MINUTES OF PREBID MEETING FOR PACKAGE L

MINUTES OF PRE-BID MEETING (VIDEO CONFERENCE) HELD ON:	**12.06.2020**
NAME OF THE PROJECT	**ASSAM INTRA-STATE TRANSMISSION SYSTEM ENHANCEMENT PROJECTS**
FUNDING AGENCY	**ASIAN INFRASTRUTURE INVESTMENT BANK (AIIB)**
NAME OF THE WORK	**Augmentation of Existing Transmission lines Capacity (Three L by High Temperature Low Sag (HTLS) (Package-L)**
BID NO. ICB	**AEGCL/MD/AIIB/PACKAGE-L/2020/02-L**

OPENING REMARKS:

Mr. G. Bhuyan, Deputy General Manager (O&M), HQ, AEGCL welcomed all the prospective bidders explained about the scope of the Project. The prospective bidders raised queries on the bid document accordingly replies to the queries were given. The Deputy General Manager (O&M), requested prospective bidders to submit the additional queries if any by 12/06/2020 in writing so as to is clarifications.

NAMES OF THOSE PRESENT:

FROM EMPLOYER

1.Sri. H. Baishya, Deputy General Manager (P&E), AEGCL, Narengi.
2.Sri. G. K. Bhuyan, Deputy General Manager (O&M), AEGCL, Paltanbazar, Guwahati-01.
3. Sri. P. Bora, Deputy General Manager-I (HQ), AEGCL, Paltanbazar, Guwahati-01.
4. Sri. S. Singha, Deputy General Manager (PP&D), O/o the MD, AEGCL, Paltanbazar, Guwahati-01.
5.Sri. B. Bordoloi, Assistant General Manager-II, O/o the MD, AEGCL, Paltanbazar, Guwahati-01.
6. Sri. D. Chanda, Assistant General Manager-I, O/o the MD, AEGCL, Paltanbazar, Guwahati-01.
7. Smt. R. Sharma, Assistant General Manager (P&E), AEGCL, Narengi.
8. Smt. P. Gogoi, Deputy Manager, O/o the MD, AEGCL, Paltanbazar, Guwahati-01.
9. Smt. J. Devi, Deputy Manager, O/o the MD, AEGCL, Paltanbazar, Guwahati-01.
10.Smt. K. Buragohain, Junior Manager, O/o the MD, AEGCL, Paltanbazar, Guwahati-01.
11. Sri. P. Darshan, Junior Manager, O/o the MD, AEGCL, Paltanbazar, Guwahati-01.
12. Sri. D. J. Baruah, E&S Safeguard Specialist.

FROM PROSPECTIVE BIDDERS

1. ADITYA BIRLA, Regd. Office : Birlagram, Nagda – 456 331 (M.P.) (Party submitted quer however, did not attend pre-bid meeting)

2. HIND ALUMINIUM INDUSTRIES LTD, Rajdeep Sen – Regional Manager (BD & Marketing).

3. APAR INDUSTRIES LIMITED, Regd. off & Marketing off: 301/306, Panorama Complex, Dutta Road, Vadodara-390007,Mr. S. K. Agarwal, Vice President_Marketing, Mr. Anil Agarv Mr. Chandan Gupta & Mr. Tanija.

4. STERLITE POWER TRANSMISSION LTD, Mira Corporate Suits, F-1, Mathura Rd, Ishwar Na Bahapur, New Delhi, Delhi 110065, Mr. Vineet Kumar, Vice President_Sales, Mr. Parikshit R Mr. Anand Kumar.

5. SALASAR TECHNO ENGINEERING LTD, Office : 2nd Floor, Plot No.33,Commercial Bl
Kaushambi Ghaziabad, Website :- www.salasartechno.com. (Party submitted queries, however,
not attend pre-bid meeting)

6. JSK INDUSTRIES PVT. LTD, A. K. Naik Marg, CST, Mumbai – 400 001, INDIA, E-ma
jsk@jskindia.in, Mr. Rajesh Mangalvedhe, Mr. Kishore Singh & Mr. Pankaj M. Kadam (AG
Marketing).

7. SHASHI CABLES LTD, Mr. Puneet Chaurasia.

8. LUMINO INDUSTRIES LTD, Amit Bajaj- Director- abajaj@luminoindustries.com, Vishnu O
DGM-Works vishnu@luminoindustries.com, Mr. Amit Bajaj- Director.

QUERIES ON BID DOCUMENT (INSTRUCTIONS TO BIDDERS, BDS, GENERAL CONDITIONS, PC ETC.)

Table 1.

(a) Queries on Instructions to Bidders, BDS, General Conditions, PC etc.:

Sl. No.	Clause No. of ITB/GCC/SCC/ Forms	Gist of the Query	Response	Reference to Sl. No. of Addendum [Table 2] wherever applicable	Remarks
1	Vol-I/Section-3/ Clause No.2.5.1	It is stated in the qualification requirement that the manufacturer of carbon composite conductor manufacturer should have 5 years of operational experience – This requirement will lead to qualify one or three conductor manufacturers and only one core manufacturer which indirectly drives to single manufacturer to qualify. The carbon fiber composite technology is new technology and it has only about 10 years of experience globally. So, we would like to propose that the Indian manufacturer who doesn't have those operational experiences can also participate under the license of the foreign manufacturer. This is followed by all the transmission utilities (Like PGCIL, UPPTCL, AP Transco, MPPTCL, PSPTCL etc.) as a qualification requirement for HTLS technology conductor. The carbon composite core technology has different technology. The technical specification states that no to stranded carbon composite core and specifies that galvanic layer protection should be glass fiber as a requirement. This technical specification leads to promote only one core manufacturer from USA who has the patent rights in India for such design. We would request you to revise the technical specification as per the guidelines of CEA	To encourage more bidder participation without compromising the quality of the product, the no. of years of operational experience is amended to 3 years.	34	-

		requirement for allow more bidders which will increase the competition and reduce the cost drastically. You are requested to amend the existing Qualification Criteria			
2		Request to specify the exact budget for the tender of HTLS	Estimated cost is not indicated in the bid document for obtaining competitive prices		-
3		What will be the availability of shutdown and if some schedule has been pre-worked.	This shall be facilitated by AEGCL at the time of contract execution		
4		We will be submitting audited Balance sheets in support of our financial credibility for FY 16-17, 17-18 and 18-19. Audited balance sheet for FY 19- 20 will be available in Sep 20 . So requesting a written confirmation from AEGCL on the same. Otherwise the Financial Years can also be mentioned in the Qualification Requirement (16-17,17-18 & 18-19)	Audited balance sheet for FY 16-17,17-18 &18-19 shall suffice.		
5		Request to arrange passes to conduct the survey of line by Project Team amidst the pandemic inflicted lockdown in Assam.	Site visit may not be possible due to Pandemic Covid-19, Tower Schedule provided in the bidding document may be referred by the interested bidders .		

(b) Queries on Technical Specifications:

No.	ITB/GCC/SCC/ Forms			of Addendum [Table 2] wherever applicable	
1	Vol-II/Section-1/ Clause No.1.5.1	HTLS conductors with composite carbon core and related Hardware fittings which have neverbeen tested for critical performance shall not be accepted. In such cases, a promise or agreement by abidder to have the equipment tested after award of a contract is not acceptable. Kindly modify.	The clause shall prevail as per bid document.		
2	Vol-II/Section-1/ Clause No.1.5.2	All Bids must be accompanied by the full Type Test Certificates of equipment offered. Such type test certificates shall be acceptable only if: - Tests are conducted in an independent and well-known testing laboratory, or Tests are conducted in manufacturer's own laboratory. In this case the laboratory must have ISO 9000 (or its equivalent) series certification Pl modify	The clause has been amended.	1	
3	Vol-II/Section-1/ Clause No.1.5.3	Test reports to be acceptable must be related directly to the materials offered. Pl modify	The clause has been amended.	2	
4	Vol-II/Section-1/ Clause No.1.5.4	Type Test Reports older than **five (5)** years on the date of Technical bid opening shall not be accepted. Pl modify	The clause has been amended.	3	
5	Vol-II/Section-2/ Clause No.2.1.4	Requesting you to kindly provide ambient conditions like as following. Elevation above sea level = 0 m Ambient temperature: 45 deg C Solar Absorption coefficient =0.8 Solar Radiation = 1045 watt/sq.m Emissivity Constant= 0.45 Wind velocity considering angle between wind & axis of conductor as 90 degrees = 0.56m/sec	The clause has been amended.	4	

6	Vol-II/Section-2/ Clause No.2.1.6	As per the scope of the project, the existing ACSR Panther and Zebra conductor should be replaced with HTLS conductor. Considering the same please modify as following. Overall diameter of the conductor Not exceeding 21.00mm (132kV) & 28.62 mm (220kV) Approx. mass of complete conductor Less than or equal to 974kg/km (132kV) & 1621 kg/km	The clause has been amended.	5	
7	Vol-II/Section-2/ Clause No.2.2.1	As per the clause 2.1.6 the existing conductors are operating at continuous operation of 85 deg C. Based on this clause the sag of the ACSR Panther and Zebra conductor will be as following. Please consider and modify the same. Sag at maximum continuous operating temp (corresponding to 1200 amperes and ambient conditions specified above) - ≤ 7.61 m (132kV) & 9.63 meters (220kV) Please provide tension limits in Kg also for both ACSR Panther and ACSR Zebra conductors.	The clause has been amended.	6	
8	Vol-II/Section-2/ Clause No.2.3	Requesting to modify this clause as following. A) 132 KV - ACSR Panther continuous operating current should be considered for losses calculation. i.e Average ohmic losses (kW)= Loss load factor X Line length X no. of sub conductors X (continuous operating current)2 X AC resistance per km guaranteed by the bidder at 437 A B) For 220 KV - ACSR Zebra continuous	The clause has been amended.	7	

		(kW)= Loss load factor X Line length X no. of sub conductors X (continuous operating current)2 X AC resistance per km guaranteed by the bidder at 710 A Note: Also, please conform the loss load factor and per KW cost that needs to be considered.			
9	Vol-II/Section-2/ Clause No.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. Add the following: 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 – 17 Section 19.2.	The clause has been amended.	8	
10	Vol-II/Section-2/ Clause No.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.	The clause has been amended.	9	
11	Vol-II/Section-2/ Clause No.2.6.2	Requesting you to kindly modify as follows The core wire strand(s) shall be of galvanized steel/ Invar wires/ or Zinc-5% Aluminium – Misch metal 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, the designed maximum temperature of the offered HTLS conductor exceeds 180 deg C, ordinary zinc coating/ galvanizing of the Steel/Invar core wires shall not be accepted and only aluminium clad or Misch metal coated wires shall be	The clause shall prevail as per bid document.		

		schedule GTP of BPS. The zinc used for galvanizing of core (if used) shall be electrolytic High Grade Zinc of 99.95% purity. It shall conform to and satisfy all the requirements of IS: 209. The minimum mass of zinc coating shall conform to the requirements of relevant standard. Zinc-5% Aluminium –Mischmetal alloy coating, if used, shall conform to and satisfy all the requirements of ASTM B 803 / B 958. The aluminium cladding of wires shall be with aluminium having purity not less than 99.5 % and shall be thoroughly bonded to the core wire strand(s). The minimum thickness of aluminium cladding shall be 0.07mm to achieve a minimum conductivity of 14% of IACS. Where composite material for core is offered, the material shall be either of High strength grade or extra high strength grade as per ASTM B987. The materials shall be of such proven quality that its properties are not adversely influenced by the normal operating conditions of a 132 kV transmission line in tropical environment conditions as experienced by the existing line. The bidder shall provide adequate details including specifications/test reports/operatingexperience details/performance certificates etc. in support of the suitability of the offered material.			
12	Vol-II/Section-2/ Clause No.2.9.1	Please amend title as follows ii) (a) Heat resistance test on Aluminium Alloy strands (Aluminum Zirconium type only) Please amend as follows.	The clause has been amended.	10	

		shall not be required to be carried out if a valid test certificate is available for the offered design, i.e., tests conducted earlier (not more than 7 years old at the time of bid opening) should have been conducted in third party accredited laboratory (accredited based on ISO/IEC guide 25/17025 or EN 45001 by the National Accreditation body of the country where laboratory is located) or witnessed by the representative (s) of CTU or State Transmission Utility or witnessed by an ISO/IEC 17025 Accredited Laboratory personnel's. The accreditation shall be by an agency that is certified to ISO/IEC 17011 with an ILAC-mutual recognition agreement. In the case of composite core conductors, the tests specified under clause 2.9.1 shall be carried out before stranding on as manufactured sample.			
13	Vol-II/Section-2/ Clause No.2.9.2	Please consider following acceptance tests applicable on composite core to be performed before stranding. · Dimension Check on Core Strand · Torsion and Elongation test on composite core · Breaking load test on core strands	The text in Sl nos. (c,f,g) in the clause has been amended.	11	
14	Vol-II/Section-2/ Clause No.2.9.3	Please amend as follows-C) Chemical analysis of core strands/composite core. Its not possible to perform a chemical analysis of the composite core	The text in Sl nos. (c) in the clause has been amended.	12	
15	Vol-II/Section-2/ Clause No.2.16	Service centre in India: If any manufacturer is from outside INDIA, they must have their service centre and calibration facilities in India. (Not applicable for special type of core of HTLS conductor)	The clause has been amended.	13	
16	Vol-II/Section-2/Annexure-A(Test on	Recommend removing this test, as it provides no information on how the conductor will	The clause has been amended.	14	

		Stress-strain test as per IEC-1089 shall be conducted keeping conductor temperature at designed maximum temperature. RTS used for final strength and intermediate holds shall be 70% of the ambient UTS guaranteed in the GTP			
17	Vol-II/Section-2/Annexure-A(Test on Conductors)/ Clause No.1.6	Please amend as follows; High Temperature Endurance & creep test On other conductor sample, the conductor temperature shall be increased to design maximum temperature in steps of 20 deg. C and thermal elongation of the conductor sample shall be measured & recorded at each step. The temperature shall be held at each step for sufficient duration for stabilization of temperature. Further, the temperature of the conductor shall be maintained at maximum continuous operating temperature (±2.5 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. After completion of the above, the core of the conductor sample shall be subjected to UTS test as mentioned above at clause 1.1 of Annexure-A. The conductor core shall withstand a load equivalent to 95 % of UTS. In case of polymer composite core conductor, the flexural strength & glass transition temperature of the core shall also be evaluated and the same shall not be degraded by more than 10 % over the value specified in GTP by bidder. The supplier shall plot the thermal elongation with temperature.	The clause has been amended.	15	
18	Vol-II/Section-2/Annexure-A(Test on Conductors)/ Clause No.1.10	Torsional DuctilityTest Please amend procedure as follows; The conductor sample of minimum 1500 times diameter of conductor core shall be	The clause has been amended.	16	

		conductor shall withstand at least 16 such rotation and there shall not be any damage to Aluminium Alloy or core wires. 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 up to 16 rotations.			
19	Vol-II/Section-2/Annexure-A(Test on Conductors)/ Clause No.1.12	**Temperature CycleTest** Please amend as follows: The purpose of this test is verification of degradation characteristics of metallic and non-metallic material when subjected to thermal cycling temperature cycling can create large internal stresses due to thermal expansion mismatch between constituents. 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, the mechanical tension shall be increased up to 70 % RBS at room temperature and kept at this tension for 24 H. Thereafter release to 20 % RBS. □ This cycling test shall be repeated 5 times. □ During the test, temperature of connectors, conductor and resistance are recorded according to ANSI C 119. A breaking load test is applied at the end of the test. Conductor strength has to be higher than 95% RBS. In case of polymer composites, the flexural	The clause shall prevail as per bid document.		

		Transition temperature shall not degrade by more than 10 % of value specified in GTP after thermal cycling. Flexural strength shall be obtained on the basis of test procedure indicated at 1.32 below.			
19	Vol-II/Section-2/Annexure-A(Test on Conductors)/ Clause No.1.16	Pls amend as mentioned below, The temperature and elongation on a sample shall be continuously measured and recorded at interval of approximately 15 degree C from laboratory ambient temp. deg. C to maximum continuous operating temperature corresponding to rated current (875 for 132kV & 1200 A for 220kV) by changing the temperatureby suitable means.	The clause shall prevail as per bid document.		
20	Vol-II/Section-2/Annexure-A(Test on Conductors)/ Clause No.1.24	Please change procedure for composite carbon core conductor as follows; Torsion Test: The purpose of the test is to determine the resilience of the composite core to twisting and to show that after the composite core has experienced the prescribed twisting, it will not crack or have a loss in tensile strength due to the twisting. 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. One grip shall then be	The clause has been amended.	17	

		then fixed in this position for 2 minutes. Once the twist time is completed, the core is untwisted an 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.			
21	Vol-II/Section-2/Annexure-A(Test on Conductors)/ Clause No.1.31	Please add the following: For composite cores, the breaking load shall be performed as described in Section 9 of ASTM B987. Please change procedure as follows; Test method shall be as per ASTM D7028, A Standard Test Method for Glass Transition Temperature of Polymer Matrix Composites by Dynamic Mechanical Analysis. The glass transition temperature shall be greater than the maximum continuous operating temperature (180 Deg C) of the offered HTLS conductor +25 ° C, and the Tg measured as the peak in the Loss Modulus curve (as per ASTM B987. **OR** Test shall be conducted as per ASTM B987. The minimum glass transition temperature shall be either (i) the design maximum continuous operating temperature of the offered HTLS conductor + 35 Deg C or (ii) minimum glass transition temperature as per ASTM B987 i.e.180 deg. C + 25 Deg C; Whichever is lower. In case, the design maximum continuous operating temperature of the offered HTLS conductor is more than the minimum glass	The clause has been amended.	18	

		conducted as per ASTM B987 & the minimum glass transition temperature shall be the design maximum continuous operating temperature of the offered HTLS conductor + 25 Deg C.			
22	Vol-II/Section-2/Annexure-A(Test on Conductors)/ Clause No.1.32	Please change procedure as follows; Test method shall be as per ASTM D7264, ASTM D4475 or ISO 14125. The Flexural Strength shall not be less than the guaranteed average minimum value before stranding shall be listed in the GTP.	The clause has been amended.	19	
23	Vol-II/Section-2/Annexure-A(Test on Conductors)/ Clause No.1.33	Requesting you to modify it as follows 1.33 Bending Test on Polymer Composite Core (Type Test) Bending test on polymer composite core (CFC) before stranding shall be performed as per ASTM B987/B987M-17 on polymer composite core samples taken from composite core at conductor manufacturing unit before stranding of conductor. Alternatively, supplier may carry out bending test on polymer composite core (CFC) before stranding on the samples taken at the core manufacturing unit, from the same reel being supplied to conductor manufacturer subject to proper traceability of the same at the conductor manufacturers works. Bending test on polymer composite core (CFC) shall also be performed as per ASTM B987/B987M-17 on polymer composite core samples taken from stranded conductor. For test after stranding the diameter of cylindrical mandrel shall be as following: For high strength grade CFC – 60 times the diameter of CFC For Extra high strength grade CFC – 70 times the diameter of CFC.	The clause has been amended.	20	

24	Vol-II/Section-2/Annexure-A(Test on Conductors)/ Clause No.1.34	Please amend as follows; Chemical Analysis of Aluminium/ Aluminium Alloy and INVAR Core Wires	The clause has been amended.	21	
25	Vol-II/Section-3(A) & (B)/ Clause No.3.3	Slip strength shall be as per IS 2486 (Part I) as specified in Page No 78 of Vollume II technical specification. 2.Slip strength specified in VOLUME – 2, TECHNICAL SPECIFICATION Page 63 Section 3B clause 3.3 is contrary to IS 2486 Part-1	The clause has been amended.	22	
26	Vol-II/Section-3(A) & (B)/ Clause No.3.15.3	Upto 220 kV ,generally Ball ended finish of armor rod is acceptable. Request to include the same.	The clause has been amended.	23	
27	Vol-II/Section-3(A) & (B)/ Clause No.3.16.3	Dead end Assembly Compression shall be made as per the Installation instruction . As it is not feasible to inscribe compress first and Aero marking.	The clause has been amended.	24	
28	Vol-II, Section 3(A) & 3(B), Annexure B1, Clause 1.10	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, but not to exceed the maximum use temperature of the conductor. ii) Number of cycle: 100 iii) Slip strength test shall also be carried out after heating cycle test.	The clause has been amended.	25	
29	Vol-II, Section 3(A) & 3(B), Annexure B1, Clause 2.1	Please amend as follows; 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, but	The clause has been amended.	26	

		ii. Number of cycles: 100 iii. Slip strength test shall also be carried out after heating cycle test.			
30	Vol-II, Section 4, Clause 4.8.1B	(a) The word "DC" Voltage is not applicable in this case. (b) Switching Surge Voltage Withstand Test under wet condition is not applicable on 132kV and 220kV Strings as per relevant IS/IEC Standards. This test is applicable above 300kV system voltage. In case, this test is to be done against your project, values need to be specified.	The Sl no.(c), (h) in the clause has been amended.	27	
31	Vol-II, Section 4, Annexure – D, Clause 1.3	These values are applicable for 400kV strings. As per our past experience and requirement of other Power Utilities, values should be as under: (a) 132kV - 21% for Suspension String and 22% for Tension Strings (b) 220kV - 13% for Suspension String and 14% for Tension Strings Above may be endorsed by you and incorporate in the Tech. Spec. accordingly.	The clause has been amended.	28	
32	Vol-II, Section 4	Technical Specification for Long Rod Polymer Insulator is required. LR Polymer Insulator are practically better choice, rugged, long life & easy for installation when compared to LR Porcelain, so option of polymer insulator to be mentioned.	The information is provided in amended Clause 4.2.2.	29	
33	Vol-II, Section 4, Annexure – D, Clause 1.5	AC Salt-fog pollution withstandtest Please review and confirm the requirement of Salinity level for Disc Insulators to decide design parameters.	The clause has been amended.	33	
34	Vol-II, Section 3, Table-1(a), Clause 4	a) Please replace the Al alloy material grade 6060 instead of specifying Aluminium purity (as 6060 grade fittings are tested and comply all the requirements. b) stainless steel also to be included as same is tested and comply all the requirements.	The clause shall prevail as per bid document.		

35	Vol-II, Section 3, Clause 3.35	Request to include the respective international standard as well as furnished in Annexture . In Page 61	The clause shall prevail as per bid document.		
36	Vol-II, Section 2, Clause 2.18	Table item 18: Ampacity Title of IEEE 738 is as follows. Please amend: IEEE Standard for Calculating the Current-Temperature Relationship of Bare Overhead Conductors. State the actual title for IEEE 738 Table Item 19: Design Validation Test on Composite Core Title of ASTM B987 is as follows. Please amend: Standard Specification for Carbon Fiber Thermoset Polymer Matrix Composite Core (CFC) for use in Overhead Electrical Conductors. State the actual title for ASTM B987	The clause shall prevail as per bid document.		
37	Vol-II/Section-2/Annexure-A(Test on Conductors)/ Clause No.1.7	Requesting you to modify it as follows Sheaves Test The conductor sample of minimum length of 35 meter shall be tensioned at 20 % of the UTS; pulley diameter shall be at least 32 times that of the conductor; angle between the pulleys shall be 20 degrees. The conductor shall be passed over the pulleys 36 times a speed of 2 m/sec. After this test UTS test on the conductor shall be carried out as mentioned above at clause 1.1 of Annexure-A. In the case of polymer composite core conductors, the core shall be inspected for damage by subjecting the core to a dye penetration test as per ASTM B987 section 14. Dye penetrant exposure time shall be 30 +1/-0 minutes.	The clause shall prevail as per bid document.		
38	BoQ (uploaded in E-tender portal)	• Separate BoQ for 132kV & 220kV lines are to be provided. HTLS Conductor & its associated Hardware	Amended BoQ uploaded in e-tender portal	31	

		BoQ items are to be provided • Long Rod Polymer Insulator is required to be mentioned in the BoQ. LR Polymer Insulator are practically better choice, rugged, long life & easy for installation when compared to LR Porcelain, so option of polymer insulator to be mentioned. • Separate BoQ for 132kV & 220kV lines are to be provided for Dismantling & ESMP. • HTLS Conductor & its associated Hardware Fittings to be offered are different for both the line voltages, so separate BoQ items are to be provided. • 3.01- Dead end Assembly - Is it a part of Gantry items as qty is very low and if yes then it should be in set instead of nos. Please confirm • 3.03- We are not able to understand about Jumper socket if it is jumper cone then its qty is very high as we need only half of this qty. Need proper item description. • 4,5- In both cases Long rod insulator should be polymer instead of porcelain. Please confirm.			