



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. : GUJ-834</b>   |                                      |              |
| <b>Induced Voltage (IV) calculation for PTCC proposal of 220 kV D/C Shapar- Ghiyawad line(42.356 km)- regd.</b> |                                      |              |
| <b>S. No</b>  | <b>Reference No.</b>                 | <b>Dated</b> |
| (i)   | GETCO: CE(Project)/SE(Planning)/4562 | 22.08.2022   |
| (ii)  | GETCO: Email EMD parameters          | 06.03.2026   |
| (iii)   | BSNL: IC/MBI/PTCC/WGJ010920224216    | 19.09.2023   |
| (iv)  | Western Railway: SG.158/28/12/1220   | 10.03.2023   |
| (v)   | Defense: B/46937/Sigs 7(b)/3013      | 11.11.2022   |

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

DG Signals, MoD has issued No Objection Certificate (NOC) vide reference (v) (attached 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 Ghiyawad SS      | 126.5                             | 26                    | 0.813                            | 6092             | 3987             | 255             | 141              |
| 400kV Shapar SS         | 123.91                            | 40                    | 0.107                            | 1109             | 692              | NA              | NA               |

As per the details submitted by BSNL vide reference (iii) 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), Western Zone | QA & Inspection circle, 1 <sup>st</sup> floor, D- wing, BSNL Admin Bldg., Juhu Tara Road, Santacruz (West), Mumbai-400054 |                      |
| 2. | GM (S&T)                                 | Western Railway, O/o PCSTE, S&T Dept., 5 <sup>th</sup> Floor, Station Building, Churchgate, Mumbai - 400020               |                      |
| 3. | Chief Engineer (Project)                 | GETCO, Sardar Patel Vidyut Bhavan, Race Course, Vadodara - 390007   | Copy for information |

**ANNEXURE-I**

| <b>CEA Case No.:</b> GUJ-834<br><b>Name of the Power line:</b> 220 kV D/C Shapar- Ghiyawad line |                                |                                     | <b>Map Scale</b> : 1 cm= 500 m<br><b>Total Length</b> : 42.356 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>BSNL Letter No.- IC/MBI/PTCC/WGJ010920224216 Date: 19.09.2023</b>                            |                                |                                     |   |   |                      |
| <b>1</b>  | <b>Chotila EXCHANGE</b>        |                                     |   |   |                      |
| <b>1A</b>   | Chotila Exch. – Local – 200*1P |                                     |   |   | Out of Parallelism   |
| <b>2A</b>   | Chotila Exch. – Local – 800*1P |                                     |   |   |                      |
| <b>3A</b>   | Chotila Exch. – Local – 400*1P |                                     |   |   |                      |
| <b>4A</b>   | Chotila Exch. – Local – 200*1P |                                     |   |   |                      |
| <b>2</b>  | <b>Mobile Tower</b>            |                                     |   |   |                      |
| <b>T1</b>   | Nani Moldi Mob. Tower BTS      |                                     |   |   | Out of Parallelism   |
| <b>T2</b>   | Sangani Mob. Tower BTS         |                                     |   |   |                      |

**ANNEXURE-II**

| <b>CEA Case No.:</b> GUJ-834<br><b>Name of the Power line:</b> 220 kV D/C Shapar- Ghiyawad line |                         |                                     | <b>Map Scale</b> : 1 cm= 500 m<br><b>Total Length</b> : 42.356 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>WESTERN RAILWAY Letter No.- SG.158/28/12/1220 Date: 10.03.2023</b>                           |                         |                                     |   |   |                      |
| 1   | Sindhavadar-Kankot      | Out of Parallelism                  |   |   |                      |
| 2   | Kankot - Khorana        | 0.4                                 | 0.000006  | 27637                                   | 0.2                  |

Tele : 23019746

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

GUT-834

B/46937/Sigs 7(b)/3013/

11 Nov 2022

Chief Engineer (Project)  
 Gujarat Energy Transmission Corporation Ltd  
 Sardar Patel Vidyut Bhawan  
 Race Course, Vadodara – 390 007

**SUBMISSION OF PROPOSAL FOR HV/EHV TRANSMISSION LINE OF GETCO FOR  
 PTCC APPROVAL OF 220KV D/C SHAPAR-GHIYAWAD LINE**

1. Refer your letter No CE(Project)/SE (Planning)/4562 dt 22 Aug 2022 (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.

*(Signature)*  
 (PS Samyal)

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

AD/PS - P/S dissem.  
 UK  
 29/11

