

Amendment – XXV dated 28.09.2021 on the Request for Proposal and Transmission Service Agreement issued for selection of bidder as Transmission Service Provider to establish “Transmission System for evacuation of power from RE Projects in Osmanabad area (1 GW) in Maharashtra” through tariff based competitive bidding process

Sl. No.	Clause No.	Existing Clause	New / Revised Clause
1.	Specific Technical Requirement For Substation	<p>2.8 Protection Relaying & Control System</p> <p>The protective relaying system proposed to be provided for transmission lines, auto- transformers, reactors and bus bars to minimize the damage to the equipment in the events of faults and abnormal conditions, is dealt in this section. All main protective relays shall be numerical type with IEC 61850 communication interface. All numerical relays shall have built in disturbance recording feature.</p> <p>.....</p>	<p>2.8 Protection Relaying & Control System</p> <p>The protective relaying system proposed to be provided for transmission lines, autotransformers, reactors and bus bars to minimize the damage to the equipment in the events of faults and abnormal conditions, is dealt in this section. All main protective relays shall be numerical type with IEC 61850 communication interface <u>and should have Interoperability during integration of numerical relays to communicate over IEC61850 protocol with RTU/SAS/IEDs of different OEMs.</u> All numerical relays shall have built in disturbance recording feature.</p> <p>.....</p>
2.	Annexure-B: SPECIFIC TECHNICAL REQUIREMENTS FOR COMMUNICATION	<p>SPECIFIC TECHNICAL REQUIREMENTS FOR COMMUNICATION</p> <p>In order to meet the requirement for grid management and operation of substations, Transmission Service Provider (TSP) shall conform to the following requirements. The protections for transmission line and the line compensating equipment shall have hundred percent back up communication channels i.e. two channels for tele-protection in addition to one channel for speech plus data for each direction.</p>	<p>SPECIFIC TECHNICAL REQUIREMENTS FOR COMMUNICATION</p> <p>In order to meet the requirement for grid management and operation of substations, Transmission Service Provider (TSP) shall conform to the following requirements. The protections for transmission line and the line compensating equipment shall have hundred percent back up communication channels i.e. two channels for tele-protection in addition to one channel for speech plus data for each direction.</p>

	<p>1. LILO of both circuits of Parli(PG) – Pune(GIS) 400kV D/c line at Kallam PS</p> <p><u>OPGW</u></p> <p><u>On LILO of both Ckt. of Parli(PG) – Pune(GIS) 400kV D/c line at Kallam PS, two (02) nos OPGW containing 24 Fibres is to be installed in LILO portion (1 no 24-F OPGW for Line-In and 1 No OPGW for Line-Out portion) by the TSP in place of conventional earth wire during the construction of line. The installation of OPGW shall be done from LILO IN and LILO Out Tapping Points of Parli (PG) – Pune (GIS) 400kV D/c line to gantry of at Kallam PS and shall be terminated in Joint Boxes to be provided by TSP at Kallam PS Gantry. In case of requirement of repeater to establish link between Parli -Kallam PS or Pune – Kallam PS, the OPGW (48F) connectivity from power line crossing point upto repeater station shall also be in the scope of TSP. Maintenance of OPGW shall be responsibility of TSP. Since, there is no OPGW in Parli (PG) – Pune (GIS) line, TSP to install, one OPGW containing 24 Fibres in place of one conventional earth wire of Parli(PG) – Pune(GIS) existing transmission line owned by M/s Adani in live line condition. Maintenance of OPGW shall be responsibility of TSP.</u></p> <p>The protection system of 400 kV and higher voltage transmission line and the line compensating equipment shall have hundred percent back up communication channels i.e. two channels for tele-protection in addition to one channel for</p>	<p>1. LILO of both circuits of Parli(PG) – Pune(GIS) 400kV D/c line at Kallam PS</p> <p><u>On LILO of 400 kV D/c Parli(PG) – Pune (GIS) 400kV D/c line at Kallam PS, TSP to install & commission Two (2) no. OPGW cable containing 24 Fibres (24F each) on both the Earthwire peaks of Multi Circuit Towers (for Loop in and Out M/C towers to be used).</u></p> <p><u>The TSP shall install OPGW cables from gantry of Kallam PS up to the LILO tower with all associated hardware including Vibration Dampers, mid-way Joint Boxes (called OPGW Hardware hereafter) and finally terminate in Joint Boxes at Kallam PS. Repeater equipment is not envisaged for the LILO of 400 kV D/c Parli(PG) – Pune (GIS) 400kV D/c line.</u></p> <p><u>Maintenance of OPGW Cable & OPGW Hardware shall be responsibility of TSP.</u></p> <p>The protection system of 400 kV and higher voltage transmission line and the line compensating equipment shall have hundred percent back up communication channels i.e. two channels for tele-protection in addition to one channel for</p>
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	<p>speech plus data for each direction.</p> <p><u>PLCC</u></p> <p>.....</p> <p>2. <u>Establishment of 2x500MVA, 400/220kV s/s near Kallam PS</u></p> <p>(i) <u>TSP shall provide FODP(96 F) and Approach Cable (24F) at Kallam Pooling Station station, Parli(PG), Pune(GIS) and repeater station(if any) which shall be connected with OPGW fibres to be installed on LILO of both circuits of Parli(PG) – Pune(GIS) 400kV D/c line at Kallam PS.</u></p> <p>(ii) <u>TSP (Transmission Service Provider) shall provide STM-16 SDH equipment at Kallam Pooling Station, Parli(PG), Pune(GIS) and at repeater stations (if any) along with necessary interfaces to meet the voice and data communication requirement and shall be integrated with the remote end wideband nodes i.e. Pune & Parli S/s.</u></p> <p>(iii) <u>TSP (Transmission Service Provider) shall also provide necessary optical interfaces at Pune and Parli wideband nodes to meet the Fibre optic communication connectivity of these stations.</u></p>	<p>speech plus data for each direction.</p> <p><u>PLCC</u></p> <p>.....</p> <p>2. <u>Establishment of 2x500MVA, 400/220kV near Kallam PS</u></p> <p>(i) <u>TSP shall provide 2 no. FODP (96 F) alongwith panel and Approach Cable (24F each) with all associated hardware fittings (from gantry tower to Control Room) for all the incoming lines envisaged under the present scope.</u></p> <p>(ii) <u>TSP shall provide STM-16 (FOTE) equipment with panel supporting minimum eight (8) MSP (Multiplex Section Protection) directions in combination of two no. of 5 & 3 MSP Equipment. Communication Equipment shall be provided with suitable DC Power Supply & necessary interfaces to meet the voice and data communication requirement between Parli (PG), Pune (GIS), Kallam PS & Upcoming RE Plants.</u></p> <p>(iii) <u>FODP & FOTE equipment's with panels shall be provided in Control Room of Kallam PS. FOTE & FODP Eq can be accommodated in same panel to optimize space.</u></p>
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