

		CLARIFICATIONS
1	For S/S where the RTU should be extended, is the number indicated in Volume 2: "Table 1.1 Summary of Scope" just the I/O's to be extended or the total number needed in the S/S.	These are the I/Os to be extended
2	Is it expected that each RTU should be supplied in a standalone panel or can it be loose supplied and be installed in any existing panel?	For those stations with existing RTUs, the existing RTU panels can be used but the contractor must ensure that 25% spare capacity is maintained. However if bidder supplies standalone RTU, this shall be in one panel.
3	To receive measurements mA transducers are needed. Is it acceptable to use existing transducers, or shall transducer modules part of RTU?	where Transducers are existing they can be used, else transducers must be supplied
4	To upgrade the S/S for remote control, command relays are needed. As the schematic diagrams of the existing S/S are not available, it is unsure how the control scheme look like. Shall the supplier consider 48V-DC relays to interface with the existing scheme?	Yes
5	Please specify in which S/S an update of an existing SAS is needed. From the table only RTU's are indicated.	Limuru S/S
6	Please confirm that all RTU's shall be supplied with IEC 101 and 104 interface to Remote control centers.	Yes
7	Is it needed to integrate existing protection relays serially? If so which protocol is available (e.g. IEC103, Modbus,..).	For SAS stations like Limuru we have IEC 61850
8	The interface from Protection relays to the RTU shall be hardwired?	Yes
9	Is there a signal list per S/S available?	For most substations they are in attachment 1 to be provided
10	Single lines and schematic diagrams are not available yet. When KPLC will make them available?	For most substations they are in attachment 1 to be provided
11	Please indicate under the number of commands, how many single commands and how many double commands are needed.	they are indicated in the signal list
14	For Scope of RTUs and Data in table 2.4 , can you provide us with existing RTU information for No. 7 in Lot 1 Nairobi region?	There is no existing RTU at this site i.e Steel Billets
15	For Scope of RTUs and Data in table 2.4 , can you explain why both existing and new RTU are checked in No. 5 in lot 1 mount Kenya Region?	There is no existing RTU at this site i.e Ndarugu S/S
16	For project chapter 1.1 (Volume2), its written as below - integration of all the station RTUs to the existing KPLC's central SCADA/EMS system. Scope of Bidders work is only to send the data from RTU to existing SCADA system which is ABB product.Is there some cooperation testing wether data is properly sent from RTU to SCADA system?	Final testing and commissioning must be witnessed by KPLC engineers, and these include point to point tests from the control centre to the RTU and to the process data at switchgear
19	For the communication network design we ask for geographical coordinates and altitude and if mast exists for all locations and substations.	Attachment 1 shall be provided
20	Layout of the existing fiber optic backbone	
21	What is required for station which the value in the column " Scada Installation" is "YES" and in the column " Existing Scada in station" there is a name of Scada system? Does it mean that the substation has an existing Scada system which requires expansion?	Yes , and the bidder may choose to use the existing installation or provide their solution which meets the specifications

22	What is required for station which the value in the column " Scada Installation " is "No" and the column " Existing Scada in station " is empty?	Yes means , scada installation is required in that station. No means, there is scada already installed in that station
23	Does the number of signals in the "Indications", "Alarms", " Commands", "Measurands" and "Energy Meters" columns indicate the total required signals, or the required additional signals?	For stations without scada means the total required, for stations with existing scada is the required additional signals
24	Is the number of alarms indicated in the "Alarms" column includes also the alarms required for the 48VDC system (paragraph 4.2.6.3)?	For scada purpose, the required alarms have been listed per station. See attachment 1
25	The bidder is required to submit The following specific drawings with the Bid:	
26	<input checked="" type="checkbox"/> Single Line Diagram for each station	This is provided where available but the contractor must verify these by visiting site
27	<input checked="" type="checkbox"/> Room layout proposals for each station	This is provided where available but the contractor must verify these by visiting site
28	As we expect to receive the original Single Line Diagram and Room layout of each of the substation from the Employer (allowing optimal design):	
29	When can we expect o receive the single line diagrams and room layouts of the existing equipment of the substations?	Attachment 1 shall be available on the KPLC website
30	Which additional information the Employer expects the bidder to add to the original Single Line Diagram and Room layout drawings?	The bidder is required to visit site to verify and ammend where applicable/necessary
	Regarding paragraph: "2.1.2 New RTUs"	
31	Synchrocheck relays and voltage selection logic have to be installed under the project for stations where separated networks / generation could be switched under none-synchronous conditions – Please indicate what are the stations which meet this description.	Tie lines and Generating stations. In this scope we have only Turkwel S/S
	Regarding paragraph: "2.1.2.1.2 Voltage control / voltage regulation"	
32	Remote control of all on-load tap changers for all 33/11 kV, 66/11 kV,66/33 kV transformers, as well as for selected 220/11kV, 132/11 kV and 132/33 kV transformers – Please indicate the selected such transformers.	Turkwel S/S which is 220/11kV station and Kisumu S/S which is 132/33kV station
	Regarding paragraph: "2.1.2.1.3 Status Indications"	
33	Position indication of on-load tap changers of all 66/11 kV, 66/33kV and 33/11 kV transformers, as well as selected 132/11 kV and 132/33 kV transformers. – Please indicate the selected such transformers.	Turkwel S/S which is 220/11kV station and Kisumu S/S which is 132/33kV station
	Regarding paragraph: " 2.1.3.2 Functional requirements for new RTUs"	
34	The new RTUs are required to support IEC 61850 protocol for process communication. As far as we know, and according to our experience, IEC-61850 protocol is used for the substation's SAS internal communication – Please explain the role you expect the IEC 61850 protocol to fulfill in the Scada system.x	This is to cater for future expansion, the RTU shall be capable of supporting IEC 61850
	Regarding paragraph: "2.2.2 Data Population "	

35	Who is responsible to edit reconfigure the Scada EMS data base?	It is in the scope of the contract
	Regarding paragraph: "i. Installation of Aerial Fibre Cable" (page 73)	
36	"The cable installation shall be aerial on existing power lines. These lines are on wooden structures and on Concrete Poles and the ADSS cable shall be installed below the power line." Can you confirm that the wooden structures and Concrete Poles will bear the load of the additional fiber optic cable and automatic installation process?	In the recent years KPLC has installed more that 2000 km of ADSS on the existing network. Where a pole is found not to be in good condition during installation preparations, this shall be replaced, but experience has shown this is less than 1 %.
38	Please Clarify the Terms of Payments as those in the PC and in Contract Forms are different	Please use Terms in PC. Updated Tender Forms attached.
39	Is there any site information available to assist bidders?	Site reports for various substations are attached.
40	Please give the pre-bid Agenda	Attached
41	Updated price schedules are attached to include Mai Mahiu substation.	
44	Does the Siemens SCADA & HMI software that we need to interface with support the IEC 61850 protocol or only the 60870-5-101 / 104 protocol? If possible the software version revision no, as that will inform us what 101 / 104 driver implementation was used, so we know if there is any limitations / compatibility issues.	Stations with Siemens RTUs, conform with both IEC 60870-5-101/104 as well as IEC61850 protocols
45	Will it be possible to supply us the model / type no of the following RTU's so that we can ensure the 101 / 104 protocol implementation used is 100% compatible with todays standards, as each vendor typically implement a protocol to his discretion, especially earlier years due to processing constraints: ASEA Collector RTU 400 ,EFACEC RTU, Spreetec RTU	IEC 101/104 is a current international standard and all RTUs must conform with this irrespective of the vendor
46	In the specification for the new RTU's there is a requirement stated as follows: · automatic re-starting function (p125). What is meant by this from KPLC's viewpoint so that we understand and not make any assumptions regarding this function?	please note page 125 , refers to the 48V dc Monitoring system and not the RTU