



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. : RAJ-809 | | |
| Induced Voltage (IV) Calculation for PTCC proposal of 33 kV XLPE, AL Ar UG cable from proposed 220/33 kV 300 MW Solar Power PSS of M/s Gorbea Solar Private Limited at Village Badi Sid Tehsil Bap to proposed Solar Fd#13, 9.5 MVA 0.66/33 kV IDT at Village Badi Sid Tehsil Bap (Length: 6.8 kms) | | |
| S. No | Reference No. | Dated |
| (i) | CEA/PTCC/Gorbea-33kV/Solar FD#13/2025 | 15.01.2025 |
| (ii) | BSNL: RJJDPD-18/16/13/2021-ADMN AND PLG | 27.06.2025 |
| (iii) | North Western Railway: SG/158/NWR/PTCC/1054-1067 | 24.03.2025 |

The PTCC proposal submitted vide reference (i) has been examined. The LF induction on communication circuits of BSNL and North Western Railway with respect to details furnished vide above references (ii) and (iii) respectively has been computed. The voltage likely to be induced on paralleling communication cables of BSNL and North 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.

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 |
|---|-----------------------------------|-----------------------|----------------------------------|------------------|------------------|-----------------|------------------|
| 220/33 kV 300 MW Solar Power PSS of M/s GSPL at Village Badi Sid Tehsil Bap | 74.32 | 25 | 0.392 | 1619 | 1046 | 30 | NA |
| Solar Fd#13, 9.5 MVA 0.66/33 kV IDT | 17.67 | 25 | 0.5 | 496 | 322 | 14 | 4 |

As per the details submitted by BSNL, No telephone exchanges are falling within the EPR zone of proposed substation.

Taking the above into consideration, the values of Induced Voltages may be examined, and further information may be sent to the undersigned, as per the procedure specified in the PTCC Manual 2010.

Encl.: As above

Chief Engineer

To,

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|----|-------------------------------------|--|-------------------------|
| 1. | AGM (NWO), BSNL | O/o PGM BA Jodhpur Unit – AGM (NWO) Subhash Nagar, Pal Road, Jodhpur - 342008 | |
| 2. | GM (S&T), North Western Railway | Headquarter office, Room No. 136, First Floor, Near Jawahar Circle, Jaipur – 302017 | |
| 3. | M/s Gorbea Solar Private Limited | First Floor, D-2 Southern Park Building, Saket, New Delhi – 110 017 | Copy for information |

ANNEXURE-I

| CEA Case No.: RAJ-809 | | | Map Scale : 1 cm= 500 m | | |
|--|-------------------------|-------------------------------------|---|---|----------------------|
| Name of the Power line: 33 kV XLPE, AL Ar UG cable from proposed 220/33 kV 300 MW Solar Power PSS of M/s Gorbea Solar Private Limited at Village Badi Sid Tehsil Bap to proposed Solar Fd#13, 9.5 MVA 0.66/33 kV IDT at Village Badi Sid Tehsil Bap | | | Total Length : 6.8 km | | |
| | | | S.R. Value : 5000 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: RJJDPD-18/16/13/2021-ADMN AND PLG Date: 27.06.2025 | | | | | |
| 1 | Kanshing ki Sid BTS | | IV calculation is not required. Thus, BSNL letter is assumed as Deemed NOC | | |

ANNEXURE-II

| CEA Case No.: RAJ-809 | | | Map Scale : 1 cm= 500 m | | |
|--|-------------------------|-------------------------------------|---------------------------------|---|----------------------|
| Name of the Power line: 33 kV XLPE, AL Ar UG cable from proposed 220/33 kV 300 MW Solar Power PSS of M/s Gorbea Solar Private Limited at Village Badi Sid Tehsil Bap to proposed Solar Fd#13, 9.5 MVA 0.66/33 kV IDT at Village Badi Sid Tehsil Bap | | | Total Length : 6.8 km | | |
| | | | S.R. Value : 5000 Ohm-cm | | |
| S.No. | Telecom. Details | Length of Parallelism in Km. | Mutual Coupling in Ohms. | Effective Fault current in Amps. | I.V in Volts. |
| North Western Railway: SG/158/NWR/PTCC/1054-1067 Date: 24.03.2025 | | | | | |
| 1 | Nokhra to Sird | | Out of IV consideration zone | | |
| 2 | Sird to Bap | | Out of IV consideration zone | | |