Kenya Power

The Kenya Power & Lighting Co. Ltd.
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Stima Plaza, Kolobot Road

Our Ref: KP1/6A.1/PT/4/23/B17/SM/aho **25th January 2024**

Dear Bidders

CLARIFICATION NO.1 OF ISSUED TENDER DOCUMENTS FOR PROCUREMENT OF DESING, SUPPLY, INSTALLATION & COMMISSIONING OF LODWAR 66/11kV SUBSTATION AND ASSOCIATED LINE WORKS TURKANA COUNTY

CLARIFICATION TO TENDER DOCUMENT

The following responses are made to clarifications sought on various issues in the bidding document for procurement of design, supply,installation and commissioning of Lodwar 66/11kV substation and associated line works in Turkana county.

No.	Bidder Query/ comment	KPLC Response
1.	4.2 Particular technical Specification -SOW 4.2.2.2 Feeder Bay, it mentioned one control panel and one protection panel to be offered for 66kV OHL, while "LOT1-110 66kV OH line protection and Control panel with BCU" was mentioned in the price schedule, kindly clarify that we can provide one protection and control panel including protection and BCU or separate panel for protection and control as specified in 4.2.2.2	The bidder can offer either one Protection & Control panel, OR two separate Protection and Control panels as long as the full Protection and Control functionality is fulfilled. However, single panel is preferred to save on floor space
2.	4.2 Particular technical Specification -SOW 4.2.2.2 Feeder Bay, b. 1 (one) multifunctional line protection unit of both line distance and line differential to be offer for the 66kV OHL, while 4.1.2.6.2.1 66kV Line Protection in 4.1.2 Particular Specification-Protection -Control -SAS it only mentioned the distance protection was required for 66kV OHL, kindly clarify which one prevails	Regarding the 66kV feeder bay protection, clause 4.1.2.6.2.1 prevails. ONLY distance protection is required.
3.	4.2 Particular technical Specification4.2.2.3 66kV Bus bar Bay, it mentioned that 1 (one) bus bar protection unit included in the control panel for the bus bar. While there is no item for busbar protection in the price schedule, we presume that the bus bar protection is to be offered, kindly confirm.	Being simple single bus bar, 66kV bus bar differential protection is not required.

No.	Bidder Query/ comment	KPLC Response
		Refer to addedum No.2
4.	4.1.2.6.2.6 Under Frequency Relay,4.1.2 Particular Specification-Protection - Control -SAS . it mentioned Each bus-bar shall be equipped with a separate under frequency relay for load shedding of all outgoing breakers, while there is no separate item for under frequency relay for 11kV bus bar, kindly clarify	Under-frequency loadshedding is not foreseen at Lodwar, hence no under frequency relay shall be supplied.
5.	In 66KV TDS dead tank type breaker requirement is mentioned, however in technical specifications the type of breaker is not mentioned. Please Clarify if SF6 Live tank breaker is required or dead tank?	Live tank SF_6 breaker is required. Refer to addendum No.2 and Standards document No. KP1/6C/4/1TSP/11/003
6.	Please Clarify 66KV Voltage Transformer type- Capacitive or Inductive?	Inductive. Refer to standards document No. KP1/3CB/TSP/10/009-1
7.	Please Confirm the type of insulator required for all the products-Porcelain/ Polymeric.	Composite/polymeric type specified in the GTPs applies for the line works. However, specialized equipment like Circuit breakers, CTs, VTs, etc. shall have porcelain insulator casings.
8.	As per the core details provided in detailed specifications-66 & 11KV CTs required for feeder circuit of Class 5P20/Px, Please clarify if dual protection class is required?	Dual Protection class is not implied, Please refer to Section 4.1.1.3.1, Current transformers specifications and Standards document No1. KP1/3CB/TSP/10/007
9.	The evaluation criteria says 2 projects each of ksh 450million or one project of Ksh 900m. Is it same for the Lot 1 substation and lines and Lot 2 66kv Lines . Please clarify	For the Line: 2 projects each of ksh 180 million or one project of Ksh 360m. For the substation: 2 projects each of ksh 180 million or one project of Ksh 360m. Refer to amendment No.2
10.	The specific experience ii says 33/11/66kv lines of 200km. is this qualification for both Lots to comply. Please clarify	This is for Lot 2 – 66kV line scope
11.	Section 4.2- Substation and lines scope of works-4.2.5 and 4.2.6 is not applicable .Please clarify	The referenced clauses, 4.2.5 (MV Power Cables from

No.	Bidder Query/ comment	KPLC Response
		Power Transformer to 11kV indoor Switchgear)and 4.2.6 (MV Power Cables from Indoor Switchgear to line termination tower) are applicable. However, in principle if any item is specified as "not applicable" the implication is, it is NOT in the scope.
12.	For LOT 2 66kv lines tender the GTP to be filled is for respective conductor sheet only. Others are not applicable	For Lot 2, all the relevant sheets under the GTPs shall be filled. These include: Schedule 1: Guaranteed Technical Particular - phase conductor. Schedule 6A: Guaranteed Technical Particulars for composite insulators (66 kV tension and suspension). Schedule 6B: Guaranteed Technical Particulars for composite 66kV post insulators (vertical and horizontal). Schedule 10: Guaranteed Technical Particulars for concrete poles. Schedule 20: Guaranteed Technical Particulars for OPGW.
13.	As per this bid document the specification given under Technical specification folder only applies. As said in GTP there is no other specification which has an annex and not to be used. Please confirm	Confirmed as described in SECTION VI- 4.3, clauses 4.3.3 and 4.3.4.
14.	Being an EPC contract, schedule 1 materials from abroad plays major part in the contract value. Without foreign currency given, we need to have price adjustment weightage for the contract to be part of the bid. bidder should be able to submit for LME on materials and Exchange rate pegged 30days from date of tender submission date	No price adjustment weightage is allowed in the issued tender documents.
15.	In view of above and after Christmas holidays to get all manufacturer documents, we need extension of time for another 2 weeks from deadline date	Refer to addendum No.1

No.	Bidder Query/ comment	KPLC Response
16.	There is no format given in forms for Manufacturer authorization and manufacturer warranty in the bid as said in TDS	Refer to addendum No.2
17.	In addition to above series of requests done , we find in Lot 1 Sch 1 below. The sentence is not complete. Unit is reading Pc . Secondly there is no item for control cables. Please clarify. LOT1-130 | 2.5mm² stranded wire armoured flexible multicore copper cables for | pc | 1	2.5mm² stranded wire armoured flexible multicore copper cables for signal, command and measurement. Refer to revised price schedules 1 & 2 In addendum No.2
18.	Kindly consider to amend requirement under Qualification criteria 3.3.5.3 sub item 4 Lines construction as at least 40% of 90 KM for 33 KV and above in the last 8 year (The value to be a % age of the scope of works)	The criteria remains as specified in the issued tender document
19.	In consideration to the duration of Covid and little activities in the last 5 years, in the last 1 year there is vibrant bidding to result in works. Could 3.4.3 iii be amended to best 3 years of the last 10 years. This approach has been adopted in last recent tenders. i.e amend ITT 18a to be 5 of the best years in the last 10 years	Refer to addendum No.1
20.	On the line BOQ. The design is envisaged to be done by the contractor during the contract period and there is not expectation that a bidder can do a detailed design for purpose of bidding. Could KPLC provide tentative BOQ break done in No and size of poles and Construction units. The successful contractor will then arrive at final contract after design. E.g. If KPLC want average span of 80 m, it can be treated as 1125 Poles , angles, sections, Inter, H Pole, 3 Pole structure, Stays . Important in to include all possible construction units. KPLC being the network owner can easily extract guide quantities based on the existing as built as a reference for extrapolation	Being a turn-key tender (EPC), this is the responsibility of the bidder.
21.	3.3.5.3 could the experience be within the last 15 years instead of limiting to last 8 years	This remains as per the issued tender document
22.	ITT 34 currency is in KES only. The last 1 year has seen unprecedented change in the exchange rate stability e.g. USD Changing from about 115 KES to 157 KES. This makes it unpredictable even of the banks to give a guide. In this regard we request imported item to be prices in foreign currency which is what the foreign venders will accept. Alternatively, a base exchange rate is provided for bidding (on imported item) and a formular for adjustment included in the pricing. Kindly also take into consideration the taxes for imported goods are charged at the exchange rate of the day	This remains as per the issued tender document
23.	Kindly provide specifications for the major items including the 10MVA 66/11KV Power transformers	Refer to addendum No.2
24.	Kindly consider a 4-week extension to enable bidders submit sound and complete bids	Refer to addendum No.1
25.	Please note that Manufacturer's Authorization and warranty forms have not been provided	Refer to addendum No.2
26.	We request you to share the KPLC Standard Technical Specifications for the major equipment	Refer to addendum No.2
27.	We request that you to share the MAF Format for our use	Refer to addendum No.2
28.	<u>Battery Charger</u> I. Advise on the Output Current for DC charger	Dimensioning of the batteries and the

<table>
<tr><th>No.</th><th>Bidder Query/ comment</th><th>KPLC Response</th></tr>
<tr><td></td><td>II. Advise on Load Current for DC charger</td><td>chargers is done by the bidder.</td></tr>
<tr><td>29.</td><td><u>10MVA Power Transformer</u>
a. After checking the technical documents, the specifications states that the transformer might be forced cooling but there is no ONAF details needed in the datasheet. Please confirm.
b. Impedance details is given for distribution & auxiliary transformers. Please confirm what is the impedance of 10 MVA and what is the tolerance of impedance?
c. The Vector group of power transformers is not specified. The specified vector group for distribution & auxiliary transformers as Dyn11(Clause 4.1.3.3). Should we consider Dyn11?
d. Please confirm the colour to be painted on the Transformer</td><td>For full technical specs, please refer to the attached KPLC Technical Standards document No. KP1/13CB/4/1/TSP/10/050</td></tr>
<tr><td>30.</td><td><table>
<tr><th><u>Item</u></th><th><u>Document Reference</u></th><th><u>Description</u></th><th><u>Remarks</u></th></tr>
<tr><td rowspan="2">66KV Circuit Breaker</td><td>SCHEDULE 2: GUARANTEED TECHNICAL PARTICULARS – 66KV OUTDOOR CIRCUIT BREAKERS</td><td>9. Tank design type (Dead type)</td><td>a) Please clarify is 72.5KV Dead Tank Breaker (DTB) required. As in detailed specifications the details about DTB are not mentioned.</td></tr>
<tr><td>4.1.1.2.2 Circuit Breakers</td><td>Bushing Material</td><td>b) Please clarify is Breaker required with Porcelain Insulator/Polymeric Insulation.</td></tr>
<tr><td>11KV Circuit Breaker</td><td>4.1.1.2.2 Circuit Breakers</td><td>Bushing Material</td><td>c) Please clarify is Breaker required with Porcelain Insulator/Polymeric Insulation.</td></tr>
</table></td><td>a) Refer to Amendment 2: GTPs, SECTION VI-4.3, SCHEDULE 2, item No.9
b) Porcelain
c) Porcelain</td></tr>
</table>

No.	Bidder Query/ comment				KPLC Response
31.	66KV Current Transformer & 11KV Current Transformer	4.1.1.8.9 Measuring Transformers / 4.1.1.8.9.1 Current Transformers	All current transformers shall have bar primaries and shall be resin encapsulated and generally comply with IEC 60044.	a) Please clarify, can we offer 66KV & 11KV Live Tank Outdoor Oil Filled CT?	a) Confirmed: 66kV & 11kV CTs shall be Live tank. b) Confirmed as per clause 4.1.1.8.9.1 c) Refer to standard document No. KP1/13D/4/1/TSP/10/005 d) Refer to standard document Nos. KP1/13D/4/1/TSP/10/005 & KP1/3CB/TSP/10/007 e) Yes, CT shall be live tank.
		4.1.1.8.9 Measuring Transformers / 4.1.1.8.9.1 Current Transformers	Feeder circuits shall be equipped with a current transformer on three phases with four cores	b) Please Clarify this requirement for 66KV CT	
		4.1.1.8.9 Measuring Transformers / 4.1.1.8.9.1 Current Transformers	For Distance protection, not less than 10 VA, Class 5P20/Px	c) Please clarify is dual protection class required? Please share PX class details	
		4.1.1.8.9 Measuring Transformers / 4.1.1.8.9.1 Current Transformers	Core Details	d) The CT ratios mentioned in this section are not clear. Please Share the CTs ratio & core wise details of 66KV & 11KV Current Transformer.	
		SCHEDULE 4: GUARANTEED TECHNICAL PARTICULAR – 66 KV OUTDOOR CURRENT TRANSFORMERS	8. Current transformer tank design type (Dead tank)	e) Please Confirm if live tank CTs are accepted. In detailed specifications details about dead tank CT is not mentioned.	
32.	66KV & 11KV Voltage Transformer	SCHEDULE 5: GUARANTEES TECHNICAL PARTICULARS – 66 KV OUTDOOR VOLTAGE TRANSFORMERS	Type of VT	a) Please clarify, can we offer 66KV Inductive	a) Inductive b) Refer to KPLC document Nos. KP1/3CB/TSP/10/009-1 & KP1/3CB/TSP/10/011

No.	Bidder Query/ comment	KPLC Response
	Voltage Transformer/ Capacitive Voltage Transformer. 4.1.1.8.9.2 Voltage Transformers — The transformer shall be resin encapsulated of the electromagnetic type. — b) Please Clarify this requirement? c) Please Confirm Can we offer 66KV & 11KV Inductive Voltage Transformer.	c) Yes. Refer to attached KPLC standard technical document number: KP1/3CB/TSP/10/009-1
33.	a) After checking the technical documents, the specifications states that the transformer might be forced cooling but there is no ONAF details needed in the datasheet. Please confirm . b) Impedance details is given for distribution & auxiliary transformers. So, what is the impedance of 10 MVA and what is the tolerance of impedance? (We can our suppliers follow IEC standards too, we need your confirmation.) c) The Vector group of power transformers is not specified. The specified vector group for distribution & auxiliary transformers as Dyn11(Clause 4.1.3.3) . Should we our suppliers consider Dyn11? d) Transformer will be painted RAL 7033, C3-M. Please clarify	a) The Tx shall be ONAN b) Refer to standard specification document addendum No.2 c) Vector group is Dyn11 d) The colour will be approved by the project manager during the design stage.
34.	a) In the price schedule, there is no item for the stone perimeter wall as described in the substation civil works. The price schedule only mentions Chain link for the HV Switchyard Substation, Guard house & Toilet and Access roads in concrete (Cabro) blocks inside the Substation under item LOT1-410. Kindly clarify since in the particular technical specifications- substations civil works there is a requirement for stone boundary way/ perimeter Fence for 3 acres of land. On	a) There shall be NO stone wall fence – only the chain link fence. PARTICULAR SPECIFICATION CIVIL WORKS, Clause 4.1.4.2.1 Type of Works, fifth

No.	Bidder Query/ comment	KPLC Response
	site there's an existing chain-link on the 3-acre land- confirm that the chain-link will be replaced with a stone perimeter wall b) Item LOT1-403 - Control /Switchgear building (minimum floor area of 120m2) In the description of the control building: Switchgear room that can accommodate 8nos. indoor MV(11kV) Switchgear/ switchboard plus a space that would accommodate 5 (Five) more feeder panels in the future. Kindly confirm that these indoor MV (11kV) Switchgear/ switchboard is referring to incomer and feeder control panels since the switchgear is outdoor as per price schedule items LOT1-214 & LOT1-215 refer to outdoor circuit breakers. Or is the space for indoor switchgear for future use? c) Minimum area for the Control building is given as 315 square meters in particular technical specifications- substations civil works and 120 square meters in the price schedule. Kindly clarify the required minimum floor area. d) In the control building design, kindly confirm that 2no. Office room and 2no. Communication equipment room are required.	bullet (Stone boundary way/ perimeter Fence for 3 acres of land)is removed – Refer to amendment No.1 b) Under Section 4.1.4.2.2 SWITCHGEAR/ CONTROL BUILDING, first bullet (Switchgear room that can accommodate 8nos. indoor MV(11kV) Switchgear/ switchboard plus a space that would accommodate 5 (Five) more feeder panels in the future) shall be deleted – Refer to Amendment No.1 c) Minimum area shall be 120 square meters as indicated in the price schedule. Under Section 4.1.4.2.2 SWITCHGEAR/ CONTROL BUILDING Fourteenth Bullet shall read: Minimum area for the Control building shall be minimum 120 square meters Refer

<table>
<tr><th>No.</th><th>Bidder Query/ comment</th><th>KPLC Response</th></tr>
<tr><td></td><td></td><td>to addendum No.2
d) 2 No. shall be replaced with 1No for both office and telecom equipment rooms. Refer to addendum No.2</td></tr>
<tr><td>35.</td><td>
<table>
<tr><th>Clause</th><th>Scope</th><th>Comment/clarification</th></tr>
<tr><td>4.2.2.2 (I & J)</td><td>Scope of works - Feeder</td><td>It is indicated Line protection and Control Panels to be on separate panels, while on BOQ it is shown as one Panel with Protection and Control Functionalities</td></tr>
<tr><td></td><td></td><td>On item J (a) it is SEF is required on a separate relay. Confirm if this is the case since as per Clause 4.1.2 6.2.1 of Particular specification this Function should be part of BCPU Relay</td></tr>
<tr><td>4.2.2.3</td><td>Scope of works - Bus Bar Bay</td><td>Confirm if Busbar protection is required. It is not Captured in the BOQ</td></tr>
<tr><td>4.1.2.6.2.1</td><td>Particular specifications - 66KV Line protection</td><td>Only distance protection is required while in SOW 4.2.2.2 - Distance and Line Differential are required - Clarify</td></tr>
<tr><td></td><td></td><td>No separate Bay control unit is required (BCPU is requested) for the Line Bay while as per SOW a separate bay control unit is requested. Kindly Clarify</td></tr>
<tr><td>4.1.2.1.4</td><td>SAS</td><td>Station HMI is not required. Kindly Confirm</td></tr>
</table>
</td><td>The bidder can offer either one Protection & Control panel, OR two separate Protection and Control panels as long as the full Protection and Control functionality is fulfilled. However, single panel is preferred to save on floor space
Only distance protection is required. SEF shall be on BPCU. For the 66kV Line Protection, just like the other bays, we shall have the relay and BPCU.
Station HMI is NOT required.</td></tr>
<tr><td>36.</td><td>Also Could you please also share the full extended warranty clause corresponding to this tender?</td><td>Question not clear, but The Defects Liability Period is specified: 12 months from the date of issuance of operational and acceptance certification.</td></tr>
<tr><td>37.</td><td>
<table>
<tr><td></td><td>Spares for Telecommunications equipment (Cards of each type, patch cords AND 4 Nos l20km SDH SFP modules, 4Nos 80km SDH SFP modules, 4Nos 60km SDH SFP modules & 4Nos 80km GBE SFP modules)</td><td>Set</td><td>1</td></tr>
</table>
Price schedule under spares as said above mainly the cards only given.</td><td>The missing Telecommunication system item is included in the revised price schedules. Refer to revised price schedules 1 & 2
Refer to addendum No.2</td></tr>
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<tr><th>No.</th><th>Bidder Query/ comment</th><th>KPLC Response</th></tr>
<tr><td></td><td>But in scope of works it says under 4.2 that at lodwar telecom to be done and there is no item in price schedule for Telecom panel. Kindly clarify</td><td></td></tr>
<tr><td>38.</td><td>
<table>
<tr><th>Clause</th><th>Scope</th><th>Comment/clarification</th></tr>
<tr><td>4.2.2.2 (I & J)</td><td>Scope of works - Feeder</td><td>It is indicated Line protection and Control Panels to be on separate panels, while on BOQ it is shown as one Panel with Protection and Control Functionalities</td></tr>
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<tr><td>4.1.2.6.2.1</td><td>Particular specifications - 66KV Line protection</td><td>Only distance protection is required while in SOW 4.2.2.2 - Distance and Line Differential are required - Clarify</td></tr>
<tr><td></td><td></td><td>No separate Bay control unit is required (BCPU is requested) for the Line Bay while as per SOW a separate bay control unit is requested. Clarify</td></tr>
<tr><td>4.1.2.1.4</td><td>SAS</td><td>station HMI is not required. Confirm</td></tr>
</table>
</td><td>- SEF function shall be integrated in the BCPU
- SAS: Confirmed, Station HMI is NOT required.
All the other issues are clarified above.</td></tr>
<tr><td>39.</td><td><u>Sub: Request for Clarifications</u>

We kindly request clarification on the following issue:

The tender specifically defines the currency for the tender as . We would like to reiterate that not all materials especially for Kenya.

We also note the volatility of exchange rate of KES shilling a States Dollar) and EUR (EURO) to have an upward trend for

Our request is that for all materials that can't be locally availa clear definition of such materials.

This in effect will protect both the contractor and the employe aggrieved in future for either week or stronger shilling.

We know that this will be considered and will be acceptable.</td><td>The currency is as per the issued tender documents.</td></tr>
<tr><td>40.</td><td><u>Sub: Request for Clarifications</u>

We kindly request clarification on the following issue:

There are discrepancies between the bills of materials and single line drawing provided in the tender

1. LDW-103: 66kV Motorized Isolator with Earth Switch

2.LDW-109 66kV Surge Arresters

3.LDW-106 66kV Voltage Transformers

4. LDW-118 11kV Motorized Isolator with Earth Switch

5.LDW-124 Auxiliary Transformers</td><td>1. LDW-103: 66kV Motorized isolator with E/Switch is one (1). Refer to addendum No.1
2. LDW-109: 66kV SDs are six in both the SLD and BoQ (3 units per Tx).
3. LDW-105: 66kV Bus bar Voltage Transformers – BoQ is correct - One set – SLD should show one set.</td></tr>
</table>

No.	Bidder Query/ comment	KPLC Response
		4. LDW-118: 11kV motorized Isolator with Earth switch – 8 for the 8 feeders' line isolators 5. LDW-124: Auxiliary transformer 100kVA 11/0.415kV, with HV expulsion fuse, surge arrestors and LV fuse Cut outs protection system: SLD prevails – they are two. Refer to addendum No.2

Yours faithfully,
For: KENYA POWER & LIGHTING COMPANY LIMITED.

DR JOHN NGENO,OGW
GENERAL MANAGER SUPPLY CHAIN & LOGISTICS