



सत्यमेव जयते

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

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|--------------|
| <b>CEA Case No. : KNK-1159</b>                                                                                                                                               |                                                  |              |
| <b>Induced Voltage (IV) calculation in respect of PTCC proposal for LILO of 200kV DC Chintamani – Mittermari line at 220/66 kV Chikkaballapura GIS SS (28.162 km)- regd.</b> |                                                  |              |
| <b>S. No</b>                                                                                                                                                                 | <b>Reference No.</b>                             | <b>Dated</b> |
| (i)                                                                                                                                                                          | KPTCL: CEE/SLDC/PTCC/F-3773/3940-49              | 27.09.2024   |
| (ii)                                                                                                                                                                         | KPTCL: CEE/SLDC/PTCC/CEA/F-3773/1638-41          | 30.05.2025   |
| (iii)                                                                                                                                                                        | KPTCL : Email                                    | 19..06.2025  |
| (iv)                                                                                                                                                                         | BSNL: SR-PTCC/F3773/5                            | 23.05.2025   |
| (v)                                                                                                                                                                          | South Western Railway: SG/SWR/PTCC/Corres/E:2-12 | 16.12.2024   |
| (vi)                                                                                                                                                                         | Defense: B/46937/Sigs 7(b)/4208                  | 12.12.2024   |

The PTCC proposal submitted vide above references (i), (ii) and (iii) has been examined. The LF induction on Block and Telecom circuits of South Western Railway with respect to details furnished vide above reference (v) has been computed. The voltage likely to be induced on paralleling Block and Telecom circuits of South Western Railway under Single Line to Ground fault condition are enclosed at Annexure-I. The screening factors as applicable have been considered. DGM Telecom, PTCC, SR (BSNL) has issued NOC vide reference (iv) above.

ADG (Telecommunications) has issued No Objection Certificate (NOC) vide reference (vi) above (attached as Annexure –II).

EPR Zones for proposed substation 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 |
|---------------------------------|-----------------------------------|-----------------------|----------------------------------|------------------|------------------|-----------------|------------------|
| 220/66/11 kV Chikkaballapura SS | 89.3                              | 37.5                  | 0.37                             | 2792             | 1817             | 88              | 35               |

As per the details submitted by BSNL vide reference (iv) above, no telephone exchanges are falling in the EPR zone of the proposed substation.

Taking above into consideration, necessary action for issuance of PTCC route approval (RAC) shall be taken under intimation to this office in the stipulated period as specified in PTCC Manual and subsequent CLPTCC meetings.

As per the decision taken in 111th and 112th CLPTCC meeting, necessary instructions for “Deemed Energization approval” shall be specified while issuing RAC.

Encl.: As above

**Chief Engineer,**

**To,**

|    |                                           |                                                                                                                                                                                |                      |
|----|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| 1. | Divisional Engineer (PTCC), Southern Zone | BSNL, Inspection Circle, 2 <sup>nd</sup> Floor, Sanchar Complex, WMS Compound, Jayanagar 5 <sup>th</sup> Block, 9 <sup>th</sup> Main, 47 <sup>th</sup> Cross, Bangalore-560041 |                      |
| 2. | PCSTE/SWR                                 | Principal Chief Signal & Telecom Engineer, Rail Soudha, Gadag Road, Hubballi-580020                                                                                            |                      |
| 3. | Member(Power), KPTCL                      | Chief Engineer Electricity, SLDC #28, Race Course Road, Bengaluru-560009                                                                                                       | Copy for information |

**ANNEXURE-I**

| <b>CEA Case No.:</b> KNK-1159<br>Name of the Power line: LILO of 200kV DC Chintamani – Mittemari line at 220/66 kV Chikkaballapura GIS SS |                         |                                     | <b>Map Scale</b> : 1 cm= 500 m<br><b>Total Length</b> : 28.162 km<br><b>S.R. Value</b> : 30000 Ohm-cm |                                         |                      |
|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------|----------------------|
| <b>S.No.</b>                                                                                                                              | <b>Telecom. Details</b> | <b>Length of Parallelism in Km.</b> | <b>Mutual Coupling in Ohms.</b>                                                                       | <b>Effective Fault current in Amps.</b> | <b>I.V in Volts.</b> |

|                                                                       |                              |     |        |      |    |
|-----------------------------------------------------------------------|------------------------------|-----|--------|------|----|
| <b>SWR Letter No:</b> SG/SWR/PTCC/Corres/E:2-12      Dated 16.12.2024 |                              |     |        |      |    |
| 1.                                                                    | Chikkaballapur – Sidlaghatta | 3.2 | 0.0044 | 2450 | 11 |
| 2.                                                                    | Chikkaballapur - Devanahalli | 3.4 | 0.0082 | 2598 | 21 |

## Annexure II

Directorate General of Signals  
(Signals 7)  
General Staff Branch  
Integrated HQ of MoD (Army)  
Room No  
DHQ PO, New Delhi - 110011

B/46937/Sigs-7(b)/4208


12 Dec 2024

M/s Office of the Chief Engineer Electricity,  
Karnataka Power Transmission Corporation Limited  
State Load Dispatch Centre,  
# 28, Race Course Cross Road,  
Bengaluru – 560 009

**PTCC PROPOSAL FOR CONSTRUCTION OF 220/220KV MULTI  
CIRCUIT LINE ON 220/220KV MC TOWERS DOUBLE LILO (BOTH  
CIRCUITS) FROM PROPOSED 220KV CHINTAMANI-MITTEMARI DC  
LINE TO PROPOSED 220/66KV CHIKKABALLAPURA GIS SUB-  
STATION, CHIKKABALLAPURA INDUSTRIAL AREA,  
CHIKKABALLAPURA DISTRICT**

1. Ref your letter No CEE/SLDC/(PTCC)/F-3773/3940-49 dt 27 Sep 24.
2. No Objection Certificate (NOC) is accorded based on inputs provided as per Map sheet received vide your letter mentioned above.
3. Documents alongwith map sheets (in original) are returned herewith for your further necessary action.



  
(Karan Dhawan)  
Colonel  
Colonel Signals-7  
for Additional Director General  
(Telecommunication)

**Internal:-**

HQ Southern Comd (Sigs) - for info pl.