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

	Τ		T
5.	Annexure C	On ±500 kV HVDC Bipole line between KPS3	On ±500 kV HVDC Bipole line between KPS3 (HVDC)
	SPECIFIC TECHNICAL		and South Olpad (HVDC) (with Dedicated Metallic
	REQUIREMENTS FOR	Metallic Return), TSP shall supply, install and	Return), TSP shall supply, install and commission One (1)
	COMMUNICATION	commission One (1) no. OPGW cable containing 24	no. OPGW cable containing 48 Fibres (48F) on one E/W
	C.5.0	Fibres (24F) on one E/W peak and conventional earth	peak and conventional earth wire on other E/W peak.
		wire on other E/W peak. OPGW diameter shall be in	OPGW diameter shall be in line with earthwire
		line with earth wire parameters mentioned in	parameters mentioned in Annexure-E1 (Specific
		Annexure-E1 (Specific technical requirements for	technical requirements for HVDC transmission line).
		HVDC transmission line).	
		,	Proposed OPGW Hardware, Joint Box and other
			accessories shall be as per 48 Fiber
6.	Appendix F.1:	If the repeater location is finalized in the	If the repeater location is finalized in the Control
		Control Room of a nearby substation, TSP	Room of a nearby substation, TSP shall provide
	SPECIFIC TECHNICAL	shall provide 1 no. OPGW (48F) on a single	OPGW to accommodate all the fibers in main
	REQUIREMENTS FOR	Earthwire peak with OPGW Hardware & mid-	transmission line on a single Earthwire peak
	COMMUNICATION	way Joint Boxes etc. of the line crossing the	with OPGW Hardware & mid-way Joint Boxes
	Repeater Requirements	main line and 1 no. Approach Cable (48F) with	etc. of the line crossing the main line and and
		all associated hardware fittings, to establish	required approach Cable to accommodate all
		connectivity between crossing point of main	the OPGW fibers with all associated hardware
		transmission line up to the repeater	fittings, to establish connectivity between
		equipment in substation control room.	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 co-ordinate for Space & DC power
		TSP shall provide FODP, FOTE (with STM-16	supply sharing for repeater equipment.
		capacity) with suitable interfaces require for	TSP shall provide FODP, FOTE (with STM-16
		link budget of respective link.	capacity) with suitable interfaces require for link
		0 1	budget of respective link.
	1		

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

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