



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. : KNK-1076 | | |
|--|---|------------|
| Induced Voltage (IV) Calculation for PTCC proposal of 33 kV S/C Feeder-01 on RSJ poles with partly AL-59 Dog & partly AL-59 Panther conductor from proposed 220/33 kV 300 MW Wind Energy Pooling Substation, Hire Mannapur, Kushtagi Taluk, Koppal to 33 kV Unit Substation of Wind turbine Generators situated near Basapur & Bijkal in Kushtagi (Length: 10.142 km) - regd | | |
| S. No | Reference No. | Dated |
| (i) | GIWEL/33 kV PTCC/F-1 | 20.02.2024 |
| (ii) | GIWEL E-mail | 26.04.2024 |
| (iii) | Undertaking for provisional: NIL (received via e-mail dated 25.04.2024) | NIL |
| (iv) | BSNL: SR-PTCC/SKT 5745/2 | 20.04.2024 |
| (v) | South Western Railway: SG/SWR/PTCC/KNK1076/2704 | 16.04.2024 |

The PTCC proposal submitted vide reference (i) and (ii) has been examined. The LF induction on communication circuits of BSNL with respect to details furnished vide above references (iv) has been computed. The voltage likely to be induced on paralleling communication cables of BSNL under Single Line to Ground fault condition are enclosed at Annexure-I. The screening factors as applicable have been considered. South Western Railway vide reference (v) has issued their No Objection certificate (NOC) for charging of the line.

EPR zone for the proposed substation is mentioned below:

| Name of the proposed Substation | Half diagonal distance, D/2 (mts) | Fault Current I (KA) | Resistance of Earth Mat, R (ohms) | d (mts) at 430 V | d (mts) at 650 V | d (mts) at 7kV | d (mts) at 10kV |
|--|-----------------------------------|----------------------|-----------------------------------|------------------|------------------|----------------|-----------------|
| 220/33 kV 300 MW Wind Energy Pooling Substation, Hire Mannapur, Kushtagi Taluk, Koppal | 86.65 | 37.68 | 0.0386 | 206 | 107 | NA | NA |
| 33 kV Unit Substation | 7.8 | 18 | 0.5428 | 169 | 109 | 3 | NA |

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

Telecommunication details from DG Signals, MoD are awaited, however, vide reference (ii) above, M/s GIWEL have informed that all construction related work of the transmission line has completed and the line is awaiting charging due to want of PTCC approval. So as to charge the subject cited transmission line as per schedule, M/s GIWEL has requested for issuance of provisional PTCC clearance and has submitted an undertaking that in case of any impact on telecom asset/ personnel of Defense due to charging of this transmission line, M/s GIWEL shall take all remedial action.

Taking above into consideration, necessary action for issuance of provisional PTCC route approval may be taken under intimation to this office. LF induction on telecommunication circuits of Defense, will be communicated after the receipt of details from DG Signals, MoD.

Encl.: As above

Chief Engineer

To,

| | | | |
|----|---|---|--|
| 1. | Divisional Engineer (PTCC), Southern Zone | O/o Chief General Manager, Core Network Transmission- South, No.11, Link Road, Ganapathy Colony, Guindy Industrial Estate, Guindy, Chennai.600 032. | |
| 2. | Director General of Signals | General Staff Branch, Integrated HQ, MoD (army), Sena Bhawan, DHQ, PO, New Delhi- 110 105 | With a request to provide details of Telecom assets/ NOC at the earliest for IV calculation and issuance of final RAC. |
| 3. | M/s Green Infra Wind Energy Limited | 5 th floor, Tower C, Building No. 8, DLF Cybercity, Gurugram – 122 002 | For information |

ANNEXURE-I

| CEA Case No.: KNK-1076 | | | | | |
|--|---------------------------------------|-------------------------------------|----------------------------------|---|----------------------|
| Name of the Power line: 33 kV S/C Feeder-01 on RSJ poles with partly AL-59 Dog & partly AL-59 Panther conductor from proposed 220/33 kV 300 MW Wind Energy Pooling Substation, Hire Mannapur, Kushtagi Taluk, Koppal to 33 kV Unit Substation of Wind turbine Generators situated near Basapur & Bijkal in Kushtagi | | | Map Scale : 1 cm= 500 m | | |
| | | | Total Length : 10.142 km | | |
| | | | S.R. Value : 20000 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 SR-PTCC/SKT 5745/2 Date: 20.04.2024 | | | | | |
| Hiremannapur Telephone Exchange | | | | | |
| 1. | Hiremannapur TE to Hiremannapur Local | Out of parallelism | | | |