ASSAM ELECTRICITY GRID CORPORATION LIMITED
Regd. Off.: BIJULEE BHAWAN (FIRST FLOOR) PALTANBAZAR; GUWAHATI - 781001
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आज़ादी का अमृत महोत्सव

Corrigendum-III

BID IDENTIFICATION NO: AEGCL/MD/Tech-377/O&M(LAR)/Augmentation/HTLS/RNG-NAL/BID

With reference to the above bid document for the work namely "Reconductoring of 132kV Rangia-Nalbari S/C Transmission Line with HTLS conductor and associated works" against Bid Identification No. mentioned above, the tender submission end date and techno-commercial bid opening date is amended as below:

Tender submission end date and time- 12:00 Hrs., 23rd of March'2026
Techno-commercial bid opening date and time- 14:00 Hrs., 24th of March'2026

Further, the **clause 2.2.2 is amended as below**:
"Survey & profiling of existing line route using Total stations, verification of availability of statutory electrical clearances using PLS-CADD software. Sag -Tension calculations at various conditions mentioned above using parabolic equations shall be submitted along with the bid. These calculations shall also include calculations for determination of transition/knee point temperature. The bidder must use PLS-CADD software for sag tension calculations. ***The successful bidder must submit physical sag template along with the profile drawing"***

Also, the AEGCL clarification to the various queries received has been enclosed as Annexure-I

All other terms and conditions of the bidding document remain same.

Chief General Manager (O&M), LAR
Assam Electricity Grid Corporation Ltd
Bijulee Bhawan, Paltanbazar, Guwahati – 01

Memo No. – AEGCL/MD/Tech-377/O&M(LAR)/Augmentation/HTLS/RNG-NAL/2026/11(a) Dtd:11.03.26

Copy to:

1. The DGM-IT, O/o the MD, AEGCL, for publication of the corrigendum notice in AEGCL website. (Soft copy enclosed)
2. Ref. file.

Chief General Manager (O&M), LAR
Assam Electricity Grid Corporation Ltd
Bijulee Bhawan, Paltanbazar, Guwahati – 1

ANNEXURE-I PART 1 – GENERAL CLARIFICATIONS REQUESTED			
SN	**Clause No.**	**Clarification / Change in Specification Requested**	**Remarks / Reason**
1		1. Ambient temperature 2. Solar Radiation Absorption Coefficient 3. Emissivity Coefficient 4. Wind velocity 5. Solar Radiation 6. Ampacity Calculation as per IEEE 738 – 2012 or 2023? 7. Tension in Kgs for Sag-Tension Calculation	1. As per bid document Vol-2 clause no. 1.3.0 (Service conditions): 45 deg C 2. As per latest endition of IEEE 738 and CEA guidelines 3. As per latest endition of IEEE 738 and CEA guidelines 4. As per latest endition of IEEE 738 and CEA guidelines 5. As per latest endition of IEEE 738 and CEA guidelines 6. As per latest endition of IEEE 738 and CEA guidelines 7. Sag Tension Calculation shall be performed by the EPC contractor based on the following conditions: i. Tension at Everyday condition (32 deg, no wind): Shall not be more than 25% of the UTS of the conducor. ii. Sag at Maximum continious operating temperature (Corresponding to maximum ampacity & ambient condition): < 7.24 m (132 kV) iii. Tension at 32 deg full wind: <70% of UTS of conductor iv. E/w or OPGW Sag shall not be more than 90% of conductor sag at all ranges of temperature and no wind condition.

PART 2 – TECHNICAL SPECIFICATION CLARIFICATIONS & AMENDMENT REQUESTS (Annexure-I)						
SN	**Clause No.**	**Existing Specification**	**Clarification / Change in Specification Requested**	**Remarks / Reason**	**Nature of Change**	**AEGCL Reply**
1	Volume-2, Technical Specifications, Section 2 – Technical Specification of HTLS Conductor, Clauses 2.5.4	Composite Carbon Core There shall be no joint of any kind in the finished core entering into the manufacture of the strand. There shall also be no joints or splices in any length of the completed stranded core.	Please add following: There shall be no joint of any kind in the finished core entering into the manufacture of the strand. There shall also be no joints or splices in any length of the completed stranded core. [ADDITION]: For composite core wires, during the production run, splicing of the galvanic protection barrier is allowed, provided diameter specifications are maintained.	Add to the specification for composite core wires that splicing is allowed in the galvanic protection barrier layer. Requirement is from ASTM B987 Section 19.2.	Addition to existing clause	As per Bid document and CEA guidelines (latest revision/amendments).
2	Volume-2, Technical Specifications, Section 2 – Technical Specification of HTLS Conductor, Clauses 2.5.5	Tolerances Manufacturing tolerances on the dimensions to the extent of one percent (±1%) shall be permitted for individual strands and the complete conductor.	Please add following: [ADDITION]: For composite cores, the manufacturing tolerance shall be as per ASTM B987-25.	Please add tolerance requirement for composite core as per ASTM B987.	Addition to existing clause	As per Bid document and CEA guidelines (latest revision/amendments).
3	Volume-2, Technical Specifications, Section 2 – Technical Specification of HTLS Conductor, Clauses 2.9.1, (ii) on conductor strand/core	(a) Heat resistance test on Aluminium Alloy strands or core	Please amend title as follows: (a) Heat resistance test on Aluminium Alloy strands or core [ADDITION: not applicable to composite core conductor]	This test is not applicable to composite core.	Amendment / Exclusion for composite core	As per Bid document and CEA guidelines (latest revision/amendments).
4	Volume-2, Technical Specifications, Section 2 – Technical Specification of HTLS Conductor, Clauses 2.9.2	f) Torsion and Elongation tests on composite core	Please add following: a) Torsion and Elongation tests on composite core (before stranding) Please amend test requirement as per clause 2.9.2-point m, n, and o	Please amend test requirement as per clause 2.9.2-point m, n, and o	Amendment – timing of test	As per Bid document and CEA guidelines (latest revision/amendments).
5	Volume-2, Technical Specifications, Section 2 – Technical Specification of HTLS Conductor, Clauses 2.9.2	b) Breaking load test on core strands and Aluminium/Aluminium Alloy strands	g) Breaking load test on core strands and Aluminium/Aluminium Alloy strands (before stranding for composite core)	Please amend test requirement as per clause 2.9.2-point m, n, and o.	Amendment – timing of test for composite core	As per Bid document and CEA guidelines (latest revision/amendments).

6	Volume-2, Technical Specifications, Section 2 – Technical Specification of HTLS Conductor, Clauses 2.9.4 & Annexure A, Clause 1.34	c) Chemical analysis of core strands/ composite core	Please amend title as follows: a) Chemical analysis of core strands/ [STRIKE: composite core]	Chemical analysis test cannot be performed on composite core.	Exclusion – inapplicable test	As per Bid document and CEA guidelines (latest revision/amendments).
7	Volume-2, Technical Specifications, Section 2 – Technical Specification of HTLS Conductor, Annexure A, Clause 1.5 – Stress Strain test at elevated temperature	Stress-strain test as per IEC-1089 shall be conducted keeping conductor temperature at designed maximum temperature.	Please amend as follows: Stress-strain test as per IEC-61089 shall be conducted keeping conductor temperature at designed maximum temperature. [ADDITION]: UTS for this test shall be 70% of the UTS guaranteed in the GTP.	Evaluating Stress Strain behaviour at Elevated Temperature does not provide information on how the conductor will perform when operating above the conductor's thermal knee. When conductor temperature climbs above the thermal knee point, all remaining tensile load will be on the core. Aluminium has no influence on high temperature sag above the thermal knee. At max use temperature: 1) Aluminium loses up to 60% of its rated strength. 2) Composite core strength can be ~80% of ambient strength. Result: conductor strength at max use temperature rated at 70% of ambient UTS. Alternatively, recommend removing this test as high temperature and high loads do not occur together in operation.	Amendment to test standard reference & UTS value	As per Bid document and CEA guidelines (latest revision/amendments).
8	Volume-2, Technical Specifications, Section 2 – Technical Specification of HTLS Conductor, Annexure A, Clause 1.6 – High temperature endurance and creep test	On one of the conductor samples, the conductor temperature shall be maintained at 20 deg C for 1000 hours. The elongation/creep strain of the conductor during this period shall be measured and recorded at end of 1 hour, 10-hour, 100 hour and subsequently every 100-hour upto 1000 hours' time period. (On other conductor sample, the conductor temperature shall be increased to design maximum temperature in steps of 20 deg. C... Further, the temperature of the conductor shall be maintained at maximum	Please amend as follows: ...the conductor temperature shall be increased to [CHANGE: maximum continuous operating temperature] in steps of 20 deg. C... Further, the temperature shall be maintained at maximum continuous operating temperature ([CHANGE: ±2.5°C]) for 1000 hours... flexural strength & glass transition temperature shall not be degraded by more than 10% [CHANGE: over the value guaranteed in the GTP]. The supplier shall plot the thermal elongation with temperature.	Please amend temperature tolerance in line with Temperature cycle test. Degradation of Flexural Strength and Glass transition temperature should be considered from declared values in GTP instead of initial value.	Amendment – temperature reference & tolerance	As per Bid document and CEA guidelines (latest revision/amendments).
9	Volume-2, Technical Specifications, Section 2 – Technical Specification of HTLS Conductor, Annexure A, Clause 1.7 – Sheave test	...The core shall be inspected for any sign of damage or cracking through dye penetration test as per ASTM D5117.	Please amend as follows: ...The core shall be inspected for any sign of damage or cracking through dye penetration test as per ASTM D5117 [ADDITION: / as per ASTM B987 section 14. Dye penetrant exposure time shall be 30 +1/-0 minutes.]	Please add section of ASTM B987 for dye penetrant test and duration of dye penetrant exposure.	Addition – test standard and duration	As per Bid document and CEA guidelines (latest revision/amendments).

10	Volume-2, Technical Specifications, Section 2 – Technical Specification of HTLS Conductor, Annexure A, Clause 1.10 – Torsional Ductility test	The conductor sample of 10-15 m shall be loaded to 25% of UTS and then rotated in increasing steps of +/-180 deg. In case of composite core conductors, after 4 rotations or after separation of aluminium strands, the aluminium wires shall be cut and removed from the conductor and the exposed core shall be twisted and shall withstand upto 16 rotations.	Please amend as follows: The conductor sample of [CHANGE: 1500 times diameter of conductor core] shall be loaded to [CHANGE: 20%] of UTS and then rotated in increasing steps of +/-180 deg. In case of composite core conductors, after 4 rotations or after separation of aluminium strands, the aluminium wires shall be cut and removed from the conductor and the exposed core shall be twisted and shall withstand upto 16 rotations.	Please specify sample length in relation with diameter of core of HTLS conductor. Please consider test tension in line with tension recommended for Sheave test above.	Amendment – sample length & test tension	As per Bid document and CEA guidelines (latest revision/amendments).
11	Volume-2, Technical Specifications, Section 2 – Technical Specification of HTLS Conductor, Annexure A, Clause 1.12 – Temperature cycle test	Test Methods: - Mechanical tension, 20% RBS, marks on the conductor at the edge of the conductor. - 100 cycles from room temperature up to maximum temperature. Hold at design maximum temperature ± 2.5 deg. C for 5 minutes. - After the above mentioned 100 cycles, mechanical tension increased up to 70% RBS at room temperature and kept for 24H. Thereafter release to 20% RBS. - This cycling test shall be repeated 5 times. - During the test, temperature of	Please amend as follows: - 100 cycles from room temperature up to [CHANGE: maximum continuous operating temperature]. Hold at [CHANGE: maximum continuous operating temperature] ± 2.5 deg. C for 5 minutes. - [All other bullets unchanged] - In case of polymer composites, flexural strength should not degrade by more than 10% [CHANGE: over the value guaranteed in the GTP] and Glass Transition temperature shall not degrade by more than 10% [CHANGE: over the value guaranteed in the GTP] after thermal cycling.	Please perform test at maximum continuous operating temperature which is temperature corresponding to desired ampacity as per temperature defined in the high temperature endurance and creep test. Also, degradation of Flexural Strength and Glass transition temperature should be considered from declared values instead of initial value.	Amendment – temperature reference & degradation baseline	As per Bid document and CEA guidelines (latest revision/amendments).
12	Volume-2, Technical Specifications, Section 2 – Technical Specification of HTLS Conductor, Annexure A, Clause 1.16 – Coefficient of linear expansion for core/core wires	The temperature and elongation on a sample shall be continuously measured and recorded at interval of approximately 15 degree C from 15 degree C to maximum continuous operating temperature corresponding to rated current (875 for 132kV & 1200 A for 220kV) by changing the temperature by suitable means. Coefficient of linear expansion shall be determined from the measured results.	Please amend as follows: The temperature and elongation on a sample shall be continuously measured and recorded at interval of approximately 15 degree C from 15 degree C to maximum continuous operating temperature corresponding to rated current ([CHANGE: 900A]) by changing the temperature by suitable means. Coefficient of linear expansion shall be determined from the measured results.	Please amend current value as specified in technical specification.	Amendment – rated current value	As per Bid document, CEA guidelines (latest revision/amendments).

13	Volume-2, Technical Specifications, Section 2 – Technical Specification of HTLS Conductor, Annexure A, Clause 1.24 – Torsion and Elongation tests on core strands/composite core	Torsion Test: A sample length that is 170 times the diameter of the composite core being tested is mounted in the gripping fixtures. One grip shall then be fixed so that it does not twist and the other end shall be twisted a full 360 degrees and then fixed in this position for 2 minutes. Once the twist time is completed, the core is untwisted and inspected for any crazing or other damage. If no damage is observed, the composite core is then tensile tested to failure and the final load recorded. For the test to be accepted, the composite core must withstand at least 100% of its rated tensile strength. Two samples need to be completed in order to satisfy the testing requirement.	Please amend as follows: For Standard and High Strength Grade composite cores as per ASTM B987 Table 2, samples should be long enough to have a gauge length between the gripping fixtures 170 times the diameter of the composite core being tested. For core lengths less than 170 times the core OD, rotate the core to maintain the same rotation to length ratio. For Extra High Strength Grade composite core as per ASTM B987 Table 2, samples should be long enough to have a gauge length between the gripping fixtures that is 340 times the diameter of the composite core being tested. For core lengths less than 340 times the core OD, rotate the core to maintain the same rotation to length ratio. [Remaining procedure unchanged]	Specify the length for high strength and extra high strength grade composite core. Also, specified length is gauge length. Also, specify rotation ratio if sample length is smaller than specified length.	Amendment – sample length by core grade	As per Bid document and CEA guidelines (latest revision/amendments).
14	Volume-2, Technical Specifications, Section 2 – Technical Specification of HTLS Conductor, Annexure A, Clause 1.25	Breaking load test on Aluminium/Aluminium Alloy & Composite core and D.C Resistance test on Aluminium/Aluminium Alloy wire. The above tests shall be carried out as per IEC: 888/889 and the results shall meet the requirements of the specification.	Please amend as follows: [ADDITION]: For composite cores, the breaking load shall be performed as described in Section 9 of ASTM B987.	IEC 888/889 is not applicable to composite core. Please add a reference to Section 9 of ASTM B987 on how to perform a tensile test on composite cores.	Addition – applicable standard for composite core	As per Bid document and CEA guidelines (latest revision/amendments).
15	Volume-2, Technical Specifications, Section 2 – Technical Specification of HTLS Conductor, Annexure A, Clause 1.31 – Glass Transition Temperature Test (for polymer composite core only)	Test method shall be as per ASTM D7028. The glass transition temperature shall be greater than the maximum continuous operating temperature of the offered Composite Carbon Core HTLS Conductor + 35 deg C.	Please amend as follows: Test shall be conducted as per ASTM B987. The minimum glass transition temperature shall be either: (i) the temperature of conductor corresponding to the maximum continuous operating temperature of the offered HTLS conductor + 35°C, OR (ii) minimum glass transition temperature as per ASTM B987 i.e. 180°C + 25°C; Whichever is lower. In case the temperature corresponding to max continuous operating temperature is more than 180°C, the test shall be conducted as per ASTM B987 & the minimum glass transition temperature shall be the temperature corresponding to the designed maximum temperature of the offered HTLS conductor + 25°C.	Please specify ASTM B987 standard, which is the only international standard for composite core. Also, specify Glass transition value based on design maximum temperature or maximum continuous operating temperature.	Amendment – test standard & Tg value	As per Bid document and CEA guidelines (latest revision/amendments).

16	Volume-2, Technical Specifications, Section 2 – Technical Specification of HTLS Conductor, Annexure A, Clause 1.33 – Bending Test on Composite Core	A composite core sample shall be wrapped 180 degree around a cylindrical mandrel, and the specimen brought to 15% of the rated tensile strength of the composite core and held for 1 min. The mandrel diameter shall be not more than 50 times the dia of composite core. After completion of the test, the core shall withstand UTS test and dye penetration test.	Please amend procedure as follows: Bending test on polymer composite core (CFC) before stranding shall be performed as per ASTM B987/B987M-25 on polymer composite core samples taken from composite core at conductor manufacturing unit before stranding. Alternatively, supplier may carry out bending test on polymer composite core (CFC) before stranding on samples taken at the core manufacturing unit from the same reel being supplied to conductor manufacturer subject to proper traceability. OR Bending test on polymer composite core (CFC) shall also be performed as per ASTM B987/B987M-25 on samples taken from stranded conductor. For test after stranding, the diameter of cylindrical mandrel shall be: 1) For high strength grade CFC – 60 times the diameter of CFC 2) For Extra high strength grade CFC – 70 times the diameter of CFC	Please specify mandrel diameter if testing is to be performed after stranding.	Amendment – mandrel diameter post-stranding	As per Bid document and CEA guidelines (latest revision/amendments).
17	Volume-2, Technical Specifications, Section 3 – Technical Specifications of hardware fittings & other accessories, Annexure A – Test on complete strings with hardware fittings, Clause 1.10 – Heating Cycle Test	Heating cycle test shall be performed in accordance with IS 2486 (Part-I) with following modifications: i. Temperature of conductor during each cycle: 40 deg. C above designed maximum operating temperature of the conductor. ii. Number of cycles: 100 iii. Slip strength test shall also be carried out after heating cycle test.	Please amend as follows: i. Temperature of conductor during each cycle: 40 deg. C above designed maximum operating temperature of the conductor [ADDITION: but not exceeding the emergency temperature of the conductor]. ii. Number of cycles: 100 iii. Slip strength test shall also be carried out after heating cycle test.	The protocol as written could force conductors to be subjected to temperatures in excess of their emergency temperatures. Please amend this protocol to ensure that the conductor is not subjected to a temperature in excess of the emergency temperature that may cause a failure of the hardware test.	Amendment – temperature cap at emergency limit	As per Bid document and CEA guidelines and as per relevant IS/IEC (latest revision/amendments).
18	Volume-2, Technical Specifications, Section 3 – Technical Specifications of hardware fittings & other accessories, Annexure A – Test on complete strings with hardware fittings, Clause 2.1 – Mid span compression join for conductor, b. Heating Cycle Test	Heating cycle test shall be performed in accordance with IS 2121 (Part-II-1981) with following modifications: i. Temperature of conductor during each cycle: 40 deg. C above designed maximum operating temperature of the conductor. ii. Number of cycles: 100 iii. Slip strength test shall also be carried out after heating cycle test.	Please amend as follows: i. Temperature of conductor during each cycle: 40 deg. C above designed maximum operating temperature of the conductor [ADDITION: but not exceeding the emergency temperature of the conductor]. ii. Number of cycles: 100 iii. Slip strength test shall also be carried out after heating cycle test.	The protocol as written could force conductors to be subjected to temperatures in excess of their emergency temperatures. Please amend this protocol to ensure that the conductor is not subjected to a temperature in excess of the emergency temperature that may cause a failure of the hardware test.	Amendment – temperature cap at emergency limit	As per Bid document and CEA guidelines and as per relevant IS/IEC (latest revision/amendments).