

**Clarification No.4 on Bid Queries**  
**Electricity Transmission Network Improvement Project**  
**Procurement of Plant Design, Supply and Installation of Rehabilitation of Yerevan TPC 220/110/35 kV substation**  
**(ICB No. ETNIP\_YTPC\_ICB\_1/2015)**

07 November, 2015

No.	Queries by Bidder	Clarification from Employer
1.	<p><b>Section I, ITB, B. Preparation of Bids</b></p> <p>Considering the amount documents to be prepared and printed, and also our experience from another tenders, we kindly ask you to confirm that some of the required documents like type test reports, equipment manuals and reference lists can be submitted in electronic form only, and in the paper copy of the offer there will be list with the documents and reference to them in the electronic form.</p>	<p>Unfortunately it is not acceptable. All documents shall be submitted in paper copy.</p>
2.	<p><b>Section IV. Bidding Forms, Schedule No. 1.Plant and Mandatory Spare Parts Supplied from Abroad, 1.3 Mandatory Spare Parts, Position 1.3.13.1 Of each type relay (set)</b></p> <p>Please kindly clarify what to be considered regarding the required quantity of 2 sets:</p> <ol style="list-style-type: none"> <li>1) each type of relay what is considered in the scope shall be supplied two times more as spare parts OR</li> <li>2) Bidder can define set of spare relays at its discretion what is supplied two times OR</li> <li>3) Bidder defines two types of relays out of all relays considered in the scope and list them as spare part</li> </ol>	<p>The Bidder shall include in the scope of supply 2 additional sets of relays (as mandatory spare parts) for each type of relay.</p>
3.	<p><b>Section IV. Bidding Forms, Schedule No. 1.Plant and Mandatory Spare Parts Supplied from Abroad, 1.3 Mandatory Spare Parts Positions 1.3.11.1, 1.3.11.2, 1.3.12.1, 1.3.12.2, 1.3.13.2 and 1.3.13.3</b></p> <p>Please kindly specify the quantity of the required spare sets and advise similar to the above request for clarification how to define the</p>	<p>Please follow the requirements of Price Schedules. The quantities are clearly mentioned.</p>

No.	Queries by Bidder	Clarification from Employer
	<p>devices in one spare set, i.e. each type of MCB, fuse, auxiliary relay, lamp to be considered or the Bidder can define the set at its discretion</p>	
4.	<p><b>Section VI. Employer's Requirements, 1.2.4.7.1.1. Telecommunication</b>  <b>MoM from Pre-Bid Meeting on 28.10.2015, Items No 10 and 14</b>  <b>Clarification No.2 on Bid Queries sent on 02.11.2015, Item No 44</b>  In the Pre-Bid Meeting MoM, item 14, and in Clarification No2, item No 44:  The clarification from the Employer states that the Bidder shall quote within this tender also installation of OPGW on all OHTLs, and their respective distances have been provided, meaning:</p> <ul style="list-style-type: none"> <li>- eight 110kV overhead transmission lines, approximate total length 75 km</li> <li>- four 220kV overhead transmission lines, approximate total length 136 km</li> </ul> <p>This clarification conflicts with the scope defined under Section VI Employers Requirements, item 1.2.4.7.1.2 “Service regarding telecommunication within the contract”, in which it is stated: “The present Contract includes design studies, supplies, realization and cabling <b><u>in the substation and in different substations</u></b> of the network, such as described below...”</p> <p>Please confirm that the limit of scope for telecommunication and teleprotection is for works, equipment and services <u>within substations only</u>, and not outside of any substations and not on any overhead lines.</p>	<p>Please, be informed that after Pre-bid meeting we checked this issue once again with the Electric System Power Operator CJSC. The Bidders shall not include in their scope the supply and installation of OPGWs on all OHLs. OPGWs are already installed on OHLs.</p> <p>The Contractor’s scope includes supply, installation of new OPGW within YTPC 220/110/35 kV substation and their connection to OPGW which is already installed on OHLs.</p>
5.	<p><b>Section VI. Employer's Requirements</b>  <b>TECHNICAL SCHEDULE – Main Data</b>  <b>TECHNICAL SCHEDULE – Data for Information</b>  <b>AutoTransformer 220/110 kV 200MVA</b>  1. Please confirm we can consider connection group YNa0d (item 6)</p>	<ol style="list-style-type: none"> <li>1. Please refer to page 293 Item 6 of Bidding documents.</li> <li>2. Please refer to page 293, Item 7 of Bidding Documents.</li> <li>3. No tertiary winding is foreseen for external consumers. The issue of foreseeing the tertiary winding for voltage regulation and boosting shall be decided by manufacturers.</li> </ol>

No.	Queries by Bidder	Clarification from Employer
	<p>since we have autotransformer.</p> <p>2. Please confirm that the voltage ratio is 220/110 kV, and there is no third winding.</p> <p>3. Item 9 refers to tertiary winding. Please confirm there is no such or provide additional information if there is such.</p> <p>4. Please specify insulation levels (BIL/AC=? kV) for the HV neutral bushing, i.e. full or reduced insulation.</p> <p>5. In the Price sheets is mentioned monitoring system, could you please provide technical parameters.</p> <p>6. In the specification for the oil conservator (item 11) is written "Vacuum filter through and dryer regenerable hygroscopic salts". Does this refer to a maintenance-free breather or some other equipment, please clarify?</p>	<p>4. Insulation levels shall be according to IEC. Please refer to page 293, Item 5 of Bidding Documents.</p> <p>5. Monitoring system shall be in compliance with manufacturers standards.</p> <p>6. This type of filter is obligatory. Its relation to any type of equipment shall be in accordance with manufacturer' standards.</p>
6.	<p><b>Section VI. Employer's Requirements</b></p> <p><b>TECHNICAL SCHEDULE – Main Data</b></p> <p><b>TECHNICAL SCHEDULE – Data for Information</b></p> <p><b>Power Transformer 110/35/6 kV 27.5MVA</b></p> <p>1. Please kindly specify the rated power for the MV and LV windings at ONAN /ONAF1 /ONAF2.</p> <p>2. Please specify short circuit impedance (item 9) for HV-LV and MV-LV and the rated power they refer to.</p> <p>3. Please specify insulation levels (BIL/AC=? kV) for the HV neutral bushing, i.e. full or reduced insulation.</p> <p>4. In the Price sheets is mentioned monitoring system, could you please provide technical parameters.</p> <p>5. In the specification for the oil conservator (item 11) is written "Vacuum filter through and dryer regenerable hygroscopic salts". Does this refer to a maintenance-free breather or some other equipment, please clarify?</p>	<p>1. Please refer to page 308 Item 3 of Bidding documents.</p> <p>2. Please refer to page 309 Item 9 of Bidding documents.</p> <p>3. Insulation levels shall be according to IEC. Please refer to page 308, Item 5 of Bidding Documents.</p> <p>4. Monitoring system shall be in compliance with manufacturers standards.</p> <p>5. This type of filter is obligatory. Its relation to any type of equipment shall be in accordance with manufacturer' standards.</p>
7.	<p><b>OPGW / OHL</b></p> <p>Please confirm that OPGW and not only fiber optic cable , has to be installed on the OHL's</p>	<p>OPGW are already installed on all OHL's.</p>
8.	<p><b>OPGW / OHL</b></p>	<p>The Bidders shall not include in their scope the supply and</p>

No.	Queries by Bidder	Clarification from Employer
	Please advise who shall provide, supply (Employer, System operator, General contractor) the OPGW wire 76,6 km for 110 kV OHL's and 135.8 km for 220 kV OHL's including accompanying material for installation.	<p>installation of OPGWs on all OHLs. OPGWs are already installed on OHLs.</p> <p>The Contractor's scope includes supply, installation of new OPGW within YTPC 220/110/35 kV substation and their connection to OPGW which is already installed on OHLs.</p>
9.	<p><b>OPGW / OHL</b></p> <p>Please confirm that the lengths of OPGW wire mentioned in your MoM of pre-bid meeting are single or double circuit (одно или двухцепный)</p>	Please refer to answer No. 8
10.	<p><b>OPGW / OHL</b></p> <p>Please advise in which line of Price List we have to include the costs for installation of OPGW and the costs for material of OPGW.</p>	Please refer to answer No. 8
11.	<p><b>Price List line 1.3.15. OPGW / OHL</b></p> <p>Price list item 1.3.15:</p> <p>"Transfer of existing line tower double circuit and connection of incoming lines (reduction of lines up to 80m) 7 pcs TOTAL (to Schedule No. 5. Grand Summary) "</p> <p>Please confirm that after transfer the existing line towers have to be used.</p>	We confirm that after transfer and repair the existing line towers will be used.
12.	<p><b>Price List line 1.3.15. OPGW / OHL</b></p> <p>"Transfer of existing line tower double circuit and connection of incoming lines (reduction of lines up to 80m) 7 pcs TOTAL (to Schedule No. 5. Grand Summary) "</p> <p>Please confirm that after transfer the line towers have to be mounted on new foundations.</p>	We confirm that after transfer the line towers will be mounted on new foundations.
13.	<p><b>Price list item 1.3.7 Scope MV-cable</b></p> <p>Price list item 1.3.7.:</p> <p>"Construction of new cable trenches (with cables change) (1600 m)."</p> <p>Please confirm that the length of the cable trenches includes the new trenches for both control cables and 35 kV and 6 kV power cables.</p>	Yes, we confirm that both control cables and 35 kV and 6 kV power cables are included.
14.	<b>"Armenia YTPC Substation_final_corrected_upd.pdf"</b>	Please follow the requirements of Price Schedule, i.e. 35 and 6 kV

No.	Queries by Bidder	Clarification from Employer
	<p><b>page 420/691 chapter 4.1</b>  Under Item 4.1. (page 420/691) MV power cables are mentioned that cables have to be of XLPE type. Under Price List Items 1.1.8.1 and 1.1.8.2. Cables for 35 kV and 6 kV are mentioned AL type power cables.  Please advise what type of cables we should provide within the frame of this Project.</p>	<p>cables shall be of aluminum.</p>
15.	<p><b>Clarification-2, Sr. 15 220kV Line Protections</b>  As per scope of works and clarification, at all remote end substations Siemens make 7SA522 relay has been installed. Being a distance protection, it need not be installed the same make relay at YTPC end substation.  Bidder can propose different make relay complying as per specification. Please confirm.</p>	<p>We do not insist that new devices shall be manufactured by Siemens. The only requirement is that the supplied device shall have similar parameters and compatibility with existing 7SA522 device.</p>
16.	<p><b>Clarification-2, Sr. 20 Greenfield area for 110kV &amp; 35kV</b>  As per plot plan drawing provided with clarification, area indicated is 200M x 70M. However the proposed new 110kV &amp; 35kV layout minimum area required is approx 290M x 100M. In view of the above pl clarify following -  1. Whether the plot plan of 200M x 70M shown under green field area is only for 110kV switchyard or 110kV &amp; 35kV building and outgoing feeder take off gantries.  2. If the green field area is only for 110kV, then what would be location of 35kV building?  Pl indicate location of 35kV building. Further does the like take off locations for 35kV shall remain same as that of existing ?  Pl clarify above points.</p>	<p>1. The area marked in red is 110kV substation.  Regarding the 35 kV substation, the Contractor during design stage can choose two options:  a) to rehabilitate it on the area of existing 35 kV substation,  b) or to shift the existing area to Greenfield area</p>
17.	<p><b>Clarification-2, Sr. 35 &amp; 47 Dismantling of existing 110 kV equipment</b>  Under clarification 35, it is stated that existing 110kV substation is not subject to dismantling.  Whereas clarification no. 47 states that bidder shall taken into account dismantling cost of 110kV &amp; 35kV switchyards and shall</p>	<p>As it was officially mentioned during Pre-Bid meeting, 110kV substation is not subject to dismantling. Regarding the 35kV substation, please refer to answer No. 16 above.  Thank you for suggestion, however, there is no necessity to revise price schedules.</p>

No.	Queries by Bidder	Clarification from Employer
	<p>submit corresponding and reasonable offers.</p> <p>These two clarifications are contradictory. Please clarify exact scope of dismantling of 110kV &amp; 35kV switchyards and revise price schedules also accordingly.</p>	
18.	<p><b>Clarification-2, Sr. 44, MOM Pre Bid meeting, Sr-10</b>  <b>OPGW on HV lines between substations</b></p> <p>As per clarifications, OPGW supply and installation between YTPC substation and all remote end substations in scope of works. As per Pre bid MOM, OPGW installation on Eight nos 110kV lines and four nos 220kV lines is in scope. As per query raised earlier, OPGW supply/installation between substations is generally included in Transmission line project/contractor. However if it is still insisted to included in this project then please furnish following details for all the lines -</p> <ol style="list-style-type: none"> <li>1. Route survey for all 220kV &amp; 110kV Lines on which OPGW is to be installed.</li> <li>2. We understand that OPGW is to be installed on existing lines which are in live condition. Further bidder need to dismantle existing earthwire to install the new OPGW. Please confirm.</li> <li>3. Please confirm that the existing towers are suitable to take load of OPGW. Any kind of modification/repair work on towers is not required.</li> <li>4. Specifications for OPGW and accessories.</li> </ol> <p>All above details are necessary to estimate volume of works involved for OPGW installations.</p>	Please refer to answer No. 8
19.	<p><b>Clarification 2, Sr. 49 Video supervision</b></p> <p>Please clarify for which area video supervision is required. Whether it is required for only in control building, entrance areas or whether same is required outdoor switchyard area as well.</p> <p>In case video supervision is required for outdoor area as well then the important areas (Such as transformers / main entrance etc.) at which video supervision is required are to be clearly defined as per</p>	Please once again refer to Clarification 2, Sr. 49 Video supervision. It's a pity, that the Bidders can not align and decide the respective areas.

No.	Queries by Bidder	Clarification from Employer
	<p>YTPC requirement. Bidder cannot decide the areas for which video supervision is required.</p>	
20.	<p><b>Clarification 2, Sr. 52, Two nos 110 kV bays</b> In the existing 110kV switchyard, there are total 21 bays. In price schedule only 19 bays have been considered with 19 sets circuit breakers. Now if as per clarifications, price of those other two circuit breakers will also be taken into consideration, then equipment quantities in price schedule shall be for 21 bays with 21 sets of circuit breakers and associated equipment such as disconnector, CT, CVT etc. Also confirm that lot item quantities such as conductor, clamps, cables etc are to be considered for 21 bays instead of 19 bays. Please review and clarify.</p>	<p>Please once again refer to Clarification 2, Sr. 52. The Employer can not assume which manufacturer's equipment will be offered by Bidders.</p>
21.	<p><b>Clarification 2, Sr. 56, Request for clarification sr. 6, 35kV &amp; 6kV cables to existing facilities</b> In the clarifications, route lengths are given for cables. However please furnish us size of these cables as well. Further under clarification no 6 (under request for clarification) only MW rating for 'Chimereactive-1', 'Chimereactive-2' &amp; 'YCCPP1' are mentioned. Please provide route length and cables size for these feeders as well.</p>	<p>Please refer to Clarification No. 2 "Requests for Clarifications for Pre-bid Meeting" Item 6.</p>
22.	<p><b>Request for clarification, Sr. 7, Earthing calculations</b> In the soil investigation report provided with clarification-1, soil resistivity measurement in green field area and existing 220kV area is not provided. Request you to provide the same.</p>	<p>Please, follow the Engineering-geological survey Report provided by Consultant. More detailed soil investigation shall be implemented by Contractor and the results of such investigation shall be used for design and construction.</p>
23.	<p><b>Request for clarification, Sr. 8, Rehabilitation of existing gantries for Transformer 9S and 10S</b> Please identify the gantries to be rehabilitated in the layout drawing provided in tender document. In tender drawings transformers 9S and 10S are not clear. Please clarify the same.</p>	<p>The answer to your question is clearly indicated on drawings provided by Consultant in tender documents. Please, review them once again.</p>
24.	<p><b>Answer to item 15 (b) of pre bid meeting MOM, Letter no. 01-MM-12-626 from EPSO, Protection and Telecommunication System</b></p>	<p>1. Do you seriously think that existing protection system manufactured in 1960-ies can be used for new substation ???</p>

No.	Queries by Bidder	Clarification from Employer
	<p>From the clarification under reference, we understand following-</p> <ol style="list-style-type: none"> <li>1. For 220kV/110kV/35kV substation, complete new protection system is to be supplied along with substation automation system (SCADA / DCS).</li> <li>2. For 220KV lines &amp; 110kV Fibre Optic Telecommunication system is to be provided.</li> </ol> <p>Any communication system with Wave Trap/Line Trap is not envisaged for either 220kV and/or 110kV line feeders.</p> <p>Please confirm our understanding.</p>	<p>2. Please refer to answer No. 8</p>
25.	<p><b>Answer to item 15 (b) of pre bid meeting MOM, Letter no. 01-MM-12-626 from EPSO, Protection System</b></p> <p>Clarification letter under reference states that -</p> <p>"DPPs (Differential-Phase Protection) of Yerevan TPC 110 kV lines are out of operation and decommissioned. DPLs (Differential Protection of Line) of 110 kV lines and the sets of EPZ-1636 (electric panel of protection) will be replaced by new microprocessor devices".</p> <ol style="list-style-type: none"> <li>1. Please confirm whether Line differential protection is to be provided for all 110kV Line bays or only selective line bays. Further please also confirm the Main-1 and Main-2 protections for 110kV line bays (Differential / Distance).</li> <li>2. If differential protections are to be considered then please confirm scope of differential protection relays at other end substations.</li> <li>3. If required bidder will only supply the differential protection relay for other end substation. Installation / testing / commissioning / integration of same into existing system shall be in YTPC scope of works.</li> </ol> <p>Please review above points and clarify.</p>	<ol style="list-style-type: none"> <li>1. Please refer to page 567 "Differential protection terminal" of Bidding Documents</li> <li>2. Please refer to answer 3 of Pre-Bid Meeting MOM.</li> <li>3. Please refer to above answer.</li> </ol>
26.	<p><b>Answer to item 15 (b) of pre bid meeting MOM, Letter no. 01-MM-12-626 from EPSO, Protection System</b></p> <ol style="list-style-type: none"> <li>1. Please confirm whether Line differential protection is required for all 2200kV Line bays.</li> </ol> <p>Please also confirm the Main-1 and Main-2 protections for 110kV</p>	<ol style="list-style-type: none"> <li>1. Please refer to page 565 of Bidding Documents.</li> <li>2. Please refer to answer 3 of Pre-Bid Meeting MOM.</li> <li>3. Please refer to above answer.</li> </ol>



No.	Queries by Bidder	Clarification from Employer
	<p>line bays (Differential /Distance).</p> <p>2. If differential protections are to be considered then please confirm scope of differential protection relays at other end substations.</p> <p>3. If required bidder will only supply the differential protection relay for other end substation. Installation / testing /commissioning / integration of same into existing system shall be in YTPC scope of works. Please review above points and clarify.</p>	
27.	<p><b>Pre bid meeting MOM, Contour maps</b></p> <p>During pre bid meeting it was informed that YTPC will provide contour maps for green field area. However only plot plan sizes with coordinates are provided vide clarification-2.</p> <p>Please provide contour map/layout as well to understand leveling work in proposed area.</p>	<p>Please follow the parameters indicated on General Layout, which was provided with Clarification No. 2.</p>
28.	<p><b>Clarification-2, Layout with green field area, Reorientation of Transmission lines</b></p> <p>As per layout drawings provides in clarification-2, existing 110kV transmission lines are passing through the entire green field area. Please clarify scope of reorientation of these lines during construction activities. We understand the same shall be in YTPC scope.</p> <p>Please confirm.</p>	<p>No, your understanding is incorrect. Reorientation shall be in the scope of Contractor.</p>
29.	<p><b>General, Conductor size and configuration for 220kV &amp; 110kV switchyards</b></p> <p>Please confirm conductor type/ size &amp; configuration (single/twin) for 220kV &amp; 110kV Busbar and Line/Transformer bays. IN the SLD busbar current ratings are also not mentioned.</p> <p>Please provide above mentioned details.</p>	<p>Please clarify your question. Whether the word “current” means existing, or current (ampere). In any case, based on our standards, such parameters are not subject to be mentioned on SLD.</p>
30.	<p><b>Section I. Instruction to Bidders, 17.5 (a) and Price Schedules, The indicated Incoterm CIP does not include custom clearance by the Contractor.</b></p> <p>Please clarify your additional request acc. to PC 21.3 Transportation and PC 21.4 Customs Clearance.</p>	<p>Clause PC 21.4 regulates obligations of the parties during custom clearance of imported goods. In any case the custom clearance will be done by Employer.</p>
31.	<p><b>Minutes of Pre-Bid meeting: Item 4, Is it possible to get acquainted</b></p>	<p>Please apply to “Electric Power System Operator” CJSC.</p>

No.	Queries by Bidder	Clarification from Employer
	<p><b>with calculations of relay protection (settings) done by system operator of RA?</b></p> <p>Please provide the minutes of the meeting from 29.10.2015 at 10:00 with the General director of “Electric Power System Operator”</p>	
32.	<p><b>Section IX. Contract Forms, Contract Agreement, art. 2.2, Terms of Payment: “The Employer may [...] issue a [...] Letter of Credit [...].”</b></p> <p>Please clarify if such a Letter of Credit will be made available to the Contractor.</p>	<p>As per Section IX. Contract Forms, Appendix 1. Terms and Procedures of Payment, PAYMENT PROCEDURES: "The payments for Plant and Mandatory Spare Parts Supplied from Abroad under this Contract shall be made out through a confirmed irrevocable divisible documentary Letter of Credit, to be opened by the Employer under the World Bank Special Commitment Procedure in favor of Contractor."</p>
33.	<p><b>Section IX. Contract Forms, Appendix 1. Terms and Procedures of Payment, Payment Procedures – Letter of Credit: “period of effectiveness 17 months”</b></p> <p>If all payments for Schedule No. 1 excl. advance payment are to be made from the Letter of Credit (incl. 35% upon completion and 5% upon OAC) the period of effectiveness might be too short. Please clarify.</p>	<p>Taking into account that the Time for Completion of Facilities is 17 months, including commissioning and operational acceptance the period of effectiveness is enough.</p>
34.	<p><b>Section IX. Contract Forms, Appendix 1. Terms and Procedures of Payment, Payment Procedures – Letter of Credit: “Documents required for payment”</b></p> <p>Please clarify if Armenian translation is required for all shipping documents listed such as bill of lading, packing list, etc. to be submitted for payment from the Letter of Credit.</p>	<p>Armenian translation of shipping documents for payments under the Letter of Credit is not required.</p>
35.	<p><b>Section IX. Contract Forms, Appendix 1. Terms and Procedures of Payment, Payment Procedures – Advance Payment Guarantee</b></p> <p>Please clarify if the contractor is obliged to submit the advance payment guarantee issued by a bank in the country of the Employer.</p>	<p>No, it is not an obligation.</p>
36.	<p><b>1.2.4.14. Video supervisión</b></p> <p>Please clarify if video surveillance should be an analogic system or IP system.</p>	<p>IP system is preferable.</p>
37.	<p><b>1.2.4.15. Speaker system</b></p> <p>Please clarify the functionality for speaker system. Should be only</p>	<p>Speaker system shall not be used for alarming. The operator shall have possibility to use the speaker system from central control room</p>

No.	Queries by Bidder	Clarification from Employer
	alarm system or must have additional environmental role (radio, music etc.).	for announcing orders or directives. e.g Mr. .... please call to General Director.... Etc. Regarding music, please make your suggestions.
38.	<b>1.3.14.11 Price Schedule No. 1 Testing step up transformer equipment</b> Please provide additional explanations for your requirement related to item 1.3.14.11 from Price Schedule No. 1 “Testing step-up transformer equipment”. Since there is no step-up transformer in the project it is not clear what shall we provide.	Your question is not clear. In any case we mean testing and measuring equipment for routine testing and measuring the equipment in accordance with equipment manufacturers standards.
39.	<b>1.1.3.7. Price Schedule No. 1, 110kV CT ‘s quantity</b> In order to align information from SLD and Price sheet no.1&2, please accept revision for description of item 1.1.3.7 in the Price schedule No.1&2 as follows ” Supply of 110 kV Current transformer (3-p) including necessary steel structure, cabling and earthing. “ – 18 pcs.	The figures given in Price Schedules and SLD are correct. Our Consultant meant 18 pieces of CT for single phase SLD. (If you design 4 phase, it will be 4 x 18).
40.	<b>1.1.3.2 . Price Schedule No. 1&amp;2, 110kV Disconnectors</b> In order to align information from SLD and Price Sheet Please no. 1&2, please accept revision for quantity of Disconectors as follows: “Supply of 110 kV Disconnectors with motor driver (3-p) + one earthing switch including necessary steel structure, cabling and earthing” – 21 pcs. “Supply of 110 kV Disconnectors with motor driver (3-p) + two earthing switches including necessary steel structure, cabling and earthing” – 20 pcs. Total quantity of 110kV Disconnector with earthing switch remain 41 as initial mentioned, anyhow the price can be slightly different	Please design according to acting norms and standards.
41.	<b>1.1.1.3 &amp; 1.1.1.4. Price Schedule No. 1&amp;2, 220kV Disconnectors</b> According to the SLD and Price Sheet only disconnector with ES are used for 220kV. In the tender book exists also technical sheets for Disconnector 1 pole and 3 pole without earthing switch. If these type of disconnectors are needed please change accordingly also the Price sheet with quantities.	This will limit the scope of competition. Please design according to acting norms and standards.
42.	<b>1.2.4.6.1, 1.2.4.6.3, page 149-150 Existing RTU</b> We have two questions to the existing RTU:	1. Your understanding is correct. 2. Please clarify your question.

No.	Queries by Bidder	Clarification from Employer
	<p>1. Please confirm that the existing RTU cabinet must be only relocated in the new control building and that no extension of RTU (adding additional signals) is necessary.</p> <p>2. Please confirm if the existing RTU must be interfaced to the new RTU (HMI).</p>	
43.	<p><b>1.2.4.6.1, 1.2.4.6.3, page 149-150 New RTU</b></p> <p>We have the following questions to the new RTU:</p> <p>1. Please clarify if the new RTU can be used for both</p> <p style="padding-left: 20px;">a) Data acquisition from the process / protection devices (Station Unit)</p> <p style="padding-left: 20px;">b) Interfacing to national SCADA / local HMI (Gateway)</p> <p>2. Please confirm if singular RTU (one device with redundant power supply) with four IEC60870-5-104 connections is sufficient and no device redundancy for RTU / gateway is necessary.</p>	<p>1. Answers to your questions have already been given.</p> <p>2. No change of existing RTU capacity is foreseen.</p>
44.	<p><b>1.2.4.6.2. page 149, existing national SCADA</b></p> <p>The connection of the new digital control system to the existing national SCADA system is part of the scope of supply. Please clarify which of the following applies:</p> <p>1. The new DCS system shall be connected via IEC60870-5-104 protocol to the national SCADA</p> <p>2. Modification of existing national SCADA software (extension of signals, new pictures) is requested.</p> <p>3. Modification of national SCADA hardware is requested</p>	<p>1. Yes.</p> <p>2. Contractor shall supply such system which does not require any modification of SCADA software.</p> <p>3. Contractor shall supply such system which does not require any modification of SCADA hardware.</p>
45.	<p><b>Protection for gas and steam turbine feeders</b></p> <p>We have three questions regarding to protection of GTG and STG 110kV bays:</p> <p>1. We assume that generator and generator-transformer protection in the power plant is available and is not part of the scope of supply and doesn't need to be integrated into the new DCS. Please confirm.</p> <p>2. Please confirm if new protection relays shall be supplied for the two new 110kV GTG, STG feeders. If yes, please define what kind of protection equipment and protection functions must be offered: 21, 50/51, etc.</p>	<p>1. Generator and generator-transformer protections are available and the Contractor has no any right to access them. Regarding the integration, your question is not clear. In any case, the protection system subject to supply by Contractor shall be integrated with existing protection systems of GTG and STG.</p> <p>2. All protection relays of GTG and STG feeders are currently available and in operation. New protection system of the substation to be supplied by Contractor shall be compatible with existing protection systems of GTG and STG. The Contractor shall realize the protection system for new substation in such a manner to avoid any</p>

No.	Queries by Bidder	Clarification from Employer
	<p>3. In case there is existing protection equipment for 110kV GTG, STG feeders in the substation, please clarify which protection device (vendor, device number) is existing and if this equipment must be integrated into the new DCS using IEC61850 protocol.</p>	<p>change of existing protection systems of GTG and STG. 3. Your question is not clear. To avoid any misunderstanding, please dispatch your specialist to the site for examination.</p>
46.	<p><b>PLC Equipment</b> We have three questions to PLC equipment:</p> <ol style="list-style-type: none"> <li>1. According to answer to clarification #3, PLC is not necessary for 110kV lines. Please confirm that 4 fibers on the existing OPGW of each OHL are available for teleprotection purposes.</li> <li>2. For 220kV lines we kindly ask if the same concept as for 110kV is allowed. For your understanding our differential line / distance protection relays can be equipped with fiber optical communication modules for covering distances up to 100km, so that additional PLC equipment is not necessary.</li> <li>3. Please inform who is responsible for OPGW of 220kV lines.</li> </ol>	<ol style="list-style-type: none"> <li>1. Yes, the letter of EPSO on this question is quite enough.</li> <li>2. Please refer to page 565 of Bidding Documents.</li> <li>3. Your question is not clear. In any case we clarify once again: "Please refer to answer No. 8".</li> </ol>
47.	<p><b>1.2.4.5.3. page 148, Post-fault monitoring recorder</b> According to clarification #2 Post-fault monitoring recorder shall have sensitivity not more than 5ms and memory storage shall be not less than 5 days. Please clarify in case protection relays fulfill this requirement, it is still necessary to supply a second Post-fault monitoring recorder independent from protection relays.</p>	<p>Please, follow our answer No. 7 of Clarification No. 2.</p>
48.	<p><b>DCS</b> Please clarify if it is necessary for manual CB close (operator command to CB from DCS) to have synchrocheck. Please clarify this for 220kV, 110kV and 35kV</p>	<p>Yes. Please refer to page 566 of the Bidding Documents.</p>