

NEPAL ELECTRICITY AUTHORITY
Project Management Directorate
Hetauda Parwanipur Pokharya 132 KV Transmission Line Project
Clarification 1

ADB Loan No: 3943-NEP: Power Transmission and Distribution System Strengthening Project
OCB No.: :PMD/PTDSSP/HPP/2079/80-02:Piluwa - Parwanipur 132 KV Transmission Line Upgradation Work



S. No.	Equipments / Category	Description	Bidder's Query	Employer's reply to the Query
1	Volume II of III, Chapter 4 – GTR HTLS Conductor, Table: Tension Criteria	The HTLS conductors shall meet the following sag tension requirements for rulling span of 628 m.	Span Length & Tension Criteria in table is not correct mentioned in Technical Spec. refer to ACSR Bear Conductor. Kindly provide actual Sag & Tension Limit Criteria for ACSR Bear as per Site condition.	Refer to see, Volume II of III, Chapter 01, PSR, Clause 2(i). Further, this is a part of detail engineering.
2	Volume II of III, Chapter 4 – GTR HTLS Conductor, clause 10.3 – Acceptance tests	Test shall be conducted in presence of the NEA representative in the Manufacturer premises and following test shall be conducted along with test of above clause 3.5.2.2 Type Tests on Stranded Conductor/ Stranded wire.	Please amend as follows, "Test shall be conducted in presence of the NEA representative in the Manufacturer premises on stranded Conductor/ Stranded wire."	This shall be decided during detail engineering.
3	Volume II of III, Chapter 4 – GTR HTLS Conductor, clause 10.3 – Acceptance tests	Note For composite core the tests specified under Clause 3.5.3 shall be carried out before stranding on as manufactured samples	Please amend as follows, Note For composite core the tests specified under Clause 10.3 shall be carried out before stranding on as manufactured sample	Your assumption is correct. Read as Clause 10.3 instead of Clause 3.5.3.
4	Volume II of III, Chapter 4 – GTR HTLS Conductor, Annexure A, Clause 1.6- High Temperature endurance & creep test.	(ii) On other conductor sample, the conductor temperature shall be increased to designed maximum temperature 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 designed maximum temperature +10 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. 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 initial value. The supplier shall plot the thermal elongation with temperature.	(ii) On other conductor sample, the conductor temperature shall be increased to designed maximum temperature 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 designed maximum 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. 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 guaranteed in the GTP. The supplier shall plot the thermal elongation with temperature.	This shall be decided during detail engineering.

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5	Volume II of III, Chapter 4 – GTR 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 designed maximum temperature corresponding to rated current (1100A & 1250A) by changing the temperature by suitable means. Coefficient of linear expansion shall be determined from the measured results.	Please amend as follows, 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 designed maximum temperature corresponding to rated current (1200A) by changing the temperature by suitable means. Coefficient of linear expansion shall be determined from the measured results.	Shall be as per GTR, 1. Current Carrying Capacity /Ampacity Requirements.
6	Volume II of III, Chapter 4 – GTR HTLS Conductor, Annexure A, Clause 1.35 and 1.36	A. Bending test on polymer composite core (Type test); and B. Bending test on polymer composite core (Acceptance test)	Please replace ASTM B987/B987M-17 by ASTM B987/B987M-20.	Please follow the latest amendment of ASTM.
7	Volume II of III, Chapter 6 – HTLS Clamp fittings and accessories, Annexure A, Clause 1.6	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 cycle: 100 iii) Slip strength test shall also be carried out after heating cycle test.	Please add following point also. 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.	This shall be decided during detail engineering.
8	Volume II of III, Chapter 6 – HTLS Clamp fittings and accessories, Annexure A, Clause 2.1 – Mild Span compression joint 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 cycle: 100 iii) Slip strength test shall also be carried out after heating cycle test.	Please amend as follows, 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 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	This shall be decided during detail engineering.
9	EQC 2.4.1 Contracts of Similar Size and Nature	Participation as a contractor, JV partner, or subcontractor, in at least 1 (one) contract that has been successfully or substantially completed within the last 7 years and that is similar to the proposed contract, where the value of the Bidder's participation exceeds US\$ 1.90 million or above. Here, similarity means "design, supply, installation and commissioning of 132 kV or higher voltage Transmission Line involving HTLS Conductor stringing."	Request to amend as: Participation as a contractor, JV partner, or subcontractor, in at least 1 (one) contract that has been successfully or substantially completed within the last 7 years and that is similar to the proposed contract, where the value of the Bidder's participation exceeds US\$ 1.90 million or above. Here, similarity means "design, supply, installation and commissioning of 132 kV or higher voltage Transmission Line involving HTLS/ ACSR Zebra Conductor stringing."	Please follow EQC 2.4.1 of Bidding document.
10	EQC 2.4.2 Experience in Key Activities	For the above or other contracts executed during the period stipulated in 2.4.1 above, a minimum experience in the following key activities: 1. A contract involving supply, installation, testing and commissioning of 132 kV or higher voltage Transmission Line with HTLS Conductor stringing length of >= 60 km within last 10 (ten) years.	For the above or other contracts executed during the period stipulated in 2.4.1 above, a minimum experience in the following key activities: 1. A contract involving supply, installation, testing and commissioning of 132 kV or higher voltage Transmission Line with ACSR Zebra/ HTLS Conductor stringing length of >= 60 km within last 10 (ten) years.	Please follow EQC 2.4.2 of Bidding document.



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11	Section 3 – Evaluation and Qualification Criteria, 2.5 Subcontractors	1 HTLS Conductor iv) Must have manufactured, tested and supplied at least 120 km of offered HTLS conductor over last three (3) years period as on date of bid submission and 25 % of the supplied quantity should have been in satisfactory operation in the field for at least two (2) year as on scheduled date of bid opening. The same must be validated by Notarized End User's Certificate issued by Utility.	Please amend as follows: 1 HTLS Conductor iv) Must have manufactured, tested and supplied at least 120 km of offered technology HTLS conductor over last three (3) years period as on date of bid submission and 25 % of the supplied quantity should have been in satisfactory operation in the field for at least two (2) year as on scheduled date of bid opening. The same must be validated by Notarized End User's Certificate issued by Utility.	Please follow EOC 2.5 of Bidding document.

Note:

* Bidders are requested to **submit the scan copy of all the documents** in any kind of storage device at the time of bid submission enclosed along with hard copies.

* NEA will provide all documents if possible. However, being a turnkey project, the Contractor shall be responsible for all confirmations, designs, and optimization. So, such costs are deemed to be included in related headings.

* Being a turnkey project, all modifications, design and optimization shall be done during detail engineering by the Contractor but subject to the Employer's approval.

