

Clarification No.-I dated 25/06/2026 to the Bidding Documents for Reconductoring package OH03 for Reconductoring of Pugalur-Madurai 400 kV D/C lines with twin HTLS conductor (Capacity 2100 MVA) associated with "Reconductoring of Tirunelveli-Udumalpet and Pugalur-Madurai 400 kV D/C lines with HTLS conductor". Spec. No: CC/NT/W-COND/DOM/A04/26/07903

Sl No:	Clause Reference	Existing Clause as per Bid Document	Query / Clarification	Remarks / Reason (Furnished by the bidder)	Reply
1	Volume II, Section VIIB, Clause 1.9.2.1	The core wire strand(s) shall be of galvanized steel/ Invar wires/ or Zinc-5% Aluminium-Mischmetal alloy coated steel/ Invar wires or aluminium clad steel/ Invar wires or composite materials etc. and shall have properties conforming to the technical performance requirements of the finished conductor. In case of Polymer Matrix Composite (PMC) core, offered core design shall meet the provisions of ASTM B987-25	Please add following, The core wire strand(s) shall be of galvanized steel/ Invar wires/ or Zinc-5% Aluminium-Mischmetal alloy coated steel/ Invar wires or aluminium clad steel/ Invar wires or composite materials etc. and shall have properties conforming to the technical performance requirements of the finished conductor. In case of Polymer Matrix Composite (PMC) core, offered core design shall meet the provisions of ASTM B987-25. Polymer composite core manufacturers must submit design validation tests as per table 2 of ASTM B987-25, and if* the polymer composite core with a metallic external protective layer complies with ASTM B987, then they must submit high-temperature tests mentioned in table 2 of ASTM B987-25 with and without a metallic external protective layer. * ASTM B987-25 calls for a non-metallic galvanic protection barrier layer.	As the composite core is enclosed within a metallic layer, the effects of long-term thermal ageing should be assessed through high-temperature tests (heat exposure & heat/stress tests) conducted on specimens both with and without the metallic layer. The end of the composite core should be sealed while performing high-temperature tests with the metallic layer to reflect actual field conditions. Such evaluation is necessary to confirm that the metallic enclosure does not adversely affect the long-term mechanical performance of the core and that no degradation in tensile or structural properties occurs in either configuration. As per the PGCIL specification, the offered PMC core design shall comply with the requirements of ASTM B987-25. The design validation tests specified in Table 2 of ASTM B987-25 are intended to verify the suitability of the carbon fibre composite (CFC) core design, constituent materials, and manufacturing process to ensure compliance with the requirements of the specification. Furthermore, adherence to ASTM B987-25 is consistent with the CEA Advisory dated 30.10.2025, titled "Technical Clarification/Advisory on Carbon Fibre Composite (CFC) Core Used in Overhead HTLS Conductors as per the Latest Revision of ASTM B987." The advisory emphasizes the importance of evaluating and qualifying CFC core designs in accordance with the latest revision of ASTM B987 to demonstrate their long-term reliability and performance for HTLS conductor applications	No change in the provision of bidding documents. Bidder to refer clause 1.9.2.1 as per which "In case of Polymer Matrix Composite (PMC) core, offered core design shall meet the provisions of ASTM B987-25" . The same shall be ensured during detailed engineering, subsequent to award of contract.
2	Volume II, Section VI B, clause 1.10.6	For composite core HTLS conductor, dead end assembly may inter-alia include collets, collet housing, inner sleeve etc., suitable for the offered design of HTLS conductor	Please amend as follows, For composite core HTLS conductor, dead end assembly must include collets, collet housing, inner sleeve etc., suitable for the offered design of HTLS conductor. OR For composite core HTLS conductor, dead end assembly designed should be such that composite core must be secured without crimping in eyebolt section for mechanical load and complete conductor can be crimped for proper electrical connection with minimum pressure	Polymer composite cores possess mechanical properties significantly different from steel cores, particularly with respect to transverse compressive strength and resistance to localized bearing stresses. Consequently, conductor tension shall not be transferred through direct compression of the composite core as is commonly practiced for steel-core conductors. The dead-end assembly shall employ a suitable load transfer mechanism, such as a collet-and-housing arrangement or equivalent proven design, to distribute stresses uniformly and prevent crushing, delamination, micro cracking, or other forms of damage to the composite core during installation and service.	No change in the provision of bidding documents.
3	Volume II, Section VI B, clause 2.2.2	The dimensions of mid span compression joint before & after compression along with tolerances shall be guaranteed in the relevant schedules of the bid and shall be decided by the manufacturer so as to suit the conductor size & conform to electrical & mechanical requirement stipulated in the specification. For composite core conductor, suitable sleeve, collets, collet housing may be used for core jointing.	Please amend as follows, The dimensions of mid span compression joint before & after compression along with tolerances shall be guaranteed in the relevant schedules of the bid and shall be decided by the manufacturer so as to suit the conductor size & conform to electrical & mechanical requirement stipulated in the specification. For composite core conductor, suitable sleeve, collets, collet housing must be used for core jointing. OR For composite core HTLS conductor, suitable sleeve shall be used for jointing of core so that composite core must be secured without crimping in steel sleeve section for mechanical load and complete conductor can be crimped for proper electrical connection with minimum pressure.	Polymer composite cores possess mechanical properties significantly different from steel cores, particularly with respect to transverse compressive strength and resistance to localized bearing stresses. Consequently, conductor tension shall not be transferred through direct compression of the composite core as is commonly practiced for steel-core conductors. The Mid Span Joint assembly shall employ a suitable load-transfer mechanism, such as a collet-and-housing arrangement or equivalent proven design, to distribute stresses uniformly and prevent crushing, delamination, micro cracking, or other forms of damage to the composite core during installation and service.	No change in the provision of bidding documents.