



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/TNG-48/2085-86

Date : 06.09.2018

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

**Subject:** Induced Voltage Calculation in respect of PTCC proposal for LINE OUT portion of LILO of both circuits (Ckt-I & II) of 400 kV Suryapet – Shankarpally Quad Moose DC line from existing Loc. No. AP-123/3 to 400 kV Kethireddypally SS (Shankarpally-1 & 2).

**Reference:** i) BSNL letter no. SR-PTCC/STS-2010/04 dated 28.05.2018  
ii) South Central Railway letter no. SG.85/4/3/PTCC/SCRTS01201811 RC dated 14.02.2018  
iii) Defense letter no. B/46937/Sigs 7(b)/1120 dated 19.07.2018


Sir,

The instant PTCC proposal has been examined. The low frequency induction on telecom cables of BSNL with respect to details furnished vide above reference has been computed. The Soil Resistivity (SR) value has been taken as 10,000 Ohm-cm, as intimated by the Power authority (TSTransco). The voltages likely to be induced on paralleling telecom cables of BSNL under Single Line to Ground fault condition have been computed and are enclosed at Annex-I. The screening factors, as applicable, have been considered. Vide ref. (ii) above, South Central Railway have issued No Objection Certificate (NOC) (enclosed as Annex – II). Vide ref. (iii) above, Defense Authority have issued 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

Yours faithfully,  
  
(Naresh Bhandari)  
Chief Engineer

Copy to:

i) Chief Engineer, 400kV, TSTRANSCO, Vidyut Soudha, Hyderabad-500082



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Power Communication Development Division

नंबर / सीईए / पीसीडी / पीटीसीसी / टीएनजी-48 / 2025-86

दिनांक: 06.09.2018

डिवीजनल इंजीनियर टेलीकॉम (पीटीसीसी),  
क्यू ए एंड इंस्पेक्शन (टी एंड डी) सर्कल, बीएसएनएल,  
1 तल, राज भवन एक्सचेंज,  
नं 26, सरदार पटेल रोड,  
गुंडी, चेन्नई -600032

विषय: पीटीसीसी प्रस्ताव - 400 केवी सूर्यपेट - शंकरपल्ली (QUAD MOOSE) डीसी लाइन के दोनों सर्किट (1 और 2) का लिलो एपी-123/3 से 400 केवी केथीरेड्डीपल्ली उपकेन्द्र पर (शंकरपल्ली -1 और 2) - लाइन आउट भाग के संबंध में प्रेरित वोल्टेज की गणना।

- संदर्भ: i) बीएसएनएल पत्र संख्या SR-PTCC/STS-2010/04 दिनांक 28.05.2018  
ii) दक्षिण मध्य रेलवे पत्र संख्या SG.85/4/3/PTCC/SCRTS01201811 RC दिनांक 14.02.2018  
iii) रक्षा सन्दर्भ सं. B/46937/Sigs 7(b)/1120 दिनांक 19.07.2018

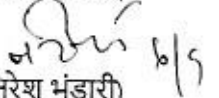
महोदय,

तत्काल पीटीसीसी प्रस्ताव की जांच की गई है। उपर्युक्त संदर्भों में दिए गए विवरण के अनुसार, दूरसंचार पर निम्न आवृत्ति प्रेरण (Low frequency induction) की जांच की गई है। औसत मृदा प्रतिरोधकता 10,000 ओम-सेमी ली गयी है। सिंगल लाइन to ग्राउंड फाल्ट अवस्था में समानांतर बीएसएनएल केबलों पर प्रेरित वोल्टेज (Induced Voltage) अनुलग्नक -I में संलग्न है। स्क्रीनिंग कारक (screening factor) का मान यथानुरूप लिया गया है। रेलवे प्राधिकरण ने उपरोक्त सन्दर्भ (ii) के द्वारा अनापत्ति प्रमाण पत्र (No objection certificate) जारी किया है। (अनुलग्नक- II में प्रतिलिपि संलग्न)। रक्षा प्राधिकरण ने उपरोक्त सन्दर्भ (iii) के द्वारा अनापत्ति प्रमाण पत्र (No objection certificate) जारी किया है। (अनुलग्नक- III में प्रतिलिपि संलग्न)।

अतः आपसे अनुरोध है कि ट्रांसमिशन लाइन के लिए पीटीसीसी रूट अनुमोदन के संबंध में आगे की आवश्यक कार्रवाई करने की कृपा करें।

संलग्न: ऊपरोक्त अनुसार

आपका आभारी,

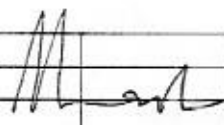
  
(नरेश भंडारी)  
मुख्य अभियन्ता

कॉपी:

- i) मुख्य अभियन्ता, 400 केवी, TSTRANSCO, विद्युत सौधा, हैदराबाद -500082

## ANNEXURE - I

<b>Case No.: TNG-48</b>					
<b>Name of the Power line:</b> LINE OUT portion of LILO of both circuits (Ckt-I & II) of 400 kV Suryapet – Shankarpally Quad		<b>Map Scale</b> : 1cm=500mts			
Moose DC line from existing Loc. No. AP-123/3 to 400 kV		<b>Total Length</b> : 20.556 Km.			
Kethireddypally SS (Shankarpally-1 & 2).		<b>Average Soil Resistivity:</b> 10000 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</b> letter no. – SR-PTCC/STS-2010/04 dated 28.05.2018					
<b>Palgutta Exchange</b>					
A1	Exchange to Kandawada	IV LESS THAN 430 V			
A2	Exchange to Tolkatta				
A3	Exchange to Malkapur				
A4	Exchange to Etabarpalli (Nakkapally)	7.65	0.0379	12000	455
A5	Exchange to Narayandasguda	9.45	0.0578	11000	636
A6	Exchange to Mudimyal	IV LESS THAN 430 V			
A7	Exchange to Mallareddyguda				
<b>Chevella Exchange (B)</b>					
B1	Exchange to Pamena	IV LESS THAN 430 V			
B2	Exchange to Kesavaram				
B3	Exchange to Damergidda				
B4	Exchange to Ibrahimpalle				
<b>Shabad Exchange</b>					
C1	Exchange to Local + Cell sie	IV LESS THAN 430 V			
C2	Exchange to Mariyaguda				
C3	Exchange to Komarmbanda				
C4	Exchange to Nagarkunta				
C5	Exchange to Bobbilgam				
C6	Exchange to Gopigadde				
C7	Exchange to Shankarpallyguda				
C8	Exchange to Muddamguda				
<b>Moinabad Exchange</b>					
D1	Exchange to Surram Road	OUT OF PARALLELISM			
D2	Exchange to Hyderabad Road				
D3	Exchange to Chevella Road				
D4	Exchange to Chilkur Road				
					
		Sewa Bhawan, R.K. Puram, New Delhi-66/New Delhi-68			



दक्षिणमध्यरेलवे

South Central Railway

मुख्यालयकार्यालय, सिगनलएवंदूरसंचारशाखा, रेलनिलयम,सिकंदराबाद- 500025

Head Quarters Office, Signal &amp; Telecomm Branch, Rail Nilayam, Secunderabad -500025

No. SG.85/4/3/PTCC/SCRTS01201811 RC

Date: 14.02.2018

**Divisional Engineer Telecom,**

PTCC, Southern Region, T&amp;D Circle,

Rajbhavan Exchange, 1<sup>st</sup> Floor, No.26,

Sardar Patel Road, Guindy,

**Chennai- 600 032.**

**Sub:** Erection of LINE OUT portion pertains to LILO of both circuits (Ckt-I & II) of 400kV Suryapet-Shankarpally Quad Moose DC line from existing Loc.No.AP-123/3 to 400kV Kethireddypally SS (Shankarpally-1&2)-20556km - PTCC Proposal - Railway Telecom Clearance- Reg

**Ref:** Chief Engineer,400kV, TSTRANSCO Lr No: CE/400kV/SE-I/D2-A1/ F.LINE OUT/D.No.54/2017, dt 17.01.2018.

\* \* \*

उक्त संदर्भाधीन पत्र के अनुसार चूँकि, मुख्य अभियन्ता, 400 के.वी, टीएस ट्रांस्को, विद्युथ सौधा, हैदराबाद, ने यह प्रमाणित किया है कि, प्रस्तावित लाइन के 8 किमी के आसपास के क्षेत्र में रेल की पट्टी नहीं है अतः उक्त पीटीसीसी प्रस्ताव को निपटाने में इस रेलवे को कोई आपत्ति नहीं है.

With reference to the above cited letter, since it is certified by Chief Engineer, 400KV, TSTRANSCO, Vidyut Soudha, Hyderabad that the Railway line does not exists within 8 kms vicinity of the proposed power line, this Railway has **NO OBJECTION** in clearing the above said PTCC proposal.

(पी.किशोरकुमार) P.Kishore Kumar

वसिदूङ्गी/टेली/प्रका SSTE/TELE/HQ

कृते महाप्रबंधक/सिवदू FOR GENERAL MANAGER / S &amp; T

**Copy to:**

- ✓ 1. **The Director (PTCC),**  
Central Electricity Authority,  
Load Despatch & Telecom Division,  
NRPC Complex, 18-A  
Shaheed jeet singh S.Marg  
Katwaria Sarai, **New Delhi- 110016.**
2. **Chief Engineer, 400KV,**  
TSTRANSCO, Vidyuth Soudha  
**Hyderabad – 500 082.**

298  
14/2/18

Tele : 23019746

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

B/46937/Sigs 7(b)/1120 /

19 Jul 2018

Chief Engineer,  
400KV, TSTRANSCO,  
Vidyut Soudha,  
Hyderabad - 500082

**ERECTION OF LINE OUT PORTION PERTAINS TO LILO OF BOTH CCT  
(CKT-I & II) OF 400 KV SURYAPET – SHANKARPALLY QUAD MOOSE DC  
LINE FROM EXISTING LOC NO AP -123/3 TO 400 KV KETHIREDDYPALLY SS  
(SHANKARPALLY – 1 & 2) -20.556 KM**

1. Reference your letter Lr.No.CE /400KV /SE-I/D2-AI/F.Line Out /D.No. 53/2018 dt 17 May 2018.
2. No Objection Certificate (NOC) is accorded based on inputs provided vide Map sheet 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

**Copy to :-**

Central Electricity Authority  
Power Communication Development Division  
NRPC Complex, 18-A, Shaheed Jeet Singh S Marg  
Katwaria Sarai, New Delhi – 110016

- For information.