Kenya Power

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

Our Ref: KP1/6E.3/PT/2/18/A65 – A66 **5th July 2018**

Dear Sir/ Madam:

CLARIFICATION No. 7 OF BIDDING DOCUMENT FOR IPC NO: KP1/6E.3/PT/2/18/A65 and KP1/6E.3/PT/3/18/A66 PROCUREMENT OF SINGLE PHASE PRE-PAID METERS AND MINIATURE CIRCUIT BREAKERS FOR THE LAST MILE CONNECTIVITY PROJECT ISSUED ON TUESDAY, 24TH APRIL 2018

The following responses are made to clarifications sought on various issues in the Bidding Document for Procurement of single phase pre-paid Meters and Miniature Circuit Breakers for the Last Mile Connectivity Project.

No.	Bidder's Query	Client's Response/Clarification/Answer
1	Amendment No.3, 4.2.1.4 and 4.2.1.13, Reissued MCB Specification **Description:** 4.2.1.4 The MCB is to be used in a single- or **three-phase supply network**, with a phase and neutral wire (L-N), configuration. 4.2.1.13 No. of Poles: 230V (1-Ph): 1P+N; 400V (3-Ph): 3P+N **Question 1:** Are both single phase and three phase MCB needed? If positive, what is the quantity for them respectively?	The MCBs shall be single phase as per Section VII – Schedule of requirements, No. 3 – Technical Specification (3.2).
2	Amendment No.3, 4.1 e), Reissued MCB Specification **Description:** 4.1 e) Pollution (IEC 60947-1)-Very Heavy: **Class IV** **Question 2:** Pollution Class IV is a very high requirement which will increase the cost to a great deal. According to	The application of the MCBs shall be outdoor on top of the poles and exposed to all environmental conditions and pollution levels. The suppliers shall fully comply with the requirements of the specifications

No.	Bidder's Query	Client's Response/Clarification/Answer
	IEC standards 60947-1 and 60664-1, pollution degree recommended for industrial use is III. According to IEC60898-1, the pollution degree recommended is II. We would like to confirm whether Class III under 60947-1 is enough for this product.	
3	Amendment No.3, 4.2.1.13 and 4.2.4.2, Reissued MCB Specification **Description:** 4.2.1.13 Degree of protection: **IP55** 4.2.4.2 The MCB shall not deform when kept in air maintained at 60°C for one hour. It shall afford protection to IEC 60529 for **at least IP55, except for access associated with cable entry and fixing screws**. **Question 3:** Due to the cable entry points and the screw terminals on the MCB, IP55 can not be realized unless it is mounted inside an enclosure. So may I take Sub-Clause 4.2.4.2 as that IP20 for MCB as an individual whole is required according to IEC60898 and IP55 for MCB installed in an enclosure is required?	The MCB itself shall conform to protection class IP55. The application of the MCBs shall be outdoor on top of the poles and exposed to all environmental conditions. The suppliers shall fully comply with the requirements of the specifications
4	Amendment No.3, 4.2.1.13, Reissued MCB Specification **Description:** Power frequency withstand voltage: 4kVrms **Question 4:** According to IEC 60947, the power frequency withstand voltage is 2.5 kV and according to IEC 60898, the power frequency withstand voltage is 2 kV. Per our enquiry to the manufactures across the world, there are only two certain European companies could meet this. The stringent power frequency withstand voltage of 4kV, will exclude a lot of competitive suppliers from home and abroad. We thus request your kind consideration to reduce the requirement to the normal level.	The MCB requirement on power frequency withstand voltage is informed by KPLC system characteristics. The suppliers shall fully comply with the requirements of the specifications.
5	Amendment No.3, 4.2.8.1 and 4.2.8.2, Reissued MCB Specification **Description:** The terminals shall be concealed to discourage any attempts of tampering, and to reveal acts of bypassing of the device through external wiring. A proven design of external sealing shall be used for this purpose; and shall form part of the device. A provision for terminal cover sealing shall be made. **Question 5:** The MCB is a device for overload and overcurrent protection. The anti-tamper function can be fully realized by the metering devices connected to the	Refer to in Clarification No 6 Item 9 and amendment No. 4

<table>
<tr><th>No.</th><th>Bidder's Query</th><th>Client's Response/Clarification/Answer</th></tr>
<tr><td></td><td>MCB. In this case, is the special design requirement for MCB terminal cover and sealing required?</td><td></td></tr>
<tr><td>6</td><td>In the part of 4.2.1.13, MCB's degree of protection is IP 55. Normaly the requirements is IP20.
To satisfy this requirement, the handle needs to be covered, but the MCB can not function with its handle covered.
Please confirm if the IP 55 is for MCB or the cabinet?
4.2.1.13 Technical parameters of the MCB shall be as per table 1 below
Table 1: Technical Parameters of MCB
<table>
<tr><td>Parameter Description</td><td>Unit</td><td colspan="3">Value</td></tr>
<tr><td>Rated Voltage</td><td>V</td><td colspan="3">230/400</td></tr>
<tr><td>Rated current</td><td>A</td><td colspan="3">6,10,16,20,32,40, 63</td></tr>
<tr><td>Power frequency withstand Voltage</td><td>kVrms</td><td colspan="3">4</td></tr>
<tr><td>Impulse withstand Voltage</td><td>kVpk</td><td colspan="3">6</td></tr>
<tr><td>No. of poles</td><td></td><td colspan="2">230V (1-Ph)
1P+N</td><td>400V (3-Ph)
3P+N</td></tr>
<tr><td>Tripping Characteristic type</td><td></td><td>Type B</td><td>Type C</td><td>Type D</td></tr>
<tr><td>Instantaneous Tripping range according to IEC/EN 60898-1</td><td></td><td>3-5x I_n</td><td>5-10x I_n</td><td>10-20xI_n In</td></tr>
<tr><td>Rated breaking capacity</td><td>kA</td><td>6</td><td>6</td><td>10</td></tr>
<tr><td>Energy Limitation Class</td><td></td><td>3</td><td>3</td><td>3</td></tr>
<tr><td>Mounting</td><td></td><td colspan="3">DIN rail (DIN EN50022)</td></tr>
<tr><td>Mechanical Endurance</td><td>cycles</td><td colspan="3">20,000</td></tr>
<tr><td>Electrical Endurance</td><td>cycles</td><td colspan="3">10,000</td></tr>
<tr><td>Conductor Size</td><td>mm²</td><td colspan="3">Up to 25</td></tr>
<tr><td>Degree of protection</td><td>IP</td><td colspan="3">55</td></tr>
</table></td><td>The MCB itself shall conform to protection class IP55. The application of the MCBs shall be outdoor on top of the poles and exposed to all environmental conditions. The suppliers shall fully comply with the requirements of the specifications</td></tr>
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Yours faithfully,
For: KENYA POWER & LIGHTING COMPANY LIMITED.

DANIEL MUGA
Ag. GENERAL MANAGER – SUPPLY CHAIN