



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
Division

| CEA Case No. : BHR-201 | | |
|---|---|------------|
| Induced Voltage (IV) calculation for PTCC proposal of 132 kV D/C Raxaul to Parwanipur Transmission Line [Length- 25.120 km]-Regd. | | |
| S. No | Reference No. | Dated |
| (i) | BPTCL: Tele/PTCC/16/2023/213 | 15.12.2023 |
| (ii) | BPTCL: e-Mail | 27.12.2023 |
| (iii) | BSNL: DET/PTCC/ER/EBR191220235432/IV/1 | 26.12.2023 |
| (iv) | East Central Railway : ECR-HQ0SnT(CPTC)/1/2023-O/oDy.CSTE/HQ/ECR/2503 | 22.12.2023 |
| (v) | Defense: B/46937/Sigs7(b)/3640 | 15.02.2024 |

The PTCC proposal submitted vide reference (i) & (ii) has been examined. The LF induction on Block and Telecom circuits of BSNL & East Central Railway with respect to details furnished vide above reference (iii) & (iv) has been computed. The voltage likely to be induced on paralleling Block and Telecom circuits of BSNL & East Central 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).

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

Encl.: As above

Chief Engineer

To,

| | | | |
|----|--|--|----------------------|
| 1. | Divisional Engineer (PTCC), Eastern Zone | BSNL QA & Inspection Circle, QA Bhawan, EP-GP Block, Sector-V Kolkata | |
| 2. | General Manager (S&T) | O/o GM (S&T) East Central Railway Hajipur | |
| 3. | Chief Engineer (Telecom & OPGW) | Bihar State Power Transmission Co. Ltd. 4 th Floor, Vidyut Bhawan Patna | Copy for information |

ANNEXURE-I

| CEA Case No.: BHR-201 | | | Map Scale : 1 cm= 500 m | | |
|---|-------------------------|-------------------------------------|----------------------------------|---|---|
| Name of the Power line: 132 kV D/C Raxaul to Parwanipur Transmission Line. | | | Total Length : 25.120 km | | |
| | | | S.R. Value : 30000 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: DET/PTCC/ER/EBR191220235432/IV/1 | | | Dated 26.12.2023 | | |
| <u>Affected Blocks & Telecom Circuits Details</u> | | | | | |
| 1 | Ramgarhwa Exchange | | | | Induced Voltage computation is not required |
| 2 | Sirsa Kalan Exchange | | | | |
| 3 | Raxaul Exchange | | | | |
| 4 | Bhelahi Exchange | | | | |
| 5 | Lohasahon Exchange | | | | |
| 6 | Chainpur Exchange | | | | |
| 7 | Samsapur BTS | | | | |
| 8 | Patni BTS | | | | |

ANNEXURE-II

| CEA Case No.: BHR-201 | | | Map Scale : 1 cm= 500 m | | |
|--|-------------------------------|-------------------------------------|----------------------------------|---|----------------------|
| Name of the Power line: 132 kV D/C Raxaul to Parwanipur Transmission Line. | | | Total Length : 25.120 km | | |
| | | | S.R. Value : 30000 Ohm-cm | | |
| S.No. | Telecom. Details | Length of Parallelism in Km. | Mutual Coupling in Ohms. | Effective Fault current in Amps. | I.V in Volts. |
| East Central Railway:ECR-HQ0SnT(CPTC)/1/2023-O/oDy.CSTE/HQ/ECR/2503 Dated 22.12.2023 | | | | | |
| <u>Affected Blocks & Telecom Circuits Details</u> | | | | | |
| 1 | Sugaulli R/s to Ramgarhwa R/s | 10.5 | 0.0116 | 22950 | 266 |
| 2 | Ramgarhwa R/s to Raxaul R/s | 10.0 | 0.0082 | 11800 | 97 |
| 3 | Bela R/s to Raxaul R/s | -Out of Parallelism- | | | |
| 4 | Raxaul R/s to Adarpur R/s | 1.5 | 0.0008 | 22700 | 18 |
| 5 | Adarpur R/s to Chauradano R/s | -Out of Parallelism- | | | |