Sl. No.	Clause No.	Existing Clause	New/Revised Clause
1.	Annexure C SPECIFIC TECHNICAL REQUIREMENTS FOR COMMUNICATION C.1.0	TSP shall supply, install and commission one or more no. FODP (120 F or higher) along with 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.	TSP shall supply, install and commission one or more no. FODP (240 F or higher) alongwith panel and approach Cable (48F each) with all associated hardware fittings from gantry tower to Bay Kiosk and from the Bay Kiosk to Control room for all the incoming lines envisaged under the present scope.
2.	Annexure C SPECIFIC TECHNICAL REQUIREMENTS FOR COMMUNICATION C.2.0	TSP shall supply, install and commission one or more No. FODP (96 F) or higher) 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	TSP shall supply, install and commission one or more No. FODP (192 F) or higher) alongwith panel and approach Cable (48F each) with all associated hardware fittings from gantry tower to Bay Kiosk and from the Bay Kiosk to Control room for all the incoming lines envisaged under the present scope
3.	Annexure C SPECIFIC TECHNICAL REQUIREMENTS FOR COMMUNICATION C.3.0	On KPS3 – KPS3 (HVDC) 400 kV 2xD/C line, TSP shall supply, install and commission One (1) No. OPGW cable containing 24 Fibres (24F) on one E/W peak and conventional earth wire on other E/W peak on each of the D/C lines.	On KPS3 – KPS3 (HVDC) 400 kV 2xD/C line, TSP shall supply, install and commission One (1) No. OPGW cable containing 48 Fibres (48F) on one E/W peak and conventional earth wire on other E/W peak on each of the D/C lines. Proposed **OPGW Hardware, Joint Box and other accessories** shall be as per **48 Fiber**.
4.	Annexure C SPECIFIC TECHNICAL REQUIREMENTS FOR COMMUNICATION C.4.0	TSP shall supply, install and commission one or more No. FODP (144 F or higher) along with panel and required Approach Cable (24F) with all associated hardware fittings from gantry tower to Bay Kiosk and from the Bay Kiosk to Control room.	TSP shall supply, install and commission one or more No. FODP (288 F or higher) along with panel and required Approach Cable (48F) with all associated hardware fittings from gantry tower to Bay Kiosk and from the Bay Kiosk to Control room.

5.	Annexure C SPECIFIC TECHNICAL REQUIREMENTS FOR COMMUNICATION C.5.0	On ±500 kV HVDC Bipole line between KPS3 (HVDC) and South Olpad (HVDC) (with Dedicated Metallic Return), TSP shall supply, install and commission One (1) no. OPGW cable containing 24 Fibres (24F) on one E/W peak and conventional earth wire on other E/W peak. OPGW diameter shall be in line with earth wire parameters mentioned in Annexure-E1 (Specific technical requirements for HVDC transmission line).	On ±500 kV HVDC Bipole line between KPS3 (HVDC) and South Olpad (HVDC) (with Dedicated Metallic Return), TSP shall supply, install and commission One (1) no. OPGW cable containing 48 Fibres (48F) on one E/W peak and conventional earth wire on other E/W peak. OPGW diameter shall be in line with earthwire parameters mentioned in Annexure-E1 (Specific technical requirements for HVDC transmission line). Proposed **OPGW Hardware, Joint Box and other accessories** shall be as per **48 Fiber**
6.	Appendix F.1: SPECIFIC TECHNICAL REQUIREMENTS FOR COMMUNICATION Repeater Requirements	• If the repeater location is finalized in the Control Room of a nearby substation, TSP shall provide 1 no. OPGW (48F) on a single Earthwire peak with OPGW Hardware & mid-way Joint Boxes etc. of the line crossing the main line and 1 no. Approach Cable (48F) with all associated hardware fittings, to establish connectivity between crossing point of main transmission line up to the repeater equipment in substation control room. TSP shall co-ordinate for Space & DC power supply sharing for repeater equipment. TSP shall provide FODP, FOTE (with STM-16 capacity) with suitable interfaces require for link budget of respective link.	If the repeater location is finalized in the Control Room of a nearby substation, TSP shall provide **OPGW to accommodate all the fibers in main transmission line** on a single Earthwire peak with OPGW Hardware & mid-way Joint Boxes etc. of the line crossing the main line and **and required approach Cable to accommodate all the OPGW fibers** with all associated hardware fittings, to establish connectivity between crossing point of main transmission line up to the repeater equipment in substation control room. TSP shall co-ordinate for Space & DC power supply sharing for repeater equipment. TSP shall provide FODP, FOTE (with STM-16 capacity) with suitable interfaces require for link budget of respective link.

		OR • If the repeater location is finalized in the nearby substation premises, the TSP shall identify the Space for repeater shelter in consultation with station owner. Further TSP shall provide 1 no. OPGW (48F) on a single Earthwire peak with OPGW Hardware & mid-way Joint Boxes etc. of the line crossing the main line and 1 no. Approach Cable (48F) / UGFO (48F) with all associated hardware fittings, to establish connectivity between crossing point of main transmission line up to the substation where the repeater shelter is to be housed. TSP shall provide repeater shelter along with FODP, FOTE (with STM-16 capacity) with suitable interfaces require for link budget of respective link, reliable power supply provisioning for AC and DC supply, battery bank, Air Conditioner and other associated systems. OR • If the repeater location is finalized on land near the transmission tower. TSP shall make	OR • If the repeater location is finalized in the nearby substation premises, the TSP shall identify the Space for repeater shelter in consultation with station owner. Further TSP shall provide **OPGW to accommodate all the fibers in main transmission line** on a single Earthwire peak with OPGW Hardware & mid-way Joint Boxes etc. of the line crossing the main line and **required approach Cable/UGFO to accommodate all the OPGW fibers** with all associated hardware fittings, to establish connectivity between crossing point of main transmission line up to the substation where the repeater shelter is to be housed. TSP shall provide repeater shelter along with FODP, FOTE (with STM-16 capacity) with suitable interfaces require for link budget of respective link, reliable power supply provisioning for AC and DC supply, battery bank, Air Conditioner and other associated systems. OR

		the provisions for Land at nearby tower for repeater shelter. Further TSP shall provide 1 no. Approach Cable (48F) / UGFO (48F) with all associated hardware fittings to establish connectivity up to the location of repeater shelter. TSP shall provide repeater shelter along with FODP, FOTE (with STM-16 capacity) with suitable interfaces require for link budget of respective link, reliable power supply provisioning for AC and DC supply, battery bank, Air Conditioner and other associated systems Maintenance of OPGW Cable and OPGW Hardware, repeater equipment & items associated with repeater shelter shall be responsibility of TSP.	• If the repeater location is finalized on land near the transmission tower. TSP shall make the provisions for Land at nearby tower for repeater shelter. Further TSP shall provide **required approach Cable to accommodate all the OPGW fibers** with all associated hardware fittings to establish connectivity up to the location of repeater shelter. TSP shall provide repeater shelter along with FODP, FOTE (with STM-16 capacity) with suitable interfaces require for link budget of respective link, reliable power supply provisioning for AC and DC supply, battery bank, Air Conditioner and other associated systems Maintenance of OPGW Cable and OPGW Hardware, repeater equipment & items associated with repeater shelter shall be responsibility of TSP.
7.	Frequently Asked Queries: 3.0 Communication	3.3 How is the OPGW laying done in case of LILO lines? **Reply**: In case LILO lines are on same towers (e.g. both Line in and Line Out portion are on same towers, generally done LILO of S/C lines). Then 2x24F OPGW shall be required to install by TSP on both earthwire peak on 400 kV & 765 kV lines where two E/W peaks are available. On 220 & 132 kV lines where only	3.3 How is the OPGW laying done in case of LILO lines? **Reply**: In case LILO lines are on same towers (e.g. both Line in and Line Out portion are on same towers, generally done LILO of S/C lines). Then ~~2x24F~~ **2x48F** OPGW shall be required to install by TSP on both earthwire peak on 400 kV & 765 kV lines where two E/W peaks are available. On 220 & 132 kV lines where only one

		one E/W peak is available TSP to install one no. 48F OPGW. Incase LILO lines are on different towers (e.g. both Line In and Line Out portion are on different towers, generally done LILO of D/C lines). Then 1x24F OPGW shall be required to install by TSP on one earthwire peak and conventional earthwire on second earthwire peak, on both Line In and Line Out portion towers of 400 kV & 765 kV lines. On 220 &132 kV lines where only one E/W peak is available TSP to install one no. 24F OPGW in place of conventional earthwire. 3.4 How is the OPGW laying done in case Multi circuit Towers? **Reply**: In case two different lines are using common multi circuit portion for some distance (originating from different stations, may be terminating on same or on different stations). Two no. 24F OPGW to be installed on both E/W peaks for common M/C portion of 765 kV & 400 kV lines. Incase 220/132 kV lines using multi circuit portion where single E/W peak is available one no 48F may be installed for common multi circuit portion.	E/W peak is available TSP to install one no. ~~48F~~ **96F** OPGW. Incase LILO lines are on different towers (e.g. both Line In and Line Out portion are on different towers, generally done LILO of D/C lines). Then ~~1x 24F~~ **1x48F** OPGW shall be required to install by TSP on one earthwire peak and conventional earthwire on second earthwire peak, on both Line In and Line Out portion towers of 400 kV & 765 kV lines. On 220 &132 kV lines where only one E/W peak is available TSP to install one no. ~~24F~~ **48F** OPGW in place of conventional earthwire. 3.4 How is the OPGW laying done in case Multi circuit Towers? **Reply**: In case two different lines are using common multi circuit portion for some distance (originating from different stations, may be terminating on same or on different stations). Two no. ~~24F~~ **48F** OPGW to be installed on both E/W peaks for common M/C portion of 765 kV & 400 kV lines. Incase 220/132 kV lines using multi circuit portion where single E/W peak is available one no ~~48F~~ **96F** may be installed for common multi circuit portion.

8.	A.23.0	The tower shall be designed considering the porcelain Insulators with creepage factor of 31 mm/ kV irrespective of type of insulator used.	Deleted