Kenya Power

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***Our Ref:*** *KP1/9AA-3/OT/02/16-17/mm* *2nd September, 2016*

M/s ----------

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**RE: ADDENDUM NO. 3 TO THE TENDER NO. KP1/9AA-3/OT/02/16-17 FOR SUPPLY OF METERS**

The following clarifications and amendments are made to the Principal Tender Document *(hereinafter abbreviated as the PTD)* for the Supply of Meters the dated August , 2016.

## 1. RELATIONSHIP WITH THE PRINCIPAL TENDER DOCUMENT

Save where expressly amended by the terms of this Addendum, the PTD shall continue to be in full force and effect. The provisions of this Addendum shall be deemed to have been incorporated in and shall be read and construed as part of the PTD.

## 2. PART B- DETAILED TECHNICAL SPECIFICATIONS (DTS)

The missing page 14 of 29 is now attached.

## 3. APPENDIX TO INSTRUCTIONS TO TENDERES

Item No. 10 of the appendix to instructions to tenderers has been clarified as follows:

| No. | ITT Reference Clause | Particulars of Appendix | Quantity in Pcs | Bid Security |
|---|---|---|---|---|
| 10. | 3.18.1 Tender Security | Tender Security shall be as indicated in Kenya Shillings or equivalent in United States Dollars (USD) using the selling exchange rate ruling on opening date as provided by the Central Bank of Kenya (see Central Bank of Kenya website-ww.centralbank.go.ke) | 232,200 | 4,600,000 |
| | | | 180,600 | 3,600,000 |
| | | | 103,200 | 2,000,000 |

4. **CLARIFICATION HAS BEEN SOUGHT AS SHOWN BELOW:**

**CLARIFICATIONS TO BIDDERS**

1. Section 4.2.1.6 - Is it possible to offer the meter with a cover open switch instead of ultrasonic welding of the meter case? Is it possible to disconnect the relay once opening is made? We strongly recommend this option. Please let us know if this is a better option for KPLC.

   **KPLC Response**

   **The meter shall be ultrasonically sealed for life as indicated in the specifications. The option suggested could be considered in future.**

2. Can KPLC provide detailed information about which PLC it requires?

   **KPLC Response**

   **Please refer to Clauses 4.2.1.23 & 4.2.1.24 of the specifications**

3. Does the meter load limit disconnect is dependent also on Frequency and voltage changes?

   **KPLC Response**

   **Depends on voltage changes as per clause 4.3.2**

4. Will KPLC perform attest for the 100m PLC distance between the Keypad and the Meter? What level limit is considered a success (in %)

   **KPLC Response**

   **Yes KPLC will perform a test of the communication distance.**

   **Level of Success should be 100%**

5. Section 4.2.1.24 – Is it possible to provide any other open protocol except DLMS/COSEM?

   **KPLC Response**

   **Provide DLMS/COSEM open protocol**

6. Section 4.2.1.11- on 3P BS Meter: Is it possible to provide a meter with long cover at the dimensions of up to 290mm this will allow to cover the terminal connections) can the width of the meter extended to up to 85mm(this due to an option to include in the future larger relay of160A instead of 100A).

   **KPLC Response**

   **The dimensions of the meter to be as per the specifications.**

   Is it possible to offer BS meter instead of the 1P Din rail meter. We think it will be an advantage for KPLC and allow KPLC to install in the customer premises instead on the pole. By this gain the responsibility and liability of the customer for the meter.

**KPLC Response**

**A Din rail meter of the specified dimensions shall be provided**

7. Should the meter communication be modular and integrated inside the meter, in order to support the option to replace the meter's modem without opening the meter case, and without breaking the seals of the meter cover, nor the terminal cover?

   **KPLC Response**

   **The meter communication should be modular and integrated inside the meter.**

8. Should this replacement be possible while power is applied to the meter?

   **KPLC Response**

   **This is not applicable since the module is integrated.**

9. Should the meter have a super cap and battery, in order to support prolonged meter uptime (without power) and lifetime of 25years or more?

   **KPLC Response**

   **This is not necessary. The meter should have non-volatile memory for the billing register.**

10. Should the keypad beep when the balance in the meter reach a limit? This is to, if credit is too low, warn the customer

    **KPLC Response**

    **Yes - see clause 4.2.2.2.17**

11. Does the meter terminal cover need to be transparent?

    **KPLC Response**

    **Yes, the terminal cover shall be transparent**

12. In the event that the communication module is removed or damaged, should the meter be configurable to disconnect the load automatically and display an indication on the meter display and keep this event in the meter memory?

    **KPLC Response**

    **The meter should not be disconnected due to communication failure see clause 4.2.2.1.9**

13.1 Even in the event that the customer returns the communication module, should the meter load remain disconnected?

    **KPLC Response**

    **The meter should not disconnect See clause 4.2.2.1.9**

13. Is neutral measurement required in the required in the three phase meters, the same as the single phase meters for tamper detection.

**KPLC Response**

**This tender is for single phase meters.**

14. Should there not be any calibration pins in the terminal block, as it opens the way to tamper the meter by changing the calibration tables in the meter?

**KPLC Response**

**The meters are calibrated at the factory during manufacturing hence there is no need of site calibration.**

**For Addendum NO.1:**

15. **Clause 3.** Amendment to section IV schedule of requirements

Question 1: This tender will be divided into 3 lots, shall the bidder bid for three Lots together or could only bid one Lot? How should the bidder open the bid security? If each party could only bid one Lot, then what is the amount of money of bid security for each Lot?

**KPLC Response**

**Please refer to clarification on and No.3**

**Clause 4.** APPENDIX TO INSTRUCTIONS TO TENDERES,

No.11 Clause 3.34.2 Award of Contract

**Original description:** If the price difference in between lot 1 and the other lots is more than 2.5% then the quantities shall be re-tendered.

Question 2: please kindly clarify this sentence, especially how to understand the 2.5% price difference and re-tendered.

**KPLC Response**

**The price difference between the lowest evaluated bidder , 2nd and 3rd lowest bidders should not exceed 2.5% of the value.**

16. For the latest Technical specification (KP1/10A.2B/3/3/01, issue NO. 2, Revision 4): Clause 4.2.1.24 & 4.2.1.25:

**Original description:** The PLC shall comply with IEEE1901.2 using OFDM modulation at frequency band up to 500KHz (G3/PRIME), & The meter shall be compliant to DLMS/COSEM protocol.

Question 3: Now this tender is divided into three lots, and each manufacturer can only be awarded one lot, thus the unity of PLC and communication protocol will be very important for KPLC to better manage the future smart meters. It will help KPLC to reduce management on different MDMS/AMI systems. But different manufacturers have different development on the DLMS/COSEM protocol, we strongly suggest KPLC to provide the defined DLMS communication specification and the list of data objects to unify all the meters from different manufacturers. Without the defined DLMS communication specification and the detailed list of data objects, the meters from different manufacturers will not communicate freely with the system.

**KPLC Response**

**The samples submitted with this tender shall be compliant with DLMS/ COSEM open protocol as specified. The successful bidder will be given the final unified detailed requirements by KPLC on DLMS communication specification and data objects definition and tested on compatibility before approval for production.**

17. Clause 4.2.1.5 & 4.2.1.6 & 4.2.1.12 for terminal holes arrangement:

    **Original description:** The dimension from the terminal holes to the meter base shall not exceed 20mm.

    Question 4: Now the required width is 60mm maximum, and it also requires that the terminal holes to the meter base shall not exceed 20mm. In order to meet the width request, the terminal holes have to be arranged into two rows, but if so, the two terminal holes in the upper row cannot meet the 20mm distance requirements. Please kindly clarify the 20mm request will be only applied to the bottom two terminal holes. Also please kindly make it clear what will be the terminal connection diagram.

    **KPLC Response**

    **The 20mm is for bottom terminal holes.**
    **Connection is specified in clause 4.5.1.5**

18. **Clause 4.2.1.7**

    **Original description:** The MCU body shall be ultrasonically sealed for life and there should be no screws on the MCU body except for the termination of cables.

    **MCU shall be sealed for life with no visible screws. The terminal cover shall have a sealable screw.**
    Thus, we think here KPLC need to make the modification accordingly:

    **KPLC Response**

    **The response remains – the MCU shall be ultrasonically sealed with no screws on the body except for the termination of cables.**

19. **4.2.1.7** The MCU body shall be ultrasonically sealed for life and there should be no screws on the MCU body except for the termination of cables, also the terminal cover shall have a sealable screw.

    **Clause 4.2.1.13**
    **Original description:** The meter's terminal screw inserts shall be sealable with utility wire seals.

    PROPOSAL
    **"Terminal screw inserts" to be replaced with "terminal cover screw"**

    **Thus, we think here KPLC need to make the modification accordingly.**

    **KPLC Response**

    **Earlier response in addendum 1 applies**

20. **4.2.1.13:** The meter's terminal cover screw inserts shall be sealable with utility wire seals.

**Also we'd like to make below recommendation, aiming to provide a better anti-tamper feature, and better protect the meter from internal high temperature damage:**

**Recommendation 1: Meter box open detection function**

It is observed that many tampers are done on the meter after installation. The DIN rail mounted meters could be well sealed in the meter box, but it is still difficult to stop people opening the meter box and tamper the meter. As now the latest specification covers the G3/PRIME and DLMS/COSEM requirements for the prepayment meter, and the meters can communicates with the MDMS for real time data, tamper event and frozen data in future, thus, we strongly recommend to add the **meter box open detection** function into this specification to increase the tamper protection of the products and better protect the revenue. The meter can be programmed to switch off the load when the meter box is opened, and send the event registration to the MDMS. Under the condition that several meters be installed in one meter box, the meter can be programmed to trip together or not trip but only send event registration to the MDMS. It will help to reduce the tamper greatly.

The suggested modification is:

**4.2.1.29:** A meter box open detection function need to be provided to better protect the meters from tampering.

**Recommendation 2: Terminal temperature detection function**

The correct operation during the installation of meter is very important, otherwise it can bring damage to the meter itself, especially when the terminal screws are not tightened, the terminal and the cable will generate lots of heat, then melt the meter case and damage the meter, this will cause not only the loss of KPLC property, also it will be a big risk for all Customers. A terminal temperature detection function can help greatly to reduce this potential risk, the meter will switch off when detect abnormal temperature of the terminal, and send event registration to the MDMS. We recommend adding the terminal temperature detection feature into the requirement of this meter.
The suggested modification is:

**4.2.1.30:** Terminal temperature detection function needs to be provided to protect meter from burning caused by abnormal heating. The meter shall trip when detects abnormal terminal temperature. The temperature threshold shall be programmable.

**KPLC Response**
**Thank you for the recommendations. They will be assessed for consideration in future**

21. **Clause 4.2.1.23,**

KPLC requires 97% success rate using real time.

Since KPLC didn't provide the Develop Kit for R&D, and KPLC didn't specify the protocol between MDMS and DCU. There is no way for the manufacturer to test the communication. And the tender didn't require DCU samples, how KPLC test the communication between meter, DCU and MDMS? We kindly request KPLC open the MDMS protocol to public for communication test purpose.

**KPLC Response:-**

**The bidder shall give evidence of projects implemented using similar meters where the reading success rate is as indicated. The meters shall comply to DLMS/COSEM open protocol.**

22. **Clause 4.2.1.24**

    KPLC requires OFDM modulation PLC at frequency band up to 500KHZ. Please kindly clarify how KPLC identify if the PLC is OFDM module and how to test the frequency band up to 500KHZ?

    **KPLC Response**

    **The PLC module provided will have to integrate with existing DCU on narrow band.**

23. In the latest specifications, it mentioned "The PLC shall comply with IEEE1901.2 using OFDM modulation at the frequency band up to 500 KHz (G3/PRIME)" To verify this figure, what information/documentation is necessary for us to provide? Please clarify.

    **KPLC Response**

    **See Number 23 above**

24. About the OFDM, in your first clarify, you said, it's for reference. In this new specs, OFDM is still for reference or it's a serious change of mind the specification of PLC. Please clarify.

    **KPLC Response**

    **The PLC shall comply with the specification as required**

25. 4.5.12 (c) "The meters shall be interoperable with the existing Smart metering Management system". The existing Smart metering management system, I heard, there are 2 smart meter pilots already there, and 1 more is coming. Please clarify with one we need to target? To interoperate, do you mean put our meter under the existing data concentrator or put both our meter and concentrator under the existing system?

    We would like Kenya Power give more information about the system which we need to interoperable with?

    **KPLC Response**

    **Please see response number 22**

26. Annex A: Summary of technical data: Light emitting Diode (LED): Rate of consumption indicator (pulse rate proportional to current rate of consumption). The LED here, it's a LED on the UIU or it's same LED on the same LED on the MCU, please clarify.

    **KPLC Response**

    **LED shall be on both CIU and MCU as indicated**

4. **CHANGE OF CLOSING DATE**

The closing date has been changed from **13th September, 2016 to 21st September, 2016 at 10.00 am.**

All other terms and conditions remain as per the Principal Tender Document (PTD).

Yours faithfully,
**FOR: THE KENYA POWER & LIGHTING COMPANY LIMITED**

**BERNARD NGUGI**
**GENERAL MANAGER SUPPLY CHAIN**