&T)	Southern Railway, Head Quarters Office, S&T Branch, Chennai - 600003
3.	Chief Engineer (Zone Kadapa)	APTRANSCO, Transco Nilayam, Vijayawada - 520004 - Copy for information

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ANNEXURE-I

CEA Case No.: AND-713			Map Scale : 1 cm= 500 m		
Name of the Power line: 220 kV DC line from 220 kV SS Sullurpeta to the proposed 220 kV SS Racherla			Total Length : 19.16 km		
			S.R. Value : 5000 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/SAP3758/3 Date: 03.01.2022					
1	VARADAI AH PALEM Exchange P21 – DP2117				
2	VARADAI AH PALEM Exchange P31 – DP3105				
3	VARADAI AH PALEM Exchange P35 – DP3506				
4	VARADAI AH PALEM Exchange P42 – DP4208				
5	VARADAI AH PALEM Exchange P36 – DP3612				
IV less than 430 V					

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**ANNEXURE-II**

CEA Case No.: AND-713			Map Scale : 1 cm= 500 m		
Name of the Power line: 220 kV DC line from 220 kV SS Sullurpeta to the proposed 220 kV SS Racherla			Total Length : 19.16 km		
			S.R. Value : 5000 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.384/3/5/106 dated 11.04.2023</b>					
1	Tada - Sullurupeta	3.8	0.0006	21667	13
2	Sullurupeta - Polireddipalem	Out of parallelism			
3	Polireddipalem – Doravarichatram				

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Tele : 23019746

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

AND-713

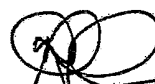
B/46937/Sigs 7(b)/3305

24 Jul 2023

Chief Engineer, Projects  
 AP Transco  
 Transmission Corporation of Andhra Pradesh Limited  
 Vidyat Soudha, Vijayawada- 520004, Andhra Pradesh

**ERECTION OF 220KV DC LINE FROM 220KV SS SULLURUPETA TO THE  
 PROPOSED 220KV SS RACHERLA- PTCC PROPOSAL**

1. Refer your Lr. No. CE-Proj/SE-220&132kV/EE-1/DEE-1/F.Racherla SS/PTCCD.No. 93/2023 dt 29 Mar 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.

  
 (SP Choyal)  
 Lt Col  
 GSO 1 (Comn)  
 for ADG T.

**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/p PGM (North), QA & Inspection Circle,  
 D-Tax Building, Eastern Court, Janpath  
 New Delhi-110001

Central Electricity Authority  
 PCD Division

File No. 694  
 13/8

Dr. V. (P. C. D.)  
 01/8

Sh. Akshay, DD

Pls. pan 31/8/23  
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