

**SUPPLY, INSTALLATION, TESTING AND COMMISSIONING 33/11.3 kV 16/20 MVA POWER TRANSFORMERS
NIT - AEML/MDb/2020-21/04**

Corrigendum - Clarifications on Technical Specification & NIT

S.No.	Clause No.	As per specification	Toshiba Clarification	AEML Reply	Point by
1	NIT, BOQ	TRAF0,PWR,Oil;16/20MVA;33kV;11.3kV---9Nos.	As these both clauses are contradictory, kindly let us know the oil we need to be used for this enquiry.		
2	Annexure-D	Annexure-D is calling for both Synthetic & Natural Ester Oils Annexure-C is calling for Mineral Oil Transformers		Current enquiry is with Mineral Oil filled 33/11.3 kV PT	Toshiba
3	Tech. Specification, Clause No.3.5	Loss capitalization formulae Shall be applicable & rate in Rs/KW will be communicated at the time of enquiry.	Kindly let us know whether the bid evaluation shall be done on Total owing cost basis. If yes, kindly provide the respective A-Factor & B-Factor values. CBIP will not refer any capitalization values. The design cost will increase if we consider losses on capitalization basis compared to maximum losses as per the specification. Kindly review and comment.	Loss Capitalization as per CBIP formula.	Toshiba
4	Tech. Specification, Clause No.3.4.14 & Scope of Supply(FY 2020-21)	Clause No.3.4.14: Overall footprint (max.) in mm for Ester Oil. (LxBxH) : 3600 x 4000 x 5000 for 16/20 MVA Scope of Supply(Fy 2020-21), Annexure-B, Over all Dimensions---5000x4000x5000mm	These two clauses are contradictory. Kindly provide the respective clause to be followed. We inform you we can be able to meet the overall length of transformer of 3600mm.	Scope of Supply(Fy 2020-21), Annexure-B, Over all Dimensions---5000x4000x5000mm - For current enquiry of Mineral Oil filled PTs	Toshiba
5	Tech. Specification, Clause No.7 & Scope of Supply(FY 2020-21)	Clause No.7: Tappings: At 33KV: + 3.6 % to - 7.2 % @ step of 1.2 % & +5.4% to -10.8% @ step of 1.8% as per enq.& engineering requirement Scope of Supply(Fy 2020-21), Annexure-B, Tap Range: +5.4% to -10.8% @ step of 1.8%	These two clauses are contradictory. Kindly provide the respective clause to be followed.	For current enquiry - Tap Range: +5.4% to -10.8% @ step of 1.8%	Toshiba
6	Technical Specification, Annexure-A	Supervision of Electrical testing: Successful bidder shall supervise all Electrical testing done on transformer.Statutory approvals, Testing & commissioning Of transformer will be in scope of AEML. Electrical Testing of transformer is in scope of AEML. Commissioning of Power transformer---In the scope of Adani	a). As these two clauses are contradictory, kindly let us know the exact scope on commissioning & Testing at site. b).Further, in case the testing at site is under the scope of vendor, we request you to kindly let us know exactly any extra tests to be done at site other than the mentioned in the tender document as it is specifying that the mentioned tests at site in the scope document are indicative only. We need to arrive the price estimation based on the tests only.		
7	Scope of Supply(FY 2020-21)	Testing & Commissioning of Transformer: - Testing of Power Transformer (Pre commissioning tests applicable for transformer with respect to relative standards) shall be in scope of successful bidder. Successful bidder shall also be responsible for final commissioning of power transformer at the satisfactory level of AEML engineer/site in charge. Tests at Site: The said tests are indicative. Vendor shall be required to do Testing as per requirements of AEML.		a. Please follow the Scope of Supply 2020-21. b. Please follow the Scope of Supply 2020-21.	Toshiba
8	Annexure-A, Cl.No.1	a). Supply of Water Sprinkler System as per Annexure- C5 as per enquiry b).Supply of Nitrogen Injection Fire Protection System as per Annexure - C2	Water Sprinkler System is mentioned only in Annexure-A and the rest of the specification and Price Schedules are calling for Nitrogen Fire Protection System. As the both items purpose is same, We shall offer Nitrogen Injection Fire Protection system to Transformer with out water sprinkler system. Further, kindly provide the approved make list of NIFPS as the specification is not calling for the same.	Please provide N2 Fire Protection System.Approved make - CTR,ESUN MR, Vendere Sales, Tectonicus	Toshiba
9	Scoper of Supply	a). N2 Fire Protection System.			
10	Price Schedule-Services	a). Testing of PT which includes following Tests : (Ratio Test, magnetic Balance Test, Short Circuit Test, Measurement of Magnetizing Current, Insulation Resistance & Polarization Index, DC winding resistance measurement, Vector Group Test, Neutral Current Transformer Testing, Stability Test of Power Transformer, Insulation Resistance & Polarization Index.	a).Testing at manufacturer's works and site has clearly mentioned in Technical Specification & Scope of supply. Hence we request you to kindly make this point as null & void as these many clauses will make us ambiguity.	You may quote as per the Scope of Supply and Standard QAP	Toshiba
11	Technical Specification, Clause No.3.1.11	Partial Discharge: Not applicable	As these both clauses are contradictory, we shall follow as per the specification i.e., partial discharge test is not applicable. As per IEC, partial discharge test is applicable above 72.5kV. Further, there is no test facility available at any CPRI/ERDA to conduct this test. Hence we request you to kindly give waiver to conduct this test	Please follow- Induced over voltage test (Short duration AC test (ACSD test) with Partial discharge measurement	Toshiba
12	QAP, Acceptance Tests, 4.7	Induced over voltage test (Short duration AC test (ACSD test) with Partial discharge measurement			
13	Technical Specification, Clause No.11	Inspection & Testing 11.1.1: Leakage test of radiators as per CBIP	We shall follow from Clause No.11.1.2 to Clause No.11.1.4.2 as per QAP as both are contradictory. Kindly comment on the same. We shall provide supplier TC for leakage test	Please follow the QAP	Toshiba
14	Technical Specification, Clause No.6.29	Aluminium Ladder	Detachable/Welded M.S ladder shall be provided instead of Aluminum ladder.	Accepted.Ladder paint to qualify for ISO Class 5 requirements.	Toshiba
15	Technical Specification, Clause No.3.4.9	Flux Density---1.6 T(Max.)/1.73 Tesla(Max.) at 10% over voltage	Since specified flux density is 1.6 T (max.), With 1.6 Tesla we shall arrive Maximum flux density at 10% over excitation/Over fluxing of 1.76 Tesla. But specified maximum density is 1.73 T. Please check and confirm.	Since specified flux density is 1.6 T (max.), With 1.6 Tesla we shall arrive Maximum flux density at 10% over excitation/Over fluxing of 1.76 Tesla. - Accepted	Toshiba
16	Technical Specification of NIFPS, Clause No.1.7	Power supply For Control For service / lighting	Please confirm the control voltage for NIFPS whether it is 110V or 220V.	110 V	Toshiba

Clarifications on QAP

S.No.	Clause No.	As per QAP	Toshiba Clarification	AEML Reply	Point by
1	Acceptance test, ClauseNo.4.6	Measurement of IR & PI	We request you to kindly give waiver for PI test.	QAP to be followed	Toshiba
2	Acceptance test, ClauseNo.4.9	OLTC operation test on all taps	Kindly allow us to do at normal tap	QAP to be followed	Toshiba
3	Acceptance test, ClauseNo.4.1	Measurement of winding resistance at all taps	Kindly allow us to do at extreme & normal taps	QAP to be followed	Toshiba
4	Acceptance test, ClauseNo.4.2	Magnetic balance & current	Kindly allow us to do Magnetic balance only with out any current measurement	Accepted	Toshiba
5	Acceptance test, ClauseNo.4.5	Measurement of no load loss & Current at rated frequency, at 90%, 100% and 110% rated voltage. 415 V, 3 ph on LV side	As LV is 11kV, we shall conduct this test with 11kV	Accepted	Toshiba
6	Final Inspection & Tests, ClauseNo.IV.3	Tests as per IS 335/IEC 60296/IEC 61099 complete	As per IEC 62270 is applicable for Natural Ester Oil.	As per IS 335	Toshiba
7	Testing	Reference Document: IEC 60076/Specs	Specification is becoming contradictory with QAP. We shall follow only standard IEC 66076 only.	Please follow the QAP	Toshiba
8	Raw Material & Bought Out Components Clause No.1, Core	Tests on CRGO	a). We will conduct tests for SI.No.2,3,4,5 only. For rest of the SI.Nos. we shall provide supplier TC's in clause no.1 b). For SI.No.7, Chemical composition is not required as per standard c).For SI.No.10, We are not having facility for Bow test.Hence we can not do this test. d). For sl.No.11, We shall follow density as per IS 3024. These all tests shall be carried on one sample per design. Kindly provide your acceptance on the above.	To be conducted in Third Party facility.(ERDA/CPRI)	Toshiba
9	Raw Material & Bought Out Components Clause No.2, Paper Covered Conductor(PCC)	Tensile strength	Supplier TC shall be provided.	Accepted	Toshiba
10	Raw Material & Bought Out Components, Clause No.22, Tap Changer	Agency: M---W	We can review only the Tap Changer certificates	Accepted. OEM report to be provided	Toshiba