



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

| CEA Case No.: HRA-249 | | |
|--|--|--|
| Induced Voltage (IV) calculation for PTCC proposal of 220 kV D/C Mund-IOCL Transmission Line [Length- 33.85 km]– Regd. | | |
| Reference: | | |
| S. No. | Reference No. | Dated |
| (i) | HVPNL: 82/EST-38/220 | 22.12.2022 (Received on 24.05.2023) |
| (ii) | HVPNL: e-mail | 17.10.2023 |
| (iii) | BSNL: DET/PTCC/ND/DV-10241/HR-880/2023-2024 | 11.09.2023 |
| (iv) | Northern Railway : 342-SG/1/PTCC/2023-24/06/01 | 05.06.2023 |
| (v) | Defense : B/46937/Sigs 7(b)/3388 | 11.08.2023 |

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

EPR Zones for proposed substation is 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 GIS IOCL S/s | 90 | 50 | 0.14 | 1375 | 879 | NA | NA |

As per the Telecom Details submitted by BSNL vide above reference (iii) no telephone exchange of BSNL is falling within the EPR zone of proposed Substation.

Taking above into consideration, necessary action regarding issuance of PTCC approval for the subject cited transmission line might be taken under intimation to this office.

Encl.: As above.

ewt
(मन.जे.बी.) 19.10.2023
Director

ANNEXURE-II

| CEA Case No.: HRA-249 | | Map Scale : 1 cm= 500 m | | | |
|--|------------------|------------------------------|--------------------------|----------------------------------|---------------|
| Name of the Power line: 220 kV D/C Mund-IOCL Transmission Line | | Total Length : 33.85 km | | | |
| | | S.R. Value : 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. |

Northern Railway Letter No: 342-SG/1/PTCC/2023-24/06/01 Date: 05.06.2023

Affected Blocks & Telecom Circuits Details**Jind-Panipat Section**

| | | |
|---|-------------------------------|----------------------|
| 1 | Pilu Khers R/s to Safidon R/s | -Out of Parallelism- |
| 2 | Safidon R/s to Madlauda R/s | |
| 3 | Madlauda R/s to Asan R/s | |
| 4 | Asan R/s to Khukrana R/s | |
| 5 | Khukrana R/s to Panipat R/s | |

Karnal-Sonipat Section

| | | |
|---|-----------------------------|----------------------|
| 6 | Gharaunda R/s to Kohand R/s | -Out of Parallelism- |
| 7 | Kohand R/s to Babarpur R/s | |
| 8 | Babarpur R/s to Panipat R/s | |
| 9 | Panipat R/s to Diwana R/s | |

Khukrana-Baholi Section

| | | |
|----|----------------------------|----------------------|
| 10 | Khukrana R/s to baholi R/s | -Out of Parallelism- |
|----|----------------------------|----------------------|

To,

| | | | |
|----|--|---|-------------------------|
| 1. | Divisional Engineer (PTCC), Northern Zone | BSNL O/o PGM (N), QA & Inspection Circle, D- Tax Building, Eastern Court, Janpath, New Delhi | |
| 2. | GM (S&T) | Northern Railway, Baroda House New Delhi | |
| 3. | Executive Engineer/TS HVPNL | O/o Executive Engineer HVPNL, Karnal | Copy for information |

ANNEXURE-I

| CEA Case No.: HRA-249 | | Map Scale : 1 cm= 500 m | | | |
|--|------------------|------------------------------|--------------------------|----------------------------------|---------------|
| Name of the Power line: 220 kV D/C Mund-IOCL Transmission Line | | Total Length : 33.85 km | | | |
| | | S.R. Value : 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. |

BSNL Letter No: DET/PTCC/ND/DV-10241/HR-880/2023-2024 Date: 11.09.2023

Affected Blocks & Telecom Circuits Details

| | | | | | |
|---|---|--------------------|--------|-------|-----|
| 1 | MTE to Assandh to Nanakpura Chowk Near Govt. Hospital | IV Less than 430 V | | | |
| 2 | MTE Assandh to Salwan Chowk Assandh | | | | |
| 3 | MTE Assandh to Jind Road Bypass | | | | |
| 4 | MTE Assandh to Kaithal Bypasss Near Dhol Chowk | | | | |
| 5 | Salwan Chowk Assandh to Tehsil Assandh | | | | |
| 6 | MTE Assandh to Bus Stand Assandh | | | | |
| 7 | TE Balliah to Goli Village | 2.5 | 0.0080 | 20150 | 161 |
| 8 | TE Balliah to Manpura Village | 3.0 | 0.0055 | 21500 | 118 |
| 9 | TE Balliah to Mormajra Village | IV Less than 430 V | | | |