

**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-694		
Induced Voltage (IV) Calculation in respect of PTCC proposal for 220 kV D/C line from proposed 400/220/11 kV Guddigudem SS to proposed 220/11 kV SS Tadipudi (16.135 km) - regd.		
S. No	Reference No.	Dated
(i)	APTRANSCO: CE(LI)/SE(LIS)/DE-2/ADE-4/PTCC/Tadipudi/D. no. 226/2019	03.06.2019
(ii)	APTRANSCO: CE/Project/SE/(220&132kV)/EE-3/DEE-3/F. Tadipudi/D. No. 246/2023	25.08.2023
(iii)	BSNL: SR-PTCC/SAP2542/03	24.09.2019
(iv)	South Central Railway: SG.85/4/3/PTCC/SCRAP201928 RC received via APTRANSCO email dated 09.05.2023	31.07.2019
(v)	Defense: B/46937/Sigs 7(b)/1693	03.09.2019

The PTCC proposal submitted vide reference (i) & (ii) has been examined. The LF induction on communication circuits of BSNL with respect to details furnished vide above reference (iii) have been computed. The voltages likely to be induced on paralleling communication cables of BSNL under Single Line to Ground fault condition are enclosed at Annexure-I. The screening factors as applicable have been considered. Vide reference (iv) above, South Central Railway has issued No Objection Certificate (NOC). Vide reference (v) above, DG Signals, MoD has issued No Objection Certificate (NOC) (enclosed as Annexure-II).


The values of EPR zones for proposed 400/220/11 kV Guddigudem SS have been issued vide BSNL RAC no. SR-PTCC/SAP2607/15 dated 28.12.2022. EPR Zones for proposed 220/11 kV Tadipudi SS 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
220/11 kV Tadipudi	125	30	0.1	747	452	NIL	NIL

As per the details submitted by BSNL, there are no telecom exchanges falling 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 1/9/23

To,

I/30035/2023

1.	Divisional Engineer (PTCC), Southern Zone	BSNL, Inspection Circle, 1st Floor, Raj Bhavan Exchange No. 26, Sardar Patel Road, Guindy, Chennai-600032	
2.	PCSTE	South Western Railway, O/o PCSTE, Rail Soudha, Gadag Road, Hubballi - 20	
3.	Chief Engineer, Lift Irrigation	APTRANSCO, Vidyut Soudha, Vijayawada - 520004	Copy for information

I/30035/2023

ANNEXURE-I

CEA Case No.: AND-694		Map Scale : 1 cm= 500 m			
Name of the Power line: 220 kV D/C line from proposed 400/220/11 kV Guddigudem SS to proposed 220/11 kV SS Tadipudi		Total Length : 16.135 km			
		S.R. Value : 45,000 Ohm-cm			
S.No.	Telecom. Details	Length of Parallelism in Km.	Mutual Coupling in Ohms.	Effective Fault current in Amps.	I.V in Volts.
<b>BSNL Letter No: SR-PTCC/SAP2542/03 Date: 24.09.2019</b>					
<b>Vege swarpuram Exchange</b>					
1	Exchange to P.lanka				IV less than 430 V
2	Exchange to Gajjaram				
3	Exchange to Pydimetta				
4	Exchange to Annadevarapeta	2.35	0.0384	20885	802
<b>Gutala Exchange</b>					
1	Exchange to Tadipudi	Out of parallelism			
<b>Gopalapuram Exchange</b>					
1	Exchange to Bhimolu IZ	3.3	0.0676	16435	1111
<b>Guddigudem Exchange</b>					
1	Exchange to Pillar 81				IV less than 430 V
2	Exchange to Pillar 82				
3	Exchange to Nandigudem IZ	0.65	0.0233	28734	641

I/30035/2023

Tele : 23019746

AND-694

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

B/46937/Sigs 7(b)/1693/

03 Sep 2019

Chief Engineer,  
Lift Irrigation, EA & OPN,  
Transmission Corporation of Andhra Pradesh Ltd  
AP TRANSCO, Vidyut Soudha  
Vijayawada - 520 004

**APTRANSCO-CHINTALAPUDI LIFT IRRIGATION SCHEME-ERECTION OF 220KV DC LINE  
FROM PROPOSED 400/220/11KV GUDDIGUEM SS TO PROPOSED 220/11KV SS TADIPUDI-  
PTCC PROPOSALS-FORWARDED-REGARDING**

1. Ref your letter No Lr. No. CE(LI)/SE(LIS)/DE-2/ADE-4/PTCC/Tadipudi/D.No. 226/2019 dt 03 Jun 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*  
(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

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

*m. Ratan*  
*निदेशक* *२२*  
*२/९*  
*७१९*

