

Clarification No.5 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)

17 November, 2015

No.	Query by Bidder	Clarification from Employer
1.	<p>Armenia YTPC Substation_final_corrected_upd.pdf and ETNIP_EMP_Yerevan TPP substation_final.pdf, Oil tanks</p> <p>On the page 156, under Item 1.2.4.17.2 is required the repair of the existing oil storage tank. In Document Environmental Management Plan pages 11 and 12 are shown and described the actual conditions of existing oil storage tank.</p> <p>At YTPC substation site a special area will be prepared where the old oil can be stored safely. This area will be sealed and surrounded with a concrete bund to exclude soil / groundwater pollution even if the tanks are leaking.</p> <p>The place will be roofed to minimize corrosion of the tanks. An existing oil storage site is shown in Photo 5-1.</p> <p>For oil storage special tanks will be used. These tanks will be double walled and fitted with suitable possibilities to take out the oil for reuse purposes. The dimension of the tank(s) will be big enough to take over the intended 297 t, the oil already stored at the substation site, and also future intentions. It is recommended to use several tanks of about 25 m³ to reduce the risk in case a tank starts leaking.</p> <p>14.1 Please confirm that for oil storage the existing oil storage tanks will be used and not new ones have to be delivered</p> <p>14.2 Please also advise under which Price List position we have to consider and include the costs for the repair of the existing oil storage tank.</p>	<p>“Section VI Employer’s Requirement, Clause 1.2.4.17 Civil Works, sub-clause 1.2.4.17.2 Description,” is amended to read as follows:</p> <ul style="list-style-type: none"> • Contractor should supply and install 2 (two) oil storage tanks as per following requirements: <ul style="list-style-type: none"> ○ 1 (one) oil storage tank for autotransformer, based on autotransformer oil capacity ○ 1 (one) oil storage tank for transformers 9S and 10S, based on transformers oil capacity (total oil capacity 40 tons). <p>It is allowed to repair and reuse the existing oil storage tanks of YTPC.</p> <p>The respective costs shall be included in the Scope of Civil Works in respective price schedule.</p>

No.	Query by Bidder	Clarification from Employer
2.	<p>Section VI. Employer's Requirements: Technical Schedule</p> <p>A. 200 MVA, 220/110 kV AutoTransformer:</p> <p>1. The vector group specified in technical data sheet is YNyn0 whereas it should be YNa0. Please check and confirm.</p> <p>2. The Short circuit impedance between primary/tertiary (10%) is less than that of Primary/secondary (12%) which is non standard. Please check and confirm.</p> <p>3. Bushings for Primary (220 kV) Neutral and Secondary (110 kV) Neutral are asked separately in the technical data sheet. For an Auto Transformer the Neutral shall be common between Primary and Secondary and hence only one bushing will be provided. Also, as auto transformer has non-uniform insulation we will provide 36 kV common neutral bushing. Please confirm that this will be acceptable.</p>	<p>1. YNyn0 means Yna0.</p> <p>2. In any case, the Bidder shall make its offer based on manufacturer's standards.</p> <p>3. One bushing is also acceptable. Regarding the insulation, based on Armenian standards it shall be 110kV. The Bidder in his offer shall state the respective international or manufacturer standard.</p>
3.	<p>B. 27.5 MVA, 110/35/6 kV Transformer:</p> <p>1. The rated power of transformer is specified as 27.5 MVA, whereas, the rated power of secondary winding is 20 MVA and that of tertiary winding is 11 MVA totalling it to 31 MVA which exceeds the rated power of the transformer. Please check and confirm.</p> <p>2. We understand that the Short Circuit impedance between primary and secondary is 10% @ 27.5 MVA. But, the impedance between primary/tertiary and secondary tertiary is not provided. Please check and confirm if there is any specific impedance pattern required or else we can quote the impedance pattern as per our design.</p> <p>3. As per the technical data sheet the primary neutral bushing voltage level is specified as 123kV. Although for non-uniform insulated transformer the neutral level shall be around 36kV. Please check and confirm.</p>	<p>1. Please refer to Clarification No.2, Requests for Clarifications for Pre-bid Meeting, Item 6, where actual loads for 35 and 6 kV consumers are mentioned. For 35kV the load is 14,5 MW, which is equal to 17,8 MVA and for 6kV the load is 7MW, which is equal to 8,2MVA. That is: 17,8MVA + 8,2MVA = 26MVA.</p> <p>2. It shall comply with manufacturer's standards.</p> <p>3. It shall comply with manufacturer's standards.</p>
4.	<p>Clause 2.7 of Section III, Qualification criteria for 27.5MVA, 110/35/6kV Power Transformer</p> <p>We understand that the qualification criteria specified for power</p>	<p>Please refer to the requirements of Bidding Documents.</p>

No.	Query by Bidder	Clarification from Employer
	transformer shall be applicable for 200MVA, 220/110kV power transformer only, however for 27.5MVA, 110/35/6kV power transformers it is not applicable. Please confirm.	
5.	The tender requires huge coordination with various manufacturers for compliant technical offers. Our suppliers need to design the equipment for -27° C to 42° C for which they require 3/4 weeks to submit their compliant offer. In the view of the same we request you to please grant the extension of 3/4 weeks from present tender due date.	The deadline for bid submission is extended for 3 weeks, until November 30, 2015, 13:00 (local time). Further extension is not possible.
6.	PC 7.1, a, Scope of Facilities a) the Contractor agrees to supply 6 months period operation and maintenance support after commissioning, which means that the Contractor within 6 months period after commissioning shall ensure the permanent availability of his competent specialists on construction site for supporting the Employer's staff. Please clarify as to whether the Operation and Maintenance staff is to be available for all three shifts of the day.	This fully depends on the quality level of constructed substation and the quality of training of Employer's staff.
7.	PC 13, Securities Please confirm whether the performance Security and Advance security in the form of Bank Guarantee issued from a reputable India Bank will be acceptable.	Advance payment and performance security should be issued by a Bank with at least long-term issuer credit rating of BBB as per Standard & Poor's or equivalent credit ratings by other agencies (e.g. Moody's; Fitch).
8.	PC 14, Taxes and duties. Please confirm the following. a. Whether Custom Duty is applicable on the Equipments supplied from abroad. If so who will pay the custom duties, whether the same needs to be included in the prices. b. Whether VAT is applicable on the Equipments supplied from Abroad, if yes what is the rate of VAT applicable and whether the same needs to be included in the prices. c. Whether VAT and local taxes are applicable on the local supplies, if yes what are the rate of VAT and taxes. d. Whether VAT and any local taxes are applicable on Installation and Civil works, if yes what is the rate of VAT and taxes applicable.	a. and b. All the Custom duties will be paid by Employer, so bidders should not calculate any import duties and tax such as VAT and shall not include in bid price. c. For Local Supplies (price schedule 2) please follow instructions indicated in ITB 17.5 (b). Rate of VAT should be as per Legislation of Armenia. d. For Installation and Civil works (price schedule 4) please follow instructions indicated in ITB 17.5 (d). Rate of VAT should be as per Legislation of Armenia. d. Please follow the requirements of Bidding Documents. e. Please follow the requirements of Bidding Documents.

No.	Query by Bidder	Clarification from Employer
	<p>d. Whether any withholding tax is applicable if yes what is the rate of withholding and whether the same will be applicable only on Installation and Civil services.</p> <p>e. Please confirm whether the Non resident profit tax will be deducted by the employer against each invoice.</p>	
9.	<p>PC 14, Taxes and duties. The contractual prices for civil-erection, design and other works, services to be implemented in the frameworks of the contract shall not include indirect taxes stipulated by the RA tax legislation, i.e. VAT, etc.. The direct taxes stipulated by Tax legislation of the RA, i.e. resident and non-resident profit tax, income tax, etc., shall be included in contractual prices. Please provide which of the taxes and the rate of taxes that will be directly deducted by Employer.</p>	Your question is not clear.
10.	<p>PC 21.4, Custom Clearance Please let us know whether the Erection tools, testing equipments etc that are being brought into RA are also exempted from Custom duty. Will the employer issue necessary documents for the same.</p>	Your question is not clear.
11.	<p>PC 23.2, Test and Inspection The Contractor shall bear all the costs of the organisation of the factory tests (transports, accommodations, meals and per diem) during the tests, travels from Armenia to the location where the tests will be carried out and the return to Armenia for the representatives of the Employer. Please provide the following details. a. Class of Hotel for lodging. b. Perday Lunch Allowance to be considered. c. Perday Incidental allowance to be considered. d. Class of Air travel.</p>	<p>a. b. and c. As we do not know in which country the factory tests will be conducted, your question is not correct. d. The class of air travel should be econom class.</p>
12.	<p>ITB 20.3, Bid Security (a) an unconditional guarantee issued by a bank or surety; from a reputable source from an eligible country.</p>	<p>Bid security should be issued by a commercial bank with long-term issuer credit rating of BB as per Standard & Poor's or equivalent credit ratings by other agencies (e.g. Moody's; Fitch) or short-term</p>

No.	Query by Bidder	Clarification from Employer
	We presume the BG from reputable Indian Bank will be acceptable.	issuer credit rating B.
13.	PC 24.2, Completion of facilities The Employer will provide to the Contractor only utilities (water and electricity supply). We presume the contractor will not be charged by the employer for the same.	The Employer will provide the connection points for utilities. The works related to connection, installation of meters and user charges should be borne by Contractor.
14.	General Please provide the procedure of Dismantling and the place of storage of dismantled equipment.	The dismantled equipment shall be handed over to Employer and shall be stored at YTPC storage areas. Regarding the procedure of Dismantling, your question is either non correct or unclear.
15.	Single Line Diagram No. 1258942 (Yervan TPP 220/110/35 kV Substation) We understand the scope includes following; A) 220 kV 1½ Breaker System (8 Bays + 2 Bus PT) 1) 4 Nos. Line Bays (Marash, Nuclear Armenian NPP, Haghtande & Ararat-2) 2) 1 No Transformer Bay (200 MVA, 220/110 kV) 3) 3 Nos Tie Bays 4) 2 Nos. Bus PT Bay B) 110kV Double Busbar with Bypass Arrangement (19 Bays+2 Bus PT) 1) 10 Nos. Line Bays (Norq, Ararat-2, Mxchyan, Ayntap, Gas turbines, Steam turbines, Nairit-1, Nairit-2, South-1 & South-2) 2) 1 Nos Incoming Transformer Bay (200 MVA, 220/110 kV) 3) 1 No. Bus Coupler Bay 4) 2 Nos. Transformer Bay (27 MVA, 110/35/6 kV) 5) 4 Nos. Transformer Bays (110/6 kV) 6) 2 Nos. Bus PT 7) 1 No. Transfer Bay C) 35 kV Gas Insulated Switchgear (13 Bays + 2 Bus PT) 1) 2 Nos. Incoming Transformer Bay (27 MVA, 110/35/6 kV) 2) 2 Nos Auxiliary Transformer Bay (400 kVA, 35/0.4 kV) 3) 8 Nos Feeder Bay (Chimereactive-1 & 2, Cable line 1 & 2, CGT-1 & 2, Spare 1 & 2)	Please, refer to SLD and Bidding Documents.

No.	Query by Bidder	Clarification from Employer
	4) 2 Nos. Bus PT Bay 4) 1 No. Bus Sectionalizer E) Transformers 1) 1x200 MVA, 220/110 kV Transformer 2) 2x27 MVA, 110/35/6 kV Transformer 3) 2x400 kVA, 35/0.4 kV Auxiliary Transformer F) 6 kV Indoor Switchgear (2 Nos Panels) Please confirm our understanding.	
16.	General Please confirm if the Surge Arresters on 220 kV Line Bays (Marash, Nuclear Armenian NPP, Haghtande & Ararat-2) are required.	It depends on the type and operation zone of surge arresters to be installed by Contractor on the busbar.
17.	General Please confirm the scope of Installation, Testing & Commissioning of 110/6 kV Transformer is in Bidders Scope.	There are two (2) 110/6 kV Transformers. They are currently located on foundations and are in operation. Bidder's scope shall include dismantling of 110/6 kV side of those transformers and reconnection of 110/6 kV side according to requirements of Bidding documents.
18.	1 1.1.3.2 & 1.1.3.3 Sec-IV - Schedule No As Single Line Diagram (110 kV System), there are 20 pcs Disconnecter (3-p) with 2 Earthing Switches & 21 pcs Disconnectors (3-p) with 1 Earthing Switches, however as per Section-IV, Bidding Forms, Schedule No.1, Sr. No. 1.1.3.2 there are 41 pcs 110 kV Disconnecter (3-p) + earthing switch are mentioned, please clarify the pcs of Disconnecter with 1 Earthing Switch & 2 Earthing Switch respectively.	Please refer to Item 30 of Clarification No. 2.
19.	1.1.3.4 Sec-IV - Schedule No. 1 Please inform the location of 110 kV Earthing Switch (1-p)	This question seems to refer to design issue.
20.	General Please confirm if the Surge Arresters on 110 kV Line Bays (Norq, Ararat-2, Mxchyan, Ayntap, Gas turbines, Steam turbines, Nairit-1, Nairit-2, South-1 & South-2) are required.	It depends on the type and operation zone of surge arresters to be installed by Contractor on the busbar.
21.	General We understand from the Drawing No. 1259824 that all Disconnectors are Horizontal Center Break. Please confirm.	There is no Drawing No. 1259824 in the Bidding Documents.

No.	Query by Bidder	Clarification from Employer
22.	<p>General Please provide the specifications for following;</p> <ol style="list-style-type: none"> 1) Power & Control Cables 2) Earthing & Lightning Protection 3) Busbar & Equipment Interconnection Conductor 4) Clamps & Connectors 5) String Insulators 6) String Hardware 7) Fire Protection System (Water Spray Fire Extinction) 9) LT Switchgear (AC Distribution System & DC Distribution System) 	Those specifications shall be defined by designer after design stage.
23.	<p>General We are participating in the bid in consortium with a EPC contractor. We presume any one of the Consortium member purchases the tender documents. Please clarify.</p>	Any company, who purchased the bidding documents can submit its bid whether alone or as joint venture.
24.	<p>565,566-691 One similar microprocessor equipment in opposite end of 220kV OHL and besides implement the acceleration of existing protection 7SA522 via fibre optic communication channel Please confirm that the requested one microprocessor equipment in opposite end of 220kV OHL communications via fibre optic communication links or PLCC system, since the 4 numbers of 220kv OHL remote end is having protection relay 7SA522 via fibre optic communication channels and this requested microprocessor protection relay only scope of supply.</p>	Please refer to Clause 3, Item b) of Pre-Bid Meeting MOM.
25.	<p>566,567-691 Ararat-2,Ayntap,Mkhchyan and Nork 110kV OHL protections, It is necessary to foresee two similar microprocessor equipment in each of opposite end of Ararat-2 and Nork 110kV OHL as well as to implement acceleration of the protections for OHL via fibre optic communication channels Please confirm that the requested two similar microprocessor equipment for Ararat-2 and Nork in opposite end of 110kV OHL communications via fibre optic communication links or PLCC system, since the proposed layout mentioned that feeders is having</p>	Please refer to EPSO Letter No. 01-MM-12-626 attached to Clarification No. 3.

No.	Query by Bidder	Clarification from Employer
	wave trap and SLD is not mentioned and this requested microprocessor protection relay only scope of supply.	
26.	<p>566,567-691 Ararat-2,Ayntap,Mkhchyan and Nork 110kV OHL protections, It is necessary to foresee two similar microprocessor equipment in each of opposite end of Ararat-2 and Nork 110kV OHL as well as to implement acceleration of the protections for OHL via fibre optic communication channels</p> <p>Please confirm that the requested one similar microprocessor equipment for Ayntap and Mkhchyan in opposite end of 110kV OHL communications via fibre optic communication links or PLCC system, since the proposed layout mentioned that feeders is having wave trap and SLD is not mentioned and this requested microprocessor protection relay only scope of supply.</p>	Please refer to EPSO Letter No. 01-MM-12-626 attached to Clarification No. 3.
27.	<p>568-691 Foresee two similar microprocessor equipment in each opposite end of Nairit-1,2 and Haravayin 1,2 110kV OHL's as well as to implement the accelerationss of protections for OHL's via fibre communication channels.</p> <p>Please confirm that the requested two similar microprocessor protection relay in each opposite end of 110kV OHL only scope of supply.</p>	Please refer to Clause 3, Item b) of Pre-Bid Meeting MOM.
28.	<p>Clarification No.2, item 47, Price Schedules of Section VI, The new 220 kV substation shall be constructed in the area of existing 220 kV substation, and accordingly the existing 220kV equipment shall be dismantled.</p> <p>Coordinates and location of the dead end towers for outgoing 220 kV Lines are missing in the submitted general plan of the area. Please provide the routes of the 220 kV Lines (coordinates of the dead end tower and two subsequent supports of the outgoing lines).</p>	Coordinates and location of the dead end towers for outgoing 220 kV Lines shall be defined in design stage.
29.	<p>Clarification No.2, item 47, Price Schedules of Section VI, The new 220 kV substation shall be constructed in the area of existing 220 kV substation, and accordingly the existing 220kV equipment shall be dismantled.</p> <p>Acc. to general layout, there is enough green field area adjacent to</p>	No, it is not allowed.

No.	Query by Bidder	Clarification from Employer
	<p>the existing 220 kV switchyard to erect the new 220 kV switchyard. Is it allowed to construct the new 220 kV Switchyard on the green field area instead? (without dismantling the existing 220 kV equipment).</p>	
30.	<p>Clarification No. 2, item 48, Section VI employer's requirements, Clause No. 1.2.1.4, page No. 133/691 Scope of 220kV switchyard As per scope of work, 220kV 8 bays (5 Bays + 3 Spare) to be supplied and installed whereas in clause 1.2.1.4.2.1 and SLD are asking for 6 bays only i.e. 5 bays + 1 spare bay. What is the meaning of "+1 spare bay (not equipped)" and "free space for 2 new bays (without supply of equipment)"? What is the difference? Do the bidders have to construct the foundations only for the spare bay? Where is the limit of the scope of supply?</p>	<p>This means free and clean area ready for installation of equipment in future projects.</p>
31.	<p>Clarification No.2, item 51 Section-VI, Employer Requirement, Clause 1.1.2.2-General, Engineering Design and Drawings approvals, The main part of design shall be approved by the Yerevan TPC CJSC, and some part shall be approved by "Electric Power System Operator" CJSC. According to the Bidding Documents Section VIII. Particular Conditions item 9. Contractor's responsibilities, obtaining of the approvals of plant design documents, as well as all necessary permissions, approvals, licenses are the responsibility of the Contractor. Taking into account the previous experience of YTPC, the above mentioned permissions and approvals can be obtained stage by stage (upon readiness of documents). The Employer will continuously support the Contractor by all possible means in this process. "Obtaining of all necessary permissions, approvals, licenses are the responsibility of the Contractor". Please elaborate on which Licenses and permissions are specifically needed? How much time is needed to receive the above provided that all necessary documentation from contractor is available?</p>	<p>The procedure of obtaining of all necessary permissions, approvals, licenses, etc. is governed by RA Legislation. The procedure itself is not very long, however it is directly connected to the quality of activities to be conducted by Contractor.</p>
32.	<p>Section I. Instructions to Bidders 20. Bid Security, item 20.3 Item 20.3 states that "If the unconditional guarantee is issued by an</p>	<p>As you mentioned "If the unconditional guarantee is issued by an <u>insurance company</u> or a <u>bonding company</u> located outside the</p>

No.	Query by Bidder	Clarification from Employer
	<p>insurance company or a bonding company located outside the Employer's Country, the issuer shall have a correspondent financial institution located in the Employer's Country to make it enforceable".</p> <p>Our company works with several reputable banks, which have minimum rating B, but none of them has a branch in Armenia.</p> <p>Our company works with several reputable banks, which have minimum rating B, but none of them has a branch in Employer's Country. Please kindly confirm that the Bid Security can be issued by such bank, and that this bank does not need to have a correspondent financial institution located in the Employer's Country.</p>	<p>Employer's Country, the issuer shall have a correspondent financial institution located in the Employer's Country to make it enforceable". In case of bank guarantee, it is not required that bidder's bank have a branch or correspondent financial institution located in the Employer's Country.</p>
33.	<p>Section VI – Employer's Requirements – Item 8.2</p> <p>Can you please identify the manufacturer/model of the existing RTU and existing SCADA system? Which communication protocol shall be preferentially used between existing RTU and future numerical control system (DCS)?</p>	<p>Please refer to Item 67 of Clarification No. 2. Existing SCADA system manufacturer: ABB</p>
34.	<p>Section VI. Employer's Requirements, Page 148, 1.2.4.5.3. Post-fault monitoring recorder</p> <p>Can you please specify the total inputs quantity that should be considered for each bay and specify which bays should be considered to be part of the post fault monitoring recorder system?</p>	<p>Please refer to Item 67 of Clarification No. 2.</p>
35.	<p>Section VI. Employer's Requirements 5. 220 VDC AND 48 VDC RECTIFIER</p> <p>The Employer's Requirements provide specification for 48V DC power supply while in the price schedule such position is missing. In our opinion such equipment is necessary for power supply of the communication equipment. Could you please advise in which position of the price schedule to include such equipment?</p>	<p>If 48 VDC equipment is required, you can include it in AC, DC systems.</p>
36.	<p>Section VI. Employer's Requirements, TECHNICAL SCHEDULE – Main Data, AutoTransformer 220/110 kV 200MVA</p> <p>Please confirm that the Bidders shall offer autotransformer and not power transformer.</p>	<p>Please refer to Bidding Documents.</p>

No.	Query by Bidder	Clarification from Employer
37.	<p>Section VI. Employer's Requirements, TECHNICAL SCHEDULE – Main Data, Power Transformer 110/35/6 kV 27.5MVA</p> <p>The rated power of transformer is specified as 27.5 MVA, whereas, the rated power of secondary winding is 20 MVA and that of tertiary winding is 11 MVA totaling it to 31 MVA which exceeds the rated power of the transformer. Please confirm or revise the specification.</p>	<p>Please refer to Clarification No.2, Requests for Clarifications for Pre-bid Meeting, Item 6, where actual loads for 35 and 6 kV consumers are mentioned. For 35kV the load is 14,5 MW, which is equal to 17,8 MVA and for 6kV the load is 7MW, which is equal to 8,2MVA. That is: 17,8MVA + 8,2MVA = 26MVA.</p>
38.	<p>Invitation for Bids and our Request for clarification No.1 dated 12.10.2015</p> <p>Reference is made as well to request for time extension for bid submission by most of the tenderers during the Pre-Bid meeting dated 28.10.2015</p> <p>We strongly repeat our request:</p> <p>Due to the complexity of the scope of works, still ongoing need(s) for clarification(s) and in order to prepare a proper and competitive offer, we kindly ask you for time extension for submission of this bid until 15.12.2015 at the minimum.</p>	<p>The deadline for bid submission is extended for 3 weeks, until November 30, 2015, 13:00 (local time). Further extension is not possible.</p>
39.	<p>PC 8.2 and PC 25.2.2, GC 25.1.1. and GC 25.3.1</p> <p>Time for Completion, Commissioning and Operational Acceptance</p> <p>Please clarify if our understanding of the General and Particular Contract Conditions is correct that the time for completion does not include commissioning, guarantee tests and operational acceptance. Our understanding is based on the following articles:</p> <p>PC 8.2: Time for Completion: 17 months</p> <p>GC 25.1.1.: Commissioning shall be commenced after Completion Certificate</p> <p>GC 25.3.1: Operational Acceptance shall occur when Guarantee Tests have been completed or latest 60 days after Completion as stated in PC 25.2.2</p> <p>If our understanding is correct, please also revise your reply to clarification No. 4 item 33.</p>	<p>In case of necessity, during Contract finalization stage the period of LC effectiveness will be defined so as to cover all payment stages, including Operational Acceptance.</p>

No.	Query by Bidder	Clarification from Employer
40.	Section VI. Item 1.2.4.17.2 "Repair of existing oil storage tank" What is meant by "the repair of the existing oil storage tank". How big is/are the tank(s) and which type it is?	Please, refer to Item 1 of this Clarification No. 5
41.	Section VI. Item 1.2.4.17.2 "implementation of the automatic sprinkler protection system and their water pumps for each power transformer...." Please clarify "implementation of the automatic sprinkler protection system and their water pumps for each power transformer". Is this system needed only for new transformers or shall the existing transformers T5, T?, T9 & T10 be included also?	This system shall be foreseen for all transformers.
42.	Section VI. Item 1.2.4.17.2 "implementation of the transformer oil sump and firewalls for the new transformers and autotransformer." Please confirm that the firewalls shall be in the scope of contract, as there are no firewalls for the existing transformer and the new autotransformer is "stand alone". If firewalls are mandatory, please specify on how many sides of the transformers.	There is no any difference whether there are firewalls for the existing transformers or not. If the firewalls are required based on design standards, then they shall be included in Contractor's scope.
43.	Section VI. Item 1.2.4.17.2 "the implementation of fire protection pool" Please clarify/specify the requirements, incl. the location of the "fire protection pool".	It shall be in accordance with design norms and standards. The location is indicated on the General layout.
44.	Existing building on 220kV switchyard area Is it necessary to demolish the existing building on 220kV switchyard area	According to our observations, there are no any buildings on 220kV switchyard. If the Contractor finds any building on 220kV switchyard, of course it should be demolished.
45.	Referring to Clarification N°4, question N°31 Relay protection settings Please confirm that the "relay protection settings" will be provided either by YTPC or by Electric Power System Operator CSJC in case of award of Contract.	All relay protection settings should be provided by Electric Power System Operator CSJC.
46.	1.2.4.6.1 1.2.4.6.3 page 149-150 Existing RTU Referring to Clarification N°4, question N°42, 2.: 1. Please clarify if it shall be any data exchange between existing	1., 2., and 3. Please, clarify what do you mean by saying "existing RTU".

No.	Query by Bidder	Clarification from Employer
	RTU and DCS (Station Unit) 2. Please clarify if it shall be any data exchange between existing RTU and new RTU 3. In case there shall be data exchange, please confirm if IEC60870-5-104 communication protocol can be used.	
47.	1.2.4.6.1, 1.2.4.6.3 page 149-150 New RTU Referring to Clarification N°4, question N°43, 1. and 2.: 1. Please clarify if the new RTU directly communicates with national SCADA or through new DCS gateway. 2. Please confirm that the new RTU is singular (one device). Example: Station Unit is requested as redundant device.	1. Please, clarify what do you mean by saying “DCS gateway”. 2. Please once again refer to our answers in Clarification N°4, question N°43.
48.	1.2.4.5.3. page 148 Post-fault monitoring recorder Referring to Clarification N°4, question N°47,; As the proposed protection relays include post-fault monitoring recorder which fulfils the technical requirements, we kindly ask to confirm if an additional and external Post-fault monitoring recorder is necessary.	Please, follow our answer No. 7 of Clarification No. 2.
49.	PLC Equipment Referring to Clarification N°4, question N°47,; As the proposed protection relays include post-fault monitoring recorder which fulfils the technical requirements, we kindly ask to confirm if an additional and external Post-fault monitoring recorder is necessary.	Please clarify.
50.	“Zero” level of the new 110kV switchyard area At the moment there is in the foreseen area for the new 110kV switchyard a collector (basin) for rain water. The quality of the existing soil is very poor. Is it allowed to keep the level of the new 110kV switchyard lower than the existing 110kV? If yes where is connected internal drainage system? If it is necessary to backfill (raise the level of) the platform for 110kV switchyard, please define how this will be evaluated?	All answers to your question are directly related to the results of soil investigation to be implemented by Contractor. The costs of such soil investigation shall be included in the scope of civil works in price schedule.

No.	Query by Bidder	Clarification from Employer
51.	Collector (basin) for rain water Acc. to the tender requirement the area of the existing collector (basin) for rain water shall be reduced (approx. to 50%) Please confirm that the reduced area for the collector (basin) for rain will fulfill the necessary requirements. If not, please define how to continue.	This is not a collector (basin) for rain water. There is existing industrial/stormwater manifold (diameter: 1500mm) which shall be connected to the drain system (for rain water) of new substation.
52.	Armenia YTPC Substation_final_corrected_upd.pdf page 61/691 line 1.3.14.11 scope "testing equipment" transformer In line 1.3.14.11 in the price schedule is required: "Testing step-up transformer equipment" What kind and scope of test equipment do you require and for what type of transformer?	Please once again refer to Item 38 of Clarification No. 4.
53.	Armenia YTPC Substation_final_corrected_upd.pdf page 56/691 line 1.1.7.3 In line 1.1.7.3 is mentioned "Supply of Diesel Group 250 kVA" Following question for definition: - indoor or outdoor assembly - fixed or mobile installed - size of tank - diesel pit necessary? - operation mode (devision of operation / break)	- indoor assembly - fixed - to ensure 8 hours of operation - no diesel pit is required - operation mode: in case of substation blackout
54.	1.2.4.6.1, 1.2.4.6.3 page 149-150 Existing RTU We have the following questions: 1. How many measured values are presently connected from the HV switchyard to the existing RTU? 2. For the RTU measured values (voltage, current, power,...) which kind of measurements is available: 4-20mA or 0-100V/0-1A? We would like to know if there is direct measuring, or transducers are being used.	1. Currently 275 telemeasurement values and 251 telesignals are connected. 2. 0-100V / 0-5A. Transducers are being used.
55.	1.2.1.4.2.2 page 134 Quantity of 3-winding 110kV transformers Please clarify how many transformers have 3-windings. Five pcs. according to SLD (T2 & T9 & T10 110/6/6kV and T1 & T2 110/35/6kV), however according to chapter 1.2.1.4.2.2 only 2 pcs.	Two new transformes 27.5 MVA and existing T9 and T10 transformers have 3-windings.

No.	Query by Bidder	Clarification from Employer
	are requested (T1 & T2 110/35/6kV).	
56.	<p>1.2.1.4.2.2 page 134 Existing 110kV transformers</p> <p>There are two 110kV bays with transformers connected to generators (according to SLD T5 110/6kV and T2 110/35/6kV). We have the following questions:</p> <p>1. We assume that the generator protection is not part of the scope. Please confirm!</p> <p>2. We assume that all necessary protection signals from the generator for correct protection functionality will be provided by customer (CB trip signalisation, reverse synchronisation). Please confirm!</p>	<p>1. We confirm that generator protection is not part of the scope.</p> <p>2. Please clarify which generators you mean.</p>
57.	<p>1.2.7.1.1. page 151 Telecommunication</p> <p>We have the following questions:</p> <p>1. Please confirm if "the network of transmission media SDH equipment" between RTU and national SCADA is existing or has to be supplied.</p> <p>2. In case there is SDH equipment please specify the vendor and model and if the hardware shall be extended to fulfil the tender requirements for telecommunication:</p> <p>a) IP Telephone</p> <p>b) ODF panels</p> <p>c) Connection between DCS and national SCADA (IEC6087-5-104)</p>	<p>1. SDH equipment between RTU and national SCADA is existing.</p> <p>2. SDH equipment vendor: General Electric, Model: Multilin. Yes, hardware shall be extended.</p>