Pre Bid TechnicalClarifications No.2 dtd 06.03.2026 to NIB No.486 dtd 08.01.2026 against EPC execution of Power House EM Works of 186MW Tato-I HEP

Sl. No.	Volume / Section	Clause No.	Clause Name	Page No.	Description as per Bid Document	Bidders Queries	NEEPCO Replies
1	Volume II Section II Sub Sect 01 – Turbine, Governor and Main Inlet Valve	1.2.5.4	Design Stress Limits	14 of 70	Direct or combined steady stresses: (1) For materials used in the construction of the equipment, the maximum stress due to maximum normal rated load operating conditions shall not exceed onethird of the minimum yield point or one-fifth of the minimum ultimate strength of the material, which ever is lower. The minimum factor of safety under the worst conditions shall not be less than 1.5 on yield point (Y.P.) or 3 (three) on ultimate tensile strength (UTS). (2) Parts subject to water pressure shall be designed to the applicable provisions of the ASME Code and welding shall be as specified herein and in accordance with ASME Boiler and Pressure Vessel code Section 8, Division 2.	The design stress limit shall be followed as for the conditions occurring in normal operation shall not exceed one-half (1/2) of the yield strength of the material. Also, the ASME Boiler and Pressure Vessel code Section 8, Division 2 is not applicable for turbine components as per the version of 2025. Please review the requirement and confirm the above mentioned stress criteria as followed for the hydro turbines world wide based on the advanced tool/ software's calculations.	**Bid stipulation shall prevail.**
2	Volume II Section II Sub Sect 01 – Turbine, Governor and Main Inlet Valve	1.2.6.2	1.2.6 Turbine Model Test 1.2.6.2 Model Details, Drawings and Homology	16 of 70	The model scale, minimum size and homology/ similarity to the prototype turbine shall be in conformity with the IEC code 60193. The model size shall not be less than 300 mm, and the test head shall not be less than 40 m.	We understand that the Model size and test head shall be as per IEC60193. Kindly confirm.	**The model size, test head, and homology shall be in strict conformity with IEC 60193 standards.**
3	Volume II Section II Sub Sect 01 – Turbine, Governor and Main Inlet Valve	1.2.6.3	1.2.6 Turbine Model Test 1.2.6.3 Conducting of Model Test, Test Code, Submission of Report	16 of 70	The detailed programme of carrying out the comprehensive model test shall be intimated to the Purchaser 8(Eight) weeks in advance of the start of the test for the Employer/consultant to depute their representatives for observation of the comprehensive tests.	We understand that the contractor will perform the comprehensive model test (internal model test) and after that a model acceptance test (MAT) shall be performed which shall be witnessed by the Employer/ consultant. Contract will intimate to the Purchaser, 8 weeks in advance of the start of MAT, to depute their representatives for wittness the model acceptance test (MAT). Kindly accept.	**The Contractor shall perform internal tests first. The 8-week advance notice applies to the comprehensive model test start, not just MAT. Employer/consultant observation of the complete testing program is required as specified.**
4	Volume II Section II Sub Sect 01 – Turbine, Governor and Main Inlet Valve	1.4.1.1	Manufacture	28 of 70	The maximum peak to peak stress amplitude in the runner shall be less than 40 MPa at rated conditions. This shall be shown with reference to a finite element stress analysis of the proposed runner.	The limit of maximum 40 MPa is too low at rated condition for the runner. This range shall be 180 MPa to 200 MPa peak tp peak for Francis turbine runner and it is standard design Practice followed globally. Please review the requirement and confirm the same.	**The limit of less than 40 MPa peak-to-peak stress is specified to ensure long-term fatigue life and reliability. The bidder must design the runner to meet the requirement as per the Bid Document.**
5	Volume II Section II Sub-Sec. 08 Protection and Metering	8.1.3 (2)	Design Requirements 2. Maintainability	27 of 153	The Contractor shall further guarantee a 15-years minimum availability of identical replacements and spare parts. The Contractor shall submit a signed affidavit from each component and software supplier as proof.	It is not feasible to guarantee the availability of identical replacements and spare parts for a minimum period of fifteen (15) years, as component hardware and software are subject to continuous technological advancements, obsolescence, and product lifecycle changes determined by the original manufacturers. Accordingly, this requirement may kindly be reviewed and amended to allow supply of compatible or equivalent replacements, in line with standard industry practice.	**The 15-year availability requirement stands, but "identical" may be interpreted as functionally equivalent replacements that maintain original performance specifications. Supplier affidavits remain required, with "equivalent" acceptable where manufacturer discontinuation is documented.**