

Pre Bid Technical Clarification No.4 against NIB No.377 dated 26.11.2020

Sl. No.	Bid Stipulation	Bidder's Query	NEEPCO's Reply
1.	<p>Section- IV, Vol.- 2, Part- II-00 Protection System-PTS 1.1 Scope of work: Page 401</p> <p>SAS (expandable) with BCU for 220 KV switchyard unit bays, 33 KV system, 415V UAB &amp; SSB panels</p>	<p>Please note that BCU is not in bidders scope</p>	<p>Bid specification shall prevail.</p> <p>Control, monitoring and protection panel for unit bays, control and monitoring for 33 KV and 415 V UAB &amp; SSB panels shall be under the scope of the successful bidders. Interfacing with switchyard SAS installed by PGCIL shall be under the bidder's scope. BCU if required for achieving the same shall be in bidder's scope.</p>
2.	<p>Section- IV, Vol.- 2, Part- II-00 General Technical Requirement- PTS 9.1.4.1 With other Contractors: Page 259</p> <p>E) Cable Schedule Preparation of cable schedule (power, control and instrumentation) of entire E&amp;M works for successful commissioning of the plant as a whole with proper co-ordination and inputs / data / details / drawings etc., from Contractor of other packages is included in the scope of this Contract</p>	<p>We propose that Bidder will prepare cable schedule for Bidder supplier equipments.</p>	<p>Bid specification shall prevail.</p>
3.	<p>Section- IV, Vol.- 2, Part- II-00 General Technical Requirement- PTS Clause 9.5.1.6, Page 268</p> <p>Interconnection from various equipment to Local Control Cubicles and Unit Control Boards/Local Control Boards and all necessary interfaces, like I/O modules, PLCs, CPUs etc., required for communication between local panels/Local Control Cubicles of various auxiliaries/ equipment and respective Local Control Boards shall be covered under scope of this contract</p>	<p>Existing LCC's of Local systems will be interfaced with newly supplied LCB's. Any hardware modification required to make these existing LCC's SCADA compatible will be in the scope of M/s. NEEPCO. Please confirm.</p>	<p>Following system which are not under present scope should be interfaced with station SCADA. All other equipments supplied by the bidder is understood to be interfaced accordingly. 1. Cooling water system, 2. SSB &amp; UAB PLC, 3. Fire Alarm, Detection &amp; Extinguishing System, 4. All Dewatering system, 5. GT, 6. LP compressor system, 7. HVAC, 8. MLDBs etc. Hardware modification</p>

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			required on panels supplied by NEEPCO to make them SCADA compatible shall be in NEEPCO's scope.
4.	Section- IV, Vol- 2, Part- II -04 Excitation System- PTS Clause 1.1, Page 384  CT's and PT's for Excitation System	Please clarify whether existing CT's and PT's for Excitation can be refused?	No existing CTs and PT's can be used. Bidder shall specify ratings & requirement of CTs & PTs required in NGTR, PTSA, Bus duct, Gen Trf. etc.
5.	Section- IV, Vol.- 2, Part- II-06 Control & Monitoring (SCADA) System- PTS Clause 1.5.5.5, Page 463  Necessary integration and interface with SAS & Protection for 220 KV Feeders (3 Nos.), ICT (2 Nos.) & Bus coupler bays, PLCC, RTU, PMU to be implemented by PGCIL, shall be done to achieve above functions	A port for PLCC connectivity with suitable communication protocol like IEC 101 will be provided at new proposed Control System. It will be the responsibility of M/s NEEPCO to provide port/Gateway at exiting PLCC which matches the communication protocol at Control System	Multiple ports with IEC 101 and IEC 104 communication protocol shall be provided. Establishment of data communication shall be ensured by the bidder.

6.	<p>Section- IV, Vol.- 2, Part- II-06 Control &amp; Monitoring (SCADA) System- PTS Clause 1.5.5.6, Page 464</p> <p>Router/ gateway with necessary firewall functionality, interfaces (including modems for PLCC linkages like NSK5 or better), terminal units and accessories shall be provided suitable for following communication/data transfer:</p> <p>i) Power house to Corporate Monitoring Centre through C band VSAT network</p> <p>ii) Power house to Regional Load Despatch Centre through PLCC.</p> <p>iii) Power house to DAM site, 220 kV Switchyard, Butterfly Valve and administrative building at NEEPCO colony at Umrongso, through Optical fibre.</p>	<p>It will be the responsibility of M/s. NEEPCO to provide interface points/ DATA/ Diagram of any existing 3rd party system/ component. Also, any modification required to make the system mentioned in the clause SCADA compatible has to be taken care by M/s. NEEPCO.</p>	<p>NEEPCO has planned as follows:</p> <ol style="list-style-type: none"> <li>1. 1(one) work Station at Khandong Power Station.</li> <li>2. 1(one) work Station at Administrative Complex at Umrongso.</li> <li>3. NEEPCO has to allow its Principal i.e. NTPC to monitor the real-time parameters/station SCADA from their remote control room located anywhere in India. For the above locations of work station OPGW and OFC will be arranged by NEEPCO. Bidder may inform the bandwidth required for remote work stations mentioned at Sl.1 &amp; 2. For sl.3 and sending data to NERLDC whatever, router/gateway, firewall, or any other IED equipment is required, shall be in bidder's scope. NEEPCO shall provide interface points/ DATA/ Diagram of any existing 3rd party system/ component required for integration.</li> </ol>
7.	<p>Section- IV, Vol.- 2, Part- II- 03 Generator and Aux- PTS Clause 2.6, Pg 368</p> <p>MONITORING AND PROTECTION EQUIPMENT:-Instrumentation Scope</p>	<p>A comprehensive list of Instrument is provided and same will be considered during offering stage as well as execution stage.</p>	<p>Any item though not specifically mentioned but needed to complete the system and equipment to meet the intent of specification shall be deemed to be included in scope.</p>
8.	<p>Section- IV, Vol.- 3, Part- I Schedule of Requirement ANNEXURE -1 (TA), Pg 479 to 493</p> <p>SCHEDULE OF INSTRUMENTS</p>	<p>Cost of any additional instrument required during at the time of execution will be in M/s. NEEPCO scope. Please confirm.</p>	

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9.	<p>Section- IV, Vol- 2, Part- II- 01 Turbine Components- PTS Clause 1.1.9, Page no. 286</p> <p>Ultrasonic flow measurement system: Each turbine shall be provided with an ultrasonic flow measurement system</p>	<p>AS it is understood during site visit that only 1 meter span of penstock is available for the mounting of Ultrasonic Flow measurement sensors. Please note that 1 meter span is not sufficient as more than 3 meters is required for the mounting of sensors. Please suggest.</p>	<p>For penstock rupture detection logic, Flow at BFV (by BFV vendor) will be compared to Turbine discharge and differential shall be graded to minor leakage for alarm and major leakage for tripping of BFV. These measurements shall have to account for leakages and biases for grading to minor and major leakage. Accuracy of flow measurement is therefore of not that significant.</p>
10.	<p>Section- IV, Vol.- 2, Part- II-06 Control &amp; Monitoring (SCADA) System- PTS Clause 1.5.7.6, Page 467</p> <p>Dedicated C-band VSAT communication network shall be provided by the Purchaser for data transmission and communication between power house control room and corporate office control room</p>	<p>As we are giving provision of VSAT Communication, it is the responsibility of M/s. NEEPCO to involve respective VSAT OEM for the interface of VSAT IDU's to newly supplied PLC Panels. WE will interface at our end on protocols like Modbus, Profibus and IEC 61850 and 60870 Protocols. Please confirm.</p>	<p>Confirmed.</p>
11.	<p>Section- IV, Vol.- 2, Part- II- 01, Turbine Components –PTS 1.7.1 Page 293</p> <p>ISO 7919 part - 5</p>	<p>This is an obsolete standard. The criteria and recommendations as per ISO 20816-5 standards shall be followed. Kindly confirm.</p>	<p>Confirmed.</p>
12.	<p>1.7.3 of Section- IV, Vol.- 2, part- II- 01, Turbine Components- PTS Clause 1.7.3, Page 294</p> <p>The turbine shaft shall have integrally forged coupling flanges for bolting to the runner and to the generator shaft and shall conform to the American standard for shaft coupling (ANS-B.49.1-1967).</p>	<p>Coupling between the generator shaft and Turbine shaft shall be as per Bidder's standard and best practice. Kindly confirm.</p>	<p>Accepted. But no shimming in between shall be allowed.</p>

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13.	<p>Section- IV, Vol.- 2, Part- II- 03 Generator and aux- PTS Clause 1.3.1, Page 347</p> <p>The contractor shall ascertain through reverse engineering, structural safety margin availability of the existing structures and foundations, by their residual strength mapping, using advanced Building Information Modelling (BIM) software or any other suitable method.</p>	<p>The manufacturer will ensure that the forces from the new machine shall be similar range of the existing machine. However, any activity related to safety will be taken care by the owner.</p>	<p>Bidder may refer to Pre-bid clarification No. 2. The bidder shall give the mandate to its software vendor to co-ordinate with the owner with load data, equipment dimensions and other necessary inputs.</p>
14.	<p>Section- IV, Vol.- 2, part- II- 03, Generator and aux- PTS Clause 1.6.4.1, Page 354</p> <p>The contractor shall supply wound stator in two or more segments. Building of core and winding at site shall not be permitted.</p>	<p>It is noted that assembling the stator core at site will make it rigid without joints (s). The manufacturer will discuss with the owner and see the possibility to assemble the stator at site. Kindly keep this option open and discuss at later stage.</p>	<p>Acceptable but the same should not affect overall commissioning schedule.</p>
15.	<p>Section- IV, Vol- 2, Part- II- 03 Generator and Aux- PTS Clause 1.6.4.3 Page no. 355</p> <p>The stator winding shall be designed as a pitched two-layer winding which shall be arranged to obtain a nearly sine wave curve by suppressing the harmonics. The stator winding shall be a transposed bar winding (Roebel bar). Each Roebel bar shall consist of a number of transposed, insulated strands in order to reduce the additional copper losses</p>	<p>For such speed and size of the machine, multi-turn coil is also suitable. We request to please also allow multi-turn coil for the stator winding.</p>	<p>Manufacturer standard practice may be accepted but design should be compatible to other third party equipments like Busduct, Turbines etc. and should not disturb existing Barrel and foundation</p>

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16.	<p>Section- IV, Vol- 2, Part- II- 03 Generator and Aux- PTS Clause 1.6.5 Page no. 356</p> <p>The rotor rim of lamination sheets shall be built up at site and the rotor construction designed accordingly to suit the assembly at site (stacking, pressing, curing of lamination, insulation, installation and mounting of rotor poles). The Contractor shall provide all suitable rotor erection pedestals and sole plate adapters for the permanent use by the Purchaser</p>	<p>Rotor assembly pit will be required at site. We request NEEPCO to confirm that suitable pit is available at site.</p>	<p>Required dimensions shall be informed by the bidder. Pit shall be made available.</p>
17.	<p>Section- IV, Vol- 2, Part- II- 03 Generator and Aux- PTS Clause 1.6.5.1 Page no. 357</p> <p>The shaft shall be hollow having a diameter of at least 200 mm throughout its entire length, and shall have an external surface finish of approximate 3.2 micrometers Ra or better.</p>	<p>Shaft central bore diameter of 150 mm instead of 200 mm shall be sufficient. Kindly confirm.</p>	<p>Bore in the shaft is required for handling of Runner, Pivot ring etc. Minimum 200 m.m. bore is required to insert metal sling of requisite size</p>
18.	<p>Section- IV, Vol- 2, Part- II- 03 Generator and Aux- PTS Clause 1.6.5.1 Page no. 357</p> <p>Provision of coupling to turbine shaft shall be through friction coupling with spigot.</p>	<p>Depending on design requirements, manufacturer will finalize whether a friction or fixed (guide) bolt design will be required. Kindly keep point open for manufacturer.</p>	<p>Coupling should not be disturbed frequently and no shims will be allowed. Manufacturer standard practice may be followed keeping above in view.</p>
19.	<p>Section- IV, Vol- 2, Part- II- 03 Generator and Aux- PTS Clause 1.6.5.3 Page no. 358</p> <p>--and plug-in type oil-to-water coolers inserted in the bearing compartment in case of LGB.</p>	<p>Suitable internal circular oil cooler for LGB may be used in the design. Kindly confirm.</p>	<p>Note that cooler tubes, water boxes , piping and valves shall be of SS make, resistive to acidic water.</p>
20	<p>Section-IV, Vol-2, Part-II-03 Generator and Aux-PTS Clause 1.6.5.3, Page 359</p> <p>...</p> <p>The piping of the oil mist extractor system shall comprise of PVC pipes and flexible hoses.</p>	<p>Oil mist extraction piping shall be as per manufacturer standard. Kindly confirm.</p>	<p>Manufacturer standard design meeting technical requirement of the bid is acceptable.</p>

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21	<p>Section-IV, Vol-2, Part-II-03 Generator and Aux-PTS Clause 1.6.5.3 D, Page 359 ... The thrust bearing housing shall be so designed as to provide easy access to the bearing pads. Openings with removable covers shall be provided for this purpose.</p>	<p>Thrust bearing design will be as per manufacturer's standard. Kindly confirm.</p>	<p>Manufacturer standard design meeting technical requirement of the bid is acceptable.</p>
22	<p>Section-IV, Vol-2, Part-II-03 Generator and Aux-PTS Clause 1.6.5.3 D, Page 360  The bearings shall be capable of operating at the following, guaranteed conditions: a) 15 minutes at runaway speed with cooling water supply. b) 15 minutes at rated speed and 110% load without cooling water supply. .....</p>	<p>The proposed capabilities shall be capable of operating at the following: a) <u>10</u> minutes at runaway speed with cooling water supply. b) <u>10</u> minutes at rated speed and 110% load without cooling water supply. Kindly accept the same.</p>	<p>Bid specification shall prevail.</p>
23	<p>Section-IV, Vol-2, Part-II-03 Generator and Aux-PTS Clause 1.12.5, Page 379  The following minimum electrical tests shall be conducted: 1. HV test on all stator coils/bars at 3 times rated voltage ... 3. Accelerated life test at increased voltage and temperatures for two randomly selected coils/bars; 4. Corona extinguishing voltage tests on coils/bars;</p>	<p>As per standard requirements: 1. HV test on all stator coils/bars at 2 times rated voltage+1 kV will be done as IEC standard. ... 3. and 4. Considering project time schedule, these tests shall be waived off; reference certificates of the same tests of similar size of the machine to be submitted for the reference purpose. Kindly accept the same.</p>	<p>1.Accepted. 3 and 4. Bid specification shall prevail.</p>
24	<p>Section-IV, Vol-2, Part-II-03 Generator and Aux-PTS Clause 1.6.8.1, Page 364 ... Compressed air at required air pressure for operation of the brakes shall be provided from the compressed air system.</p>	<p>Standard OEM design of hydraulically operated brakes installed at the top of the generator to be allowed in the design. This s proven design and maintenance</p>	<p>Accepted. Safety of the system and machine performance should be ensured.</p>

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		friendly. Kindly allow.	
25	Section-IV, Vol-2, Part-II - 00 General Technical Requirement-PTS Clause 9.2 PROJECT ARRANGEMENT / LAYOUT (page 260/639)  U#1,2 Commissioned in year 1988 U#3,4 Commissioned in year 1997	Please confirm both design, dimensions are identical and interchangeable. (like PRV, Turbine shaft, TGB, Shaft Seal, Runner, Labyrinths, Guide Vane servomotor etc..)	Confirmed.
26	Section-IV, Vol-2, Part-II - 00 General Technical Requirement-PTS Clause 9.9.1 (page 276 / 639)  Special Tools shall be supplied by the Contractor as necessary for erection, installation, operation and maintenance, etc. of each item of equipment supplied under this Contract.	Please share the available special tools list & details if available (like runner handling, PRV, Runner etc....)	As it is intended for new supply, all related special tools required for erection of supplied equipment shall be under the scope.
27	Section-IV, Vol-2, Part-I General Technical Specification Clause 4.10.4 (page 212/639)  The guarantee period for all paintings shall be 2 years, starting from the issue of "Taking-over Certificate"	The guarantee period for all paintings shall be 2 years <b>from the date of Supply. Please confirm</b>	Bid specification shall prevail.
28	Section-IV, Vol-2, Part-II - 01 Turbine Components-PTS Clause 1.7.7 Top cover dewatering system, page 299  The gravity drainage would be effected through minimum two stay-vanes. As a standby arrangement for drainage of the top-cover, ejector type pump, and centrifugal pump with automatic pick-up shall also be provided.	Please share the available (related drawing) features in the spiral casing (ejector type pump). Also confirm whether the new ejector system to be supplied similar to existing.	New ejector system to be supplied similar to existing.



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29	<p>Section-IV, Vol-2, Part-II - 01 Turbine Components-PTS 1.14.1 Field Efficiency/ Acceptance Tests (Page 308 / 639)</p> <p>The turbine efficiency and capacity tests shall be conducted in accordance with the provisions of IEC Publication 60041, International Code for Field Acceptance Tests of Hydraulic Turbines, under the supervision of a qualified independent expert, unless otherwise mutually agreed upon by the Contractor and the Employer.</p>	<p>As per tender, the Guide vane, Runner and water conducting system are to be used existing. So turbine efficiency test are not applicable. Please delete these from the scope</p>	<p>The turbine efficiency and capacity tests shall be conducted in accordance with the provisions of IEC Publication 60041, by an independent and expert third party <b>to be engaged by the corporation</b> and the results shall be shared with the contractor for consideration in related calculations. Turbine efficiency test is not in bidders scope nor does it have any penalty attached to the bidder.</p>
30	<p>Section-IV, Vol-3, Part-II-01 TDS-Turbine component 11.1.1 Guaranteed characteristics (Page 502 / 639)</p> <p>1. Performance Data 11.1 Turbine efficiency, discharge &amp; gate opening at rated net head of 326.50 m for following outputs: - at maximum continuous rated output.....</p>	<p>As per tender, the Guide vane and Runner are to be used existing. So performance test are not applicable. Please delete these from the scope</p>	<p>Please refer to the relevant clause. These data are specified to be not mandatory.</p>
31	<p>Section-IV, Vol-2, Part-II - 01 1.14 INSPECTION AND TESTING AT SITE: (Page 308 / 639)</p> <p>Transient pressure rise and speed rise for various load throw offs (overload, 100, 80, 60 and 40 percent of the rated load), at various heads in the head range.</p>	<p>Hydraulic related components (Guide vane &amp; Runner) not in the scope of supply, so Transient pressure rise and speed rise will not applicable. Please confirm</p>	<p>Bidder may refer to Pre-bid clarification No. 2</p>

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<p>32</p>	<p>Section-IV, Vol-2, Part-II - 02 Governing System &amp; Aux - PTS 2.5 PERFORMANCE CRITERIA AND GUARANTEE (Page 319 / 639)</p> <p>The governing system, along with all auxiliaries and accessories shall be capable of performing intended duties under specified conditions. It is the responsibility of the contractor to supply the equipment as per guaranteed technical particulars and also to guarantee the reliability and performance.</p> <p>2.5.1. STABILITY CRITERIA, .....</p> <p>2.5.5. STABILITY STUDIES: The contractor shall simulate, using appropriate methods, the interaction of penstock, turbine generator, load, excitation system and governor in order to determine the best governor parameters for operation under isolated network and interconnected network. The study shall prove that the system is stable under all load conditions when adequate adjustments of the governor parameters are set and the transient pressure and speed after load rejection are within the specified limits when the guide vane closing time is appropriately adjusted.</p>	<p>Considering the scope of tender, these clauses are not applicable. Please delete these from the scope</p>	<p>Bidder may refer to Pre-bid clarification No. 2</p>
<p>33</p>	<p>Section-IV, Vol-3, Part-I Schedule of Requirements ANNEXURE - 1 (TA) SCHEDULE OF INSTRUMENTS (Page 479 / 639)</p> <p>Turbine Bearing Cooling Water Flow Shaft Seal water pressure in the supply line of shaft seal with low pressure alarm Shaft Seal Maintenance seal pressure</p>	<p>Please share / provide the existing schematic drawings for water and oil supply</p>	<p>Bidder may refer point 6 of Notes to bidders under clause 1.2 of GTS (Sec-IV, Vol-2 Part I). Availavble drawings documents shall be shared during detailed engineering.</p>

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<p>34</p>	<p>Section-IV, Vol-2, Part-II - 01 Turbine Components-PTS TURBINE COMPONENTS 1.1.3 Shaft Sealing Assembly (Page 284 / 639)</p> <p>To prevent leakage of water through the gap between shaft and turbine cover, a turbine sealing shall be provided below the guide bearing. Two rubber rings as the sealing elements shall be used against the stainless steel sleeve mounted on the shaft. Filtered water shall be supplied at a suitable pressure between the two rings to check the entry of dirty water from below. This also helps in cooling and lubrication of rubber seals</p>	<p>Allow to supply axial type seal in place of radial rubber seal Please confirm</p>	<p>Manufacturer's specific design shall be acceptable. However, compatibility of the same with the TGB arrangement shall be ensured .</p>
<p>35</p>	<p>Section-IV, Vol-2, Part-II - 02 Governing System &amp; Auxiliaries PTS 2.7.2. Operating Pressure (Page 327 / 639)</p> <p>The normal operating pressure of the hydraulic oil pressure system shall not exceed 120 bars.</p>	<p>Operating pressure to allow between 110 to 160 bar System. Please confirm</p>	<p>Normal operating pressure shall be 120 bars. Bidder may choose operating range of hydraulic oil pressure system between 110 to 160 bars.</p>
<p>36</p>	<p>Section-IV, Vol-2, Part-I General Technical Specifications 8.2.1 Turbines and Accessories (Page 252 / 639)</p> <p>Documents for all Mechanical Plants as Applicable Foundation drawing – Approval Hydraulic transients analysis - Approval</p>	<p>These are not applicable in the restoration work. Please delete the same.</p>	<p>Submission of foundation drawing stands deleted. Bidder may refer to Pre-bid clarification No. 2 regarding transient analysis.</p>
<p>37</p>	<p>Section-IV, Vol-2, Part-II - 01 Turbine Components-PTS Clause no. 1.2 &amp; 1.6, Page 287</p> <p>1.2 MAIN FEATURES OF EXISTING EQUIPMENT :Table SN. 1.2 Pressure relief valve (PRV) 5. Discharge capacity : 9m3/s</p> <p>1.7 Design and construction</p>	<p>We understand the exiting PRV is of 9m3/s capacity and new PRV shall be supplied with same capacity. Please confirm.</p>	<p>Confirmed.</p>

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<p>38</p>	<p>Section-IV, Vol-2, Part-II - 01 Turbine Components-PTS Clause no. 1.9.3, Page no. 299 of 641</p> <p>1.9 DRAWINGS, DOCUMENTS AND DESIGN CALCULATIONS:</p> <p>1.9.3 Design calculation: The Contractor shall submit the design calculation in accordance to Clause 2.4 of "General Technical Specification (GTS)" covering at least the following, for review / acceptance.</p> <p>iv) GD2 calculation, v) Hydraulic transient analysis including speed and pressure rise</p>	<p>Please provide the turbine performance characteristic curves to perform the transient calculation along with curve of guide vane servomotor stroke vs guide vane angle.</p> <p>Above data was not available at NEEPCO Umrongso office during VH site visit from 20th Oct. to 22nd Oct. 2020.</p>	<p>Bidder may refer to Pre-bid clarification No. 2 regarding transient analysis.</p>
<p>39</p>	<p>Section-IV, Vol-2, Part-II - 01 Turbine Components-PTS Clause no 1.14 Inspection and testing at site, Page 308</p> <p>1.14.1 Field Efficiency/ Acceptance Tests: The turbine efficiency and capacity tests shall be conducted in accordance with the provisions of IEC Publication 60041, by an independent and expert third party to be engaged by the corporation and the results shall be shared with the contractor for consideration in related calculations. The Contractor may suggest any subsequent adjustments in the turbine working parts as may prove necessary to secure optimum turbine performance.</p> <p>The tests shall be conducted on one unit (unit on which test is to be conducted shall be decided later during detailed engineering) in order to verify and establish the shape of efficiency curve and the power output achieved. Complete details of the test, required duration, list of equipment, etc. shall be decided before conducting the test. The contractor may depute his supervisors for observation &amp; witness of tests.</p>	<p>As per tender, the Guide vane and Runner are to be used existing. So Field efficiency test shall not be not applicable. Hence we kindly request you to please amend the clause accordingly.</p>	<p>The turbine efficiency and capacity tests shall be conducted in accordance with the provisions of IEC Publication 60041, by an independent and expert third party <b>to be engaged by the corporation</b> and the results shall be shared with the contractor for consideration in related calculations.</p> <p>Turbine efficiency test is not in bidder's scope.</p>

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<p>40</p>	<p>Section-IV, Vol-2, Part-II-03 Generator and Aux-PTS 1.6.9.1 CO2 Fire Fighting System Page 364</p> <p>Two sets of fire extinguishing system (CO2 gas type), complete with ring headers, discharge nozzles, temperature, smoke detectors etc. (1 SET for two generators) should be provided and shall be integrated into the SCADA to provide status and alarm signals.....</p>	<p>Considering the adverse effect of the CO2 over the human health, it is proposed to provide the low pressure water mist system (combination of Deluge valves with low pressure mist nozzles) for generator firefighting by taking supply from the nearest fire water header in the plant area from the plant Firefighting system which shall be provided by others.</p>	<p>Acceptable and bidder may offer for non-hazardous fire extinguishing system in place of CO2 system.</p>
<p>41</p>	<p>Section-IV, Vol-2, Part-II - 02 Governing System &amp; Auxiliaries PTS 2.7.2. Operating Pressure (Page 327 / 639)</p> <p>The normal operating pressure of the hydraulic oil pressure system shall not exceed 120 bars.</p>	<p>Kindly note that the supplied MIV are with pressure range of 110 to 160bar. Since the hydraulic oil pressure system is common for governor and MIV Operation, hence the Hydraulic Oil pressure system shall be of same pressure range of 110 to 160bar.</p>	<p>Normal operating pressure shall be 120 bars. Bidder may choose operating range of hydraulic oil pressure system between 110 to 160 bars.</p>
<p>42</p>	<p>Section-IV, Vol-2, Part-II - 02 Governing System &amp; Auxiliaries PTS 2.7.3. Oil Pump (Page 327 / 639)</p> <p>Each oil pump shall be of Screw Pump / gear pump, with a capacity (l/minute) of not less than 0.25 times of the total oil volume of the guide vane servomotors, MIV, MIV By-pass valve and PRV per minute or higher when operating under the pumping pressure recommended by the Contractor. Each pump shall be self priming under maximum oil pressure.</p>	<p>Please note that as per IEEE125 guidelines, the combined flow capacity of the pressure pumps should be not less than 25% of the flow required by all of the turbine-control actuators combined when traveling at their maximum achievable rate. Kindly accept.</p>	<p>Bid specification shall prevail, with each pump with a capacity (l/minute) of not less than 0.25 times of the total oil flow of the guide vane servomotors, MIV, MIV By-pass valve and PRV</p>

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43	<p>Section-IV, Vol-2, Part-II - 02 Governing System &amp; Auxiliaries PTS 2.8 Nitrogen Pressure Tank (Page 330 / 639)</p> <p>General.</p>	<p>Please note that the features defined in tender are mostly applicable for fabricated pressure vessel for low pressure system with air admission. The nitrogen based accumulator are used here as per tender requirement which are standard catalogue products. Kindly accept.</p>	<p>Accepted, subject to fulfillment of safety requirement. Design must ensure availability of pressurised oil to MIV &amp; PRV also.</p>
44	<p>Section-IV/ Vol- 2/ Part- II-00/ GTR-PTS/ Cl. 9.2.2/ viii(7)/ page 262 of 639 Section- IV/ Vol-2/ Part- II-01/ Turbine Component-PTS/ page 287 of 639</p> <p>Runaway speed: 1050 rpm Runaway speed: 1015 rpm</p>	<p>Please confirm that, the Generator to be designed for Runway Speed of 1015 rpm.</p>	<p>The runaway speed of the Turbine mentioned at Section-IV/Vol-2/Part-II-00/GTR-PTS/Cl.9.2.2/viii(7)/page 262 of 369 shall stand corrected as 1015rpm.</p>

Sl. No.	Bid Stipulation	Bidder's Query	NEEPCO Reply	Bidder's Reply	NEEPCO Clarification
45	<p>1.2.1/ Vol-2,Section-IV Part-II - 04/ Page - 386 of 639</p> <p>Ref: General</p> <p>The excitation systems shall include the following features and functions:.. Excitation and impulse current limiter; Impulse blocking in case of over current in the excitation</p>	<p>Please clarify whether 'impulse' word in these statements refers to ceiling condition.</p>	<p>Impulse in these requirements refers to input for gate firing of the thyristor bridges.</p>	<p>For excitation &amp; impulse current limiter, if the overcurrent limiter operates, the firing pulses of thyristor bridge will be restricted such that excitation cannot be raised further.</p> <p>And in case of over current stage-I in excitation transformer secondary circuit, it will initiate a changeover to standby channel. If the stage-I persists for a delayed time, it will result in overcurrent stage-II and it will initiate excitation trip. Similarly if over current instantaneous comes, it</p>	<p>Bidder's reply at column No.5 is hereby Confirmed.</p>

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	transformer secondary circuit;			will trip the excitation system. This the system practice followed for all the supplied Static excitation equipment.	
46.	Section IIIC/ GTC / Annexure-VI Model QAP for related Civil works ( Item No: 9 of GTS) CIVIL Work mentioned at various places in tender	Regarding CIVIL work, here Bidder's scope is limited to "checking of the adequacy & healthiness of existing Civil structures and foundations, by their residual strength mapping, using advanced and proven Tekla Building Information Modelling (BIM) software or any other suitable method" only, hence all civil work mentioned at various places in tender shall be in the scope and responsibility of NEEPCO. Kindly confirm	Confirmed. However bidder may refer NEEPCO's comment on serial no. 2 of pre bid technical clarification no.2 published on 10.12.2020	With this we understand that, based on the recommendation/outcome of the report, all work related to foundation/civil shall be carried out by NEEPCO at their cost.  Kindly confirm.	Confirmed. Please note that all civil works are excluded from the scope of present contract.
47.	Section-IV/ Vol-2/ Part-II –	Please note, noise level of	Noise level of 90 dB at a	The noise values from report (2009 yr to 2014 yr)	Noise level of 90 dB at a

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	<p>01/ Cl. No. 1.5.3, 1.6.4 Noise</p>	<p>90-95dB is being kept for all new green-field projects. Since, Kopili plant is in shut condition and noise level of the unit can not be measured before handing over the unit to the Contractor, therefore the latest measured value of noise level (at all condition from part load to rated load) while putting unit in shutdown and same value may be taken as a reference. Kindly provide the above mentioned measured value</p>	<p>distance of 1 meter from the equipment at various operating floors of the plant is expected. Measured values are provided herewith</p>	<p>provided by NEEPCO is very old which is higher than 90 dB at various places, hence we are not able confirm to achieve the 90dB noise level. However, we will take care during our supervision of unit installation to reduce the noise level from measured value as much as possible.</p> <p>Kindly confirm</p>	<p>distance of 1 meter from the equipment at various operating floors of the plant is expected. Please note that average noise levels from data provided at various operating floors is around 90 dB.</p>
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