



## **BIDDING DOCUMENT**

**for**

# **Procurement of Single Phase Pre-Paid Meters and Miniature Circuit Breakers for the Last Mile Connectivity Project (EIB)**

- 1. SUPPLY OF SINGLE PHASE PRE-PAID METERS**
- 2. SUPPLY OF MINIATURE CIRCUIT BREAKERS**

---

**IPC No: KP1/6E.3/OT/1/24/B19**

**Project: KENYA POWER DISTRIBUTION LAST  
MILE CONNECTIVITY PROJECT**

**Purchaser: KENYA POWER & LIGHTING CO. LTD**

**Country: KENYA**

**Issued on: *9<sup>th</sup> October, 2024***

---

# Table of Contents

<b>PART 1 – BIDDING PROCEDURES</b> .....	<b>1</b>
SECTION I. INSTRUCTIONS TO BIDDERS .....	2
SECTION II. BID DATA SHEET (BDS) .....	23
SECTION III. EVALUATION AND QUALIFICATION CRITERIA .....	31
SECTION IV. BIDDING FORMS.....	41
SECTION V. ELIGIBILITY CRITERIA.....	63
SECTION VI. EIB POLICY – ETHICAL CONDUCT .....	64
<b>PART 2 – SUPPLY REQUIREMENTS</b> .....	<b>66</b>
SECTION VII. SCHEDULE OF REQUIREMENTS.....	67
<b>PART 3 - CONTRACT</b> .....	<b>75</b>
SECTION VIII. GENERAL CONDITIONS OF CONTRACT .....	76
SECTION IX. SPECIAL CONDITIONS OF CONTRACT .....	93
SECTION X. CONTRACT FORMS .....	100

# **PART 1 – Bidding Procedures**

# Section I. Instructions to Bidders

## Table of Clauses

1.	SCOPE OF BID .....	3
2.	SOURCE OF FUNDS .....	3
3.	ETHICAL CONDUCT .....	3
4.	ELIGIBLE BIDDERS .....	3
5.	ELIGIBLE GOODS AND RELATED SERVICES .....	5
6.	SECTIONS OF BIDDING DOCUMENTS.....	5
7.	CLARIFICATION OF BIDDING DOCUMENTS.....	6
8.	AMENDMENT OF BIDDING DOCUMENT.....	6
9.	COST OF BIDDING.....	7
10.	LANGUAGE OF BID.....	7
11.	DOCUMENTS COMPRISING THE BID.....	7
12.	BID SUBMISSION FORM, BIDDING FORMS AND COVENANT OF INTEGRITY AND PRICE SCHEDULES.....	8
13.	ALTERNATIVE BIDS.....	8
14.	BID PRICES AND DISCOUNTS.....	8
15.	CURRENCIES OF BID AND PAYMENT .....	10
16.	DOCUMENTS ESTABLISHING THE ELIGIBILITY AND CONFORMITY OF THE GOODS AND RELATED SERVICES.....	10
17.	DOCUMENTS ESTABLISHING THE ELIGIBILITY AND QUALIFICATIONS OF THE BIDDER.....	11
18.	PERIOD OF VALIDITY OF BIDS .....	11
19.	BID SECURITY .....	12
20.	FORMAT AND SIGNING OF BID .....	13
21.	SEALING AND MARKING OF BIDS .....	14
22.	DEADLINE FOR SUBMISSION OF BIDS .....	14
23.	LATE BIDS .....	14
24.	WITHDRAWAL, SUBSTITUTION, AND MODIFICATION OF BIDS .....	14
25.	BID OPENING .....	15
26.	CONFIDENTIALITY .....	16
27.	CLARIFICATION OF BIDS .....	16
28.	DEVIATIONS, RESERVATIONS, AND OMISSIONS.....	16
29.	DETERMINATION OF RESPONSIVENESS .....	17
30.	NONCONFORMITIES, ERRORS AND OMISSIONS.....	17
31.	CORRECTION OF ARITHMETICAL ERRORS .....	18
32.	CONVERSION TO SINGLE CURRENCY .....	18
33.	MARGIN OF PREFERENCE .....	18
34.	EVALUATION OF BIDS .....	18
35.	COMPARISON OF BIDS.....	19
36.	QUALIFICATION OF THE BIDDER.....	20
37.	PURCHASER'S RIGHT TO ACCEPT ANY BID, AND TO REJECT ANY OR ALL BIDS .....	20
38.	AWARD CRITERIA .....	20
39.	PURCHASER'S RIGHT TO VARY QUANTITIES AT TIME OF AWARD .....	20
40.	NOTIFICATION OF AWARD.....	20
41.	SIGNING OF CONTRACT.....	21
42.	PERFORMANCE SECURITY .....	22

# Section I. Instructions to Bidders

## A. General

- 1. Scope of Bid**

    - 1.1 In connection with the Invitation for Bids, **specified in the Bid Data Sheet (BDS)**, the Purchaser, **as specified in the BDS**, issues these Bidding Documents for the Procurement of Goods and Related Services incidental thereto as specified in Section VII, Schedule of Requirements. The name, identification and number of lots (contracts) of this International Procurement Competition (IPC) are **specified in the BDS**.
    - 1.2 Throughout these Bidding Documents:

      - (a) The term “in writing” means communicated in written form (e.g. by mail, e-mail, fax, telex) with proof of receipt;
      - (b) If the context so requires, “singular” means “plural” and vice versa; and
      - (c) “Day” means calendar day.
  - 2. Source of Funds**

    - 2.1 The Purchaser **specified in the BDS** has applied for or received financing (hereinafter called “funds”) from the European Investment Bank (hereinafter called “the EIB”), toward the project named **in BDS**. The Purchaser intends to apply a portion of the funds to eligible payments under the contract for which these Bidding Documents are issued.
  - 3. Ethical Conduct**

    - 3.1 The EIB requires compliance with its policy regarding Ethical Conduct as set forth in Section VI.
    - 3.2 In further pursuance of this policy, Bidders shall permit and shall cause its agents (where declared or not), sub-contractors, sub-consultants, service providers or suppliers and to permit the EIB to inspect all accounts, records and other documents relating to the submission of the application, bid submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the EIB.
  - 4. Eligible Bidders**

    - 4.1 A Bidder may be a firm that is a private entity, a state-owned entity- subject to ITB 4.3- or any combination of such entities in the form of a joint venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the bidding process and, in the event the JV is awarded the Contract, during contract execution.
-

- 4.2 The Bank requires that candidates, tenderers, contractors, suppliers or consultants participating in an award procedure or a contract under a Bank-financed project shall not have a conflict of interest.

**Conflict of interest occurs when the impartial and objective exercise of the functions of the promoter, or the respect of the principles of competition, non-discrimination or equality of treatment with regard to the procurement procedures of contract, is compromised for reasons involving family, emotional life, political or national affinity, economic interest or any other shared interest.**

The Bank will not accept candidates or tenderers affected by a conflict of interest in the award procedure to benefit from EIB financing in relation to the contract to be awarded under the concerned procedure.

The assessment of whether or not there is a conflict of interest has to be carried out on a case by case basis, considering the actual risk of conflict based on specific circumstances of the case at stake. The individual or entity in question should be allowed to present supporting evidence which might remove all suspicion of a conflict of interest.

A Bidder shall not have a conflict of interest. Any Bidder found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this bidding process, if the Bidder:

- (a) Directly or indirectly controls, is controlled by or is under common control with another Bidder; or
- (b) Receives or has received any direct or indirect subsidy from another Bidder; or
- (c) Has the same legal representative as another Bidder; or
- (d) Has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the bid of another Bidder, or influence the decisions of the Purchaser regarding this bidding process; or
- (e) Participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which such Bidder is involved. However, this does not limit the inclusion of the same subcontractor in more than one bid; or
- (f) Any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the goods that are the subject of the bid; or

- (g) Any of its affiliates has been hired (or is proposed to be hired) by the Purchaser for the Contract implementation; or

- 4.3 Has a close business or family relationship with a professional staff of the Purchaser (or of the project implementing agency, or of a recipient of a part of the funds) who: (i) are directly or indirectly involved in the preparation of the bidding documents or specifications of the contract, and/or the bid evaluation process of such contract; or (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the EIB throughout the procurement process and execution of the contract. The EIB's eligibility criteria to bid are described in Section V, Eligibility criteria. *An individual or entity shall be ineligible to be prequalified for, initially selected for, bid for, propose for, or be awarded a Bank-financed contract or benefit from a Bank-financed contract, if it has been subject to an exclusion decision as recorded in the databases specified in the BDS.*
- 4.4 A Bidder shall not be under suspension from bidding by the Purchaser as the result of the execution of a Bid-Securing Declaration.
- 4.5 A Bidder shall provide such evidence of eligibility satisfactory to the Purchaser, as the Purchaser shall reasonably request.

**5. Eligible Goods and Related Services**

- 5.1 All the Goods and Related Services to be supplied under the Contract and financed by the EIB may have their origin in any country in accordance with Section V, Eligibility Criteria.
- 5.2 For purposes of this Clause, the term "goods" includes commodities, raw material, machinery, equipment, and industrial plants; and "related services" includes services such as insurance, installation, training, and initial maintenance.
- 5.3 The term "origin" means the country where the goods have been mined, grown, cultivated, produced, manufactured or processed; or, through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its components.

**B. Contents of Bidding Documents**

**6. Sections of Bidding Documents**

- 6.1 The Bidding Documents consist of Parts 1, 2, and 3, which include all the Sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB 8.

**PART 1 - Bidding Procedures**

- Section I. Instructions to Bidders (ITB);
- Section II. Bidding Data Sheet (BDS);
- Section III. Evaluation and Qualification Criteria;

- Section IV. Bidding Forms;
- Section V. Eligibility Criteria;
- Section VI. EIB Policy - Ethical Conduct and Social and Environmental Responsibility;

**PART 2 - Supply Requirements**

- Section VII. Schedule of Requirements;

**PART 3 - Contract**

- Section VIII. General Conditions of Contract (GCC);
- Section IX. Special Conditions of Contract (SCC);
- Section X. Contract Forms.

6.2 The Invitation for Bids issued by the Purchaser is not part of the Bidding Documents.

6.3 Unless obtained directly from the Purchaser, the Purchaser is not responsible for the completeness of the Bidding Documents, responses to requests for clarification or Addenda to the Bidding Documents in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Purchaser shall prevail.

6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents and to furnish with its Bid all information or documentation as is required by the Bidding Documents.

**7. Clarification of Bidding Documents**

7.1 A Bidder requiring any clarification of the Bidding Documents shall contact the Purchaser in writing at the Purchaser's address **specified in the BDS**. The Purchaser will respond in writing to any request for clarification, provided that such request is received no later than 14 (fourteen) days prior to the deadline for submission of bids. The Purchaser shall forward copies of its response to all Bidders who have acquired the Bidding Documents in accordance with ITB 6.3, including a description of the inquiry but without identifying its source. If so **specified in the BDS**, the Purchaser shall also promptly publish its response at the web page **identified in the BDS**. Should the clarification result in changes to the essential elements of the Bidding Documents, the Purchaser shall amend the Bidding Documents following the procedure under ITB 8 and ITB 22.2.

**8. Amendment of Bidding Document**

8.1 At any time prior to the deadline for submission of bids, the Purchaser may amend the Bidding Documents by issuing addenda.

8.2 Any addendum issued shall be part of the Bidding Documents and shall be communicated in writing to all who have obtained the Bidding Documents from the Purchaser in accordance with ITB 6.3. The Purchaser shall also promptly publish the addendum on the Purchaser's web page in accordance with ITB 7.1.



- 8.3 To give Bidders reasonable time in which to take an addendum into account in preparing their bids, the Purchaser may, at its discretion, extend the deadline for the submission of bids, pursuant to ITB 22.2.

### C. Preparation of Bids

- 9. Cost of Bidding** 9.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Purchaser shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
- 10. Language of Bid** 10.1 The Bid, as well as all correspondence and documents relating to the Bid exchanged by the Bidder and the Purchaser, shall be written in the language **specified in the BDS**. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages into the language **specified in the BDS**, in which case, for purposes of interpretation of the Bid, such translation shall govern.
- 11. Documents Comprising the Bid** 11.1 The Bid shall comprise the following:
- (a) Bid submission Form and the Bidding Forms in accordance with ITB 12;
  - (b) Completed schedules, in accordance with ITB 12 and 14;
  - (c) Bid Security or Bid-Securing Declaration, in accordance with ITB 19.1;
  - (d) Alternative bids, if permissible, in accordance with ITB 13;
  - (e) Written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.2;
  - (f) Covenant of Integrity, Eligibility and Social and Environmental Responsibility duly signed, in accordance with ITB 12;
  - (g) Documentary evidence in accordance with ITB 17 establishing the Bidder's qualifications to perform the contract if its Bid is accepted;
  - (h) Documentary evidence in accordance with ITB 17 establishing the Bidder's eligibility to bid;
  - (i) Documentary evidence in accordance with ITB 16, that the Goods and Related Services to be supplied by the Bidder are of eligible origin;
  - (j) Documentary evidence in accordance with ITB 16 and 29, that the Goods and Related Services conform to the Bidding Documents;
  - (k) Any other document **required in the BDS**.
-

- 11.2 In addition to the requirements under ITB 11.1, bids submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all members and submitted with the bid, together with a copy of the proposed Agreement.
- 11.3 The Bidder shall furnish in the Bid Submission Form information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.
- 12. Bid Submission Form, Bidding Forms and Covenant of Integrity and Price Schedules**
- 12.1 The Bid Submission Form, the Bidding Forms and the Covenant of Integrity and Price Schedules shall be prepared using the relevant forms furnished in Section IV, Bidding Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITB 20.4. All blank spaces shall be filled in with the information requested.
- 13. Alternative Bids**
- 13.1. Unless otherwise **specified in the BDS**, alternative bids shall not be considered.
- 14. Bid Prices and Discounts**
- 14.1 The prices and discounts quoted by the Bidder in the Bid Submission Form and in the Price Schedules shall conform to the requirements specified below.
- 14.2 All lots (contracts) and items must be listed and priced separately in the Price Schedules.
- 14.3 The price to be quoted in the Bid Submission Form shall be the total price of the bid, excluding any discounts offered.
- 14.4 The Bidder shall quote any discounts and indicate the methodology for their application in the Bid Submission Form.
- 14.5 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account, **unless otherwise specified in the BDS**. A bid submitted with an adjustable price quotation shall be treated as nonresponsive and shall be rejected, pursuant to ITB 29. However, if in accordance with the BDS, prices quoted by the Bidder shall be subject to adjustment during the performance of the Contract, a bid submitted with a fixed price quotation shall not be rejected, but the price adjustment shall be treated as zero.
- 14.6 If so specified in ITB 1.1, bids are being invited for individual lots (contracts) or for any combination of lots (packages). Unless otherwise **specified in the BDS**, prices quoted shall correspond to 100 % of the items specified for each lot and to 100% of the quantities specified for each item of a lot. Bidders wishing to offer discounts for the award of more than one Contract shall specify in their bid the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with

ITB 14.4 provided the bids for all lots (contracts) are opened at the same time.

14.7 The term CIP, DDP and other similar terms shall be governed by the rules prescribed in the current edition of Incoterms, published by The International Chamber of Commerce, **as specified in the BDS.**

14.8 Prices shall be quoted as specified in each Price Schedule included in Section IV, Bidding Forms. The disaggregation of price components is required solely for the purpose of facilitating the comparison of bids by the Purchaser. In quoting prices, the Bidder shall be free to use transportation through carriers registered in any eligible country, in accordance with Section V, Eligibility Criteria. Similarly, the Bidder may obtain insurance services from any eligible country in accordance with Section V, Eligibility Criteria. Prices shall be entered in the following manner:

(a) For Goods manufactured in the Purchaser's Country:

(i) The price of the Goods quoted CIP named place of destination, including all customs duties and sales and other taxes already paid or payable on the components and raw material used in the manufacture or assembly of the Goods; and

(ii) Any Purchaser's Country sales tax and other taxes which will be payable on the Goods if the contract is awarded to the Bidder.

(b) For Goods manufactured outside the Purchaser's Country, to be imported:

(i) The price of the Goods, quoted CIP named place of destination, in the Purchaser's Country, **as specified in the BDS;** and

(ii) Any Purchaser's Country sales and other taxes which will be payable on the Goods if the contract is awarded to the Bidder.

(c) For Goods manufactured outside the Purchaser's Country, already imported:

(i) The price of the Goods, quoted CIP named place of destination, excluding the custom duties and other import taxes already paid (need to be supported with documentary evidence) or to be paid on the Goods already imported;

(ii) All custom duties and other import taxes already paid (need to be supported with documentary evidence) or to be paid on the Goods already imported in the Purchaser's

---

country, payable on the Goods, if the Contract is awarded to the Bidder;

(iii) Any Purchaser's Country sales and other taxes which will be payable on the Goods if the contract is awarded to the Bidder; and

(d) For Related Services specified in Section VII - Schedule of Requirements:

(i) The price of each item comprising the Related Services (exclusive of any applicable taxes);

(ii) All custom duties, sales and other taxes applicable in the Purchaser's country, payable on the Related Services, if the Contract is awarded to the Bidder.

- 15. Currencies of Bid and Payment** 15.1 The currency (ies) of the bid and the currency (ies) of payments shall be **as specified in the BDS**. The Bidder shall quote in the currency of the Purchaser's Country the portion of the bid price that corresponds to expenditures incurred in the currency of the Purchaser's country, unless otherwise **specified in the BDS**.
- 16. Documents Establishing the Eligibility and Conformity of the Goods and Related Services**
- 16.1 To establish the eligibility of the Goods and Related Services in accordance with ITB 5, Bidders shall complete the country of origin declarations in the Price Schedule Forms, included in Section IV, Bidding Forms.
- 16.2 To establish the conformity of the Goods and Related Services to the Bidding Documents, the Bidder shall furnish as part of its Bid the documentary evidence that the Goods conform to the technical specifications and standards specified in Section VII, Schedule of Requirements.
- 16.3 The documentary evidence may be in the form of literature, drawings or data, and shall consist of a detailed item by item description of the essential technical and performance characteristics of the Goods and Related Services, demonstrating substantial responsiveness of the Goods and Related Services to the technical specification, and if applicable, a statement of deviations and exceptions to the provisions of the Section VII, Schedule of Requirements.
- 16.4 The Bidder shall also furnish a list giving full particulars, including available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the Goods during the period **specified in the BDS** following commencement of the use of the goods by the Purchaser.
- 16.5 Standards for workmanship, process, material, and equipment, as well as references to brand names or catalogue numbers specified by the Purchaser in the Schedule of Requirements, are intended to be descriptive only and not restrictive. The Bidder may offer other standards of quality, brand names, and/or catalogue numbers, provided

that it demonstrates, to the Purchaser's satisfaction, that the substitutions ensure substantial equivalence or are superior to those specified in the Section VII, Schedule of Requirements.

**17. Documents  
Establishing the  
Eligibility and  
Qualifications of  
the Bidder**

- 17.1 To establish Bidder's their eligibility in accordance with ITB 4, Bidders shall complete the Bid Submission Form, included in Section IV, Bidding Forms.
- 17.2 The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish to the Purchaser's satisfaction:
- (a) That, if **required in the BDS**, a Bidder that does not manufacture or produce the Goods it offers to supply shall submit the Manufacturer's Authorization using the form included in Section IV, Bidding Forms to demonstrate that it has been duly authorized by the manufacturer or producer of the Goods to supply these Goods in the Purchaser's Country;
  - (b) That, if **required in the BDS**, in case of a Bidder not doing business within the Purchaser's Country, the Bidder is or will be (if awarded the contract) represented by an Agent in the country equipped and able to carry out the Supplier's maintenance, repair and spare parts-stocking obligations prescribed in the Conditions of Contract and/or Technical Specifications; and
  - (c) That the Bidder meets each of the qualification criterion specified in Section III, Evaluation and Qualification Criteria.

**18. Period of  
Validity of Bids**

- 18.1 Bids shall remain valid for the period **specified in the BDS** after the bid submission deadline date prescribed by the Purchaser in accordance with ITB 22.1. A bid valid for a shorter period shall be rejected by the Purchaser as nonresponsive.
- 18.2 In exceptional circumstances, prior to the expiration of the bid validity period, the Purchaser may request bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. If a Bid Security is requested in accordance with ITB Clause 19, it shall also be extended for twenty-eight (28) days beyond the deadline of the extended validity period. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request shall not be required or permitted to modify its bid, except as provided in ITB 18.3.
- 18.3 If the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial bid validity, the Contract price shall be determined as follows:
- (a) In the case of fixed price contracts, the Contract price shall be the bid price adjusted by the factor **specified in the BDS**;
  - (b) In the case of adjustable price contracts, no adjustment shall be made;

- (c) In any case, bid evaluation shall be based on the bid price without taking into consideration the applicable correction from those indicated above.

## 19. Bid Security

19.1 The Bidder shall furnish as part of its bid a bid security, as **specified in the BDS**, in original form and in the amount and currency **specified in the BDS**.

19.3 If a bid security is specified pursuant to ITB 19.1, the bid security shall be a demand guarantee in any of the following forms at the Bidder's option:

- (a) An unconditional guarantee issued by a bank or financial institution (such as an insurance, bonding or surety company);
- (b) An irrevocable letter of credit;
- (c) A cashier's or certified check; or
- (d) Another security **specified in the BDS**;

from a reputable source from an eligible country as specified in Section V, Eligibility Criteria. If the unconditional guarantee is issued by a financial institution located outside the Purchaser's Country, the issuing financial institution shall have a correspondent financial institution located in the Purchaser's Country to make it enforceable. In the case of a bank guarantee, the bid security shall be submitted either using the Bid Security Form included in Section IV, Bidding Forms, or in another substantially similar format approved by the Purchaser prior to bid submission. The bid security shall be valid for twenty-eight (28) days beyond the original validity period of the bid, or beyond any period of extension if requested under ITB 18.2.

19.4 If a Bid Security is specified pursuant to ITB 19.1, any bid not accompanied by a substantially responsive Bid Security shall be rejected by the Purchaser as non-responsive.

19.5 The Bid Security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing the contract and furnishing the Performance Security pursuant to ITB 42.

19.6 The Bid Security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the contract and furnished the required performance security.

19.7 The Bid Security may be forfeited:

- (a) If a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Bid Submission Form, or any extension thereto provided by the Bidder; or
- (b) If the successful Bidder fails to:

- (i) Sign the Contract in accordance with ITB 41; or
- (ii) Furnish a performance security in accordance with ITB 42.

19.8 The Bid Security of a JV must be in the name of the JV that submits the bid. If the JV has not been legally constituted into a legally enforceable JV at the time of bidding, the Bid Security shall be in the names of all future members as named in the letter of intent referred to in ITB 4.1 and ITB 11.2.

19.9 If a bid security is **not required in the BDS**, pursuant to ITB 19.1, and:

- (a) If a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Bid Submission Form, or any extension thereto provided by the Bidder; or
- (b) If the successful Bidder fails to: sign the Contract in accordance with ITB 41; or furnish a performance security in accordance with ITB 42;

the Purchaser may, **if provided for in the BDS**, declare the Bidder ineligible to be awarded a contract by the Purchaser for a period of time **as stated in the BDS**.

## 20. Format and Signing of Bid

20.1 The Bidder shall prepare one original of the documents comprising the bid as described in ITB 11 and clearly mark it "ORIGINAL." Alternative bids, if permitted in accordance with ITB 13, shall be clearly marked "ALTERNATIVE." In addition, the Bidder shall submit copies of the bid, in the number **specified in the BDS** and clearly mark them "COPY." In the event of any discrepancy between the original and the copies, the original shall prevail.

20.2 The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation **as specified in the BDS** and shall be attached to the bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the bid where entries or amendments have been made shall be signed or initialed by the person signing the bid.

20.3 In case the Bidder is a JV, the Bid shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives. If the JV has not been legally constituted into a legally enforceable JV at the time of bidding, then the Bid shall be signed by every member of the proposed JV.

20.4 Any inter-lineation, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the bid.

## D. Submission and Opening of Bids

---

- 21. Sealing and Marking of Bids**
- 21.1 The Bidder shall enclose the original and all copies of the bid, including alternative bids, if permitted in accordance with ITB 13, in separate sealed envelopes, duly marking the envelopes as “ORIGINAL”, “ALTERNATIVE” and “COPY”. These envelopes containing the original and the copies shall then be enclosed in one single envelope.
- 21.2 The inner and outer envelopes shall:
- (a) Bear the name and address of the Bidder;
  - (b) Be addressed to the Purchaser in accordance with ITB 22.1;
  - (c) Bear the specific identification of this bidding process indicated in ITB 1.1; and
  - (d) Bear a warning not to open before the time and date for bid opening.
- 21.3 If all envelopes are not sealed and marked as required, the Purchaser will assume no responsibility for the misplacement or premature opening of the bid.
- 22. Deadline for Submission of Bids**
- 22.1 Bids must be received by the Purchaser at the address and no later than the date and time **specified in the BDS. When so specified in the BDS**, bidders shall have the option of submitting their bids electronically. Bidders submitting bids electronically shall follow the electronic bid submission procedures **specified in the BDS**.
- 22.2 The Purchaser may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Documents in accordance with ITB 8, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.
- 23. Late Bids**
- 23.1. The Purchaser shall not consider any bid that arrives after the deadline for submission of bids, in accordance with ITB 22. Any bid received by the Purchaser after the deadline for submission of bids shall be declared late, rejected, and returned unopened to the Bidder.
- 24. Withdrawal, Substitution, and Modification of Bids**
- 24.1 A Bidder may withdraw, substitute, or modify its Bid after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization (the power of attorney) in accordance with ITB 20.2. The corresponding substitution or modification of the bid must accompany the respective written notice. All notices must be:
- (a) Prepared and submitted in accordance with ITB 20 and 21 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked “WITHDRAWAL,” “SUBSTITUTION,” or “MODIFICATION”; and
  - (b) Received by the Purchaser prior to the deadline prescribed for submission of bids, in accordance with ITB 22.



24.2 Bids requested to be withdrawn in accordance with ITB 24.1 shall be returned unopened to the Bidders.

24.3 No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid Submission Form or any extension thereof.

## 25. Bid Opening

25.1 Except as in the cases specified in ITB 23 and 24, the Purchaser shall publicly open and read out in accordance with ITB 25 all bids received by the deadline (regardless of the number of bids received), at the date, time and place **specified in the BDS** in the presence of Bidders' designated representatives and anyone who choose to attend. Any specific electronic bid opening procedures required if electronic bidding is permitted, in accordance with ITB 22.1, shall be as **specified in the BDS**.

25.2 First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding bid shall not be opened, but returned to the Bidder. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening. Next, envelopes marked "SUBSTITUTION" shall be opened and read out and exchanged with the corresponding Bid being substituted, and the substituted Bid shall not be opened, but returned to the Bidder. No Bid substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at bid opening. Envelopes marked "MODIFICATION" shall be opened and read out with the corresponding Bid. No Bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Bid opening. Only bids that are opened and read out at Bid opening shall be considered further.

25.3 All other envelopes shall be opened one at a time, reading out: the name of the Bidder and whether there is a modification; the total Bid Prices, per lot (contract) if applicable, including any discounts and alternative bids; the presence or absence of a Bid Security or Bid-Securing Declaration, if required; and any other details as the Purchaser may consider appropriate. Only discounts and alternative bids read out at Bid opening shall be considered for evaluation. The Bid Submission Form and the Price Schedules are to be initialed by a minimum of three representatives of the Purchaser attending bid opening. The Purchaser shall neither discuss the merits of any bid nor reject any bid (except for late bids, in accordance with ITB 23.1).

25.4 The Purchaser shall prepare a record of the bid opening that shall include, as a minimum: the name of the Bidder and whether there is a withdrawal, substitution, or modification; the Bid Price, per lot (contract) if applicable, including any discounts, and alternative bids; and the presence or absence of a Bid Security or Bid-Securing Declaration, if one was required. The Bidders' representatives who are

---

present shall be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders.

### **E. Evaluation and Comparison of Bids**

- 26. Confidentiality**
- 26.1 Information relating to the examination, evaluation, and comparison of the bids, and qualification of the Bidders and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with the bidding process until information on Contract Award is communicated to all Bidders in accordance with ITB 40.
- 26.2 Any attempt by a Bidder to influence the Purchaser in the examination, evaluation, and comparison of the bids, and qualification of the bidders, or contract award decisions may result in the rejection of its Bid.
- 26.3 Notwithstanding ITB 26.2, from the time of bid opening to the time of Contract Award, if any Bidder wishes to contact the Purchaser on any matter related to the bidding process, it shall do so in writing.
- 27. Clarification of Bids**
- 27.1 To assist in the examination, evaluation, comparison of the bids, and qualification of the Bidders, the Purchaser may, at its discretion, ask any Bidder for a clarification of its Bid, given a reasonable time for a response. Any clarification submitted by a Bidder that is not in response to a request by the Purchaser shall not be considered. The Purchaser's request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease, in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Purchaser in the Evaluation of the bids, in accordance with ITB 31.
- 27.2 If a Bidder does not provide clarifications of its Bid by the date and time set in the Purchaser's request for clarification, its Bid may be rejected.
- 28. Deviations, Reservations, and Omissions**
- 28.1 During the evaluation of bids, the following definitions apply:
- (a) "Deviation" is a departure from the requirements specified in the Bidding Documents;
  - (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Documents; and
  - (c) "Omission" is the failure to submit part or all of the information or documentation required in the Bidding Documents.

- 29. Determination of Responsiveness**
- 29.1 The Purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself, as defined in ITB 11.
- 29.2 A substantially responsive Bid is one that meets the requirements of the Bidding Documents without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that:
- (a) If accepted, would:
    - (i) Affect in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Contract; or
    - (ii) Limit in any substantial way, inconsistent with the Bidding Documents, the Purchaser's rights or the Bidder's obligations under the proposed Contract; or
  - (b) If rectified, would unfairly affect the competitive position of other bidders presenting substantially responsive bids.
- 29.3 The Purchaser shall examine the technical aspects of the bid submitted in accordance with ITB 16, in particular, to confirm that all requirements of Section VII, Schedule of Requirements have been met without any material deviation or reservation, or omission.
- 29.4 If a bid is not substantially responsive to the requirements of the Bidding Documents, it shall be rejected by the Purchaser and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.
- 30. Nonconformities, Errors and Omissions**
- 30.1 Provided that a Bid is substantially responsive, the Purchaser may waive any nonmaterial nonconformities in the Bid.
- 30.2 Provided that a bid is substantially responsive, the Purchaser may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.
- 30.3 Provided that a bid is substantially responsive, the Purchaser shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component.
-

- 31. Correction of Arithmetical Errors**
- 31.1 Provided that the Bid is substantially responsive, the Purchaser shall correct arithmetical errors on the following basis:
- (a) If there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected;
  - (b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
  - (c) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.
- 31.2 Bidders shall be requested to accept correction of arithmetical errors. Failure to accept the correction in accordance with ITB 31.1 shall result in the rejection of the Bid.
- 32. Conversion to Single Currency**
- 32.1 For evaluation and comparison purposes, the currency(ies) of the Bid shall be converted in a single currency as **specified in the BDS**.
- 33. Margin of Preference**
- 33.1 **Unless otherwise specified in the BDS**, a margin of preference shall not apply.
- 34. Evaluation of Bids**
- 34.1 The Purchaser shall use the criteria and methodologies listed in this Clause. No other evaluation criteria or methodologies shall be permitted.
- 34.2 To evaluate a Bid (evaluation will be done for Items or Lots (contracts), as **specified in the BDS**), the Purchaser shall consider the following:
- (a) The Bid Price as quoted in accordance with clause 14;
  - (b) Price adjustment for correction of arithmetic errors in accordance with ITB 31.1;
  - (c) Price adjustment due to discounts offered in accordance with ITB 14.4;
  - (d) Price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 30.3;
  - (e) Converting the amount resulting from applying (a) to (d) above, if relevant, to a single currency in accordance with ITB 32;
  - (f) The additional evaluation factors as specified in Section III, Evaluation and Qualification Criteria.

- 34.3 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in bid evaluation.
- 34.4 If these Bidding Documents allows Bidders to quote separate prices for different lots (contracts), the methodology to determine the lowest evaluated price of the lot (contract) combinations, including any discounts offered in the Bid Submission Form, is specified in Section III, Evaluation and Qualification Criteria
- 34.5 The Purchaser's evaluation of a bid will exclude and not take into account:
- (a) In the case of Goods manufactured in the Purchaser's Country, sales and other similar taxes, which will be payable on the goods if a contract is awarded to the Bidder;
  - (b) In the case of Goods manufactured outside the Purchaser's Country, already imported or to be imported, customs duties and other import taxes levied on the imported Good, sales and other similar taxes, which will be payable on the Goods if the contract is awarded to the Bidder;
  - (c) In the case of Related Services, customs duties and sales and other similar taxes that will be payable on the Related Services if the contract is awarded to the Bidder;
  - (d) Any allowance for price adjustment during the period of execution of the contract, if provided in the bid.
- 34.6 The Purchaser's evaluation of a bid may require the consideration of other factors, in addition to the Bid Price quoted in accordance with ITB 14. These factors may be related to the characteristics, performance, and terms and conditions of purchase of the Goods and Related Services. The effect of the factors selected, if any, shall be expressed in monetary terms to facilitate comparison of bids, unless otherwise **specified** in Section III, Evaluation and Qualification Criteria. The criteria and methodologies to be used shall be as specified in Section III, Evaluation and Qualification Criteria.
- 34.7 If the bid, which results in the lowest Evaluated Bid Price, is significantly lower than the Purchaser's estimate, the Purchaser shall require the Bidder to produce detailed price analyses for any or all items of the Price Schedules, to demonstrate the internal consistency of those prices with the supply requirements and the method and schedule proposed. If one or several inconsistencies are evidenced, the bid shall be declared non-compliant and rejected.
- 35. Comparison of Bids**
- 35.1 The Purchaser shall compare the evaluated prices of all substantially responsive bids established in accordance with ITB 34.2 to determine the lowest evaluated bid.
-

- 36. Qualification of the Bidder**
- 36.1 The Purchaser shall determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated and substantially responsive bid meets the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.
- 36.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 17.
- 36.3 An affirmative determination shall be a prerequisite for award of the Contract to the Bidder. A negative determination shall result in disqualification of the bid, in which event the Purchaser shall proceed to the next lowest evaluated bid to make a similar determination of that Bidder's qualifications to perform satisfactorily.
- 37. Purchaser's Right to Accept Any Bid, and to Reject Any or All Bids**
- 37.1 The Purchaser reserves the right to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders. In case of annulment, all bids submitted and specifically, bid securities, shall be promptly returned to the Bidders.

## **F. Award of Contract**

- 38. Award Criteria**
- 38.1 Subject to ITB 37.1, the Purchaser shall award the Contract to the Bidder whose bid has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Documents, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.
- 39. Purchaser's Right to Vary Quantities at Time of Award**
- 39.1 At the time the Contract is awarded, the Purchaser reserves the right to increase or decrease the quantity of Goods and Related Services originally specified in Section VII, Schedule of Requirements, provided this does not exceed the percentages **specified in the BDS**, and without any change in the unit prices or other terms and conditions of the bid and the Bidding Documents.
- 40. Notification of Award**
- 40.1 Prior to the expiration of the period of bid validity, the Purchaser shall notify the successful Bidder, in writing, that its Bid has been accepted. The notification letter (hereinafter and in the Conditions of Contract and Contract Forms called the "Letter of Acceptance") shall specify the sum that the Purchaser will pay the Supplier in consideration of the supply of Goods (hereinafter and in the Conditions of Contract and Contract Forms called "the Contract Price"). At the same time, the Purchaser shall also notify all other Bidders of the results of the bidding.

Standstill Period

*The Contract shall not be awarded earlier than the expiry of the Standstill Period. The Standstill Period shall be ten (10) Days unless extended as per the BDS. The Standstill Period commences*

*the day after the date the Purchaser has transmitted to each Bidder the Notification of Intention to Award the Contract. Where only one Bid is submitted, or if this contract is in response to an emergency situation recognized by the Bank, the Standstill Period shall not apply.*

**Notification Of Intention To Award The Contract:**

*The Purchaser shall send to each Bidder the Notification of Intention to Award the Contract to the successful Bidder. The Notification of Intention to Award shall contain, at a minimum, the following information:*

- a) the name and address of the Bidder submitting the successful Bid;*
- b) the Contract price of the successful Bid;*
- c) the names of all Bidders who submitted Bids, and their Bid prices as readout, and as evaluated;*
- d) a statement of the reason(s) the Bid (of the unsuccessful Bidder to whom the notification is addressed) was unsuccessful, unless the price information in c) above already reveals the reason;*
- e) the expiry date of the Standstill Period;*
- f) instructions on how to request a debriefing and/or submit a complaint during the standstill period.*

40.2 Until a formal Contract is prepared and executed, the notification of award shall constitute a binding Contract.

40.3 The Purchaser shall promptly respond in writing to any unsuccessful Bidder who, after notification of award in accordance with ITB 40.1, requests in writing the grounds on which its bid was not selected.

**41. Signing of Contract**

41.1 Promptly after notification, the Purchaser shall send the successful Bidder the Contract Agreement.

41.2 Within twenty-eight (28) days but not earlier than fourteen (14) days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Purchaser.

41.3 Notwithstanding ITB 41.2 above, in case signing of the Contract Agreement is prevented by any export restrictions attributable to the Purchaser, to the country of the Purchaser, or to the use of the products/goods, systems or services to be supplied, where such export restrictions arise from trade regulations from a country supplying those products/goods, systems or services, the Bidder shall not be bound by its bid, always provided however, that the Bidder can demonstrate to the satisfaction of the Purchaser and of the EIB that signing of the Contract Agreement has not been prevented by

any lack of diligence on the part of the Bidder in completing any formalities, including applying for permits, authorizations and licenses necessary for the export of the products/goods, systems or services under the terms of the Contract.

**42. Performance  
Security**

- 42.1 Within twenty-eight (28) days but not earlier than fourteen (14) days of the receipt of notification of award from the Purchaser, the successful Bidder shall furnish the Performance Security in accordance with the GCC, using for that purpose the Performance Security Form included in Section X, Contract Forms, or another Form acceptable to the Purchaser. If the Performance Security furnished by the successful Bidder is in the form of a bond, it shall be issued by a bonding or insurance company that has been determined by the successful Bidder to be acceptable to the Purchaser. A foreign institution providing a bond shall have a correspondent financial institution located in the Purchaser's Country.
- 42.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security or execution of the Bid-Securing Declaration. In that event the Purchaser may award the Contract to the next lowest evaluated Bidder, whose bid is substantially responsive and is determined by the Purchaser to be qualified to perform the Contract satisfactorily.



## Section II. Bid Data Sheet (BDS)

The following specific data for the goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

ITB Clause Reference	<b>A. General</b>									
ITB 1.1	The number of the Invitation for Bids is: <b>KP1/6E.3/OT/1/24/B19</b>									
ITB 1.1	The Purchaser is: <b>KENYA POWER &amp; LIGHTING COMPANY PLC</b>									
ITB 1.1	<p>The name and identification number of the IPC is: <b>Procurement of Single Phase Pre-Paid Meters and Miniature Circuit Breakers- KP1/6E.3/OT/1/24/B19</b></p> <p>The items comprising this IPC is :</p> <table border="1" style="margin-left: 40px;"> <thead> <tr> <th style="text-align: center;">Item No.</th> <th style="text-align: center;">Item Description</th> <th style="text-align: center;">Quantities (Pieces)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1.</td> <td style="text-align: center;">Supply of Single Phase Pre-Paid Meters</td> <td style="text-align: center;">99,153</td> </tr> <tr> <td style="text-align: center;">2.</td> <td style="text-align: center;">Miniature Circuit Breakers</td> <td style="text-align: center;">198,306</td> </tr> </tbody> </table>	Item No.	Item Description	Quantities (Pieces)	1.	Supply of Single Phase Pre-Paid Meters	99,153	2.	Miniature Circuit Breakers	198,306
Item No.	Item Description	Quantities (Pieces)								
1.	Supply of Single Phase Pre-Paid Meters	99,153								
2.	Miniature Circuit Breakers	198,306								
ITB 2.1	The name of the Project is: <b>KENYA POWER DISTRIBUTION LAST MILE CONNECTIVITY PROJECT</b>									
	<b>B. Contents of Bidding Documents</b>									
ITB 4.3	<p>Firms originating from all countries of the world are eligible to participate in this tender unless they have been subject to an exclusion decision as recorded in the databases specified below.</p> <p>A list of debarred firms and individuals is available on the websites:  <a href="http://www.eib.org/about/accountability/anti-fraud/exclusion/index.htm">http://www.eib.org/about/accountability/anti-fraud/exclusion/index.htm</a>  <a href="https://eeas.europa.eu/headquarters/headquarters-homepage/8442/consolidated-list-sanctions_en">https://eeas.europa.eu/headquarters/headquarters-homepage/8442/consolidated-list-sanctions_en</a>  <a href="https://www.un.org/sc/suborg/en/sanctions/un-sc-consolidated-list">https://www.un.org/sc/suborg/en/sanctions/un-sc-consolidated-list</a></p> <p>Pursuant to its Sanctions Policy, the Bank shall not provide or otherwise make funds available, directly or indirectly, to or for the benefit of an individual or entity that is subject to financial sanctions imposed by the EU, either autonomously or pursuant to the financial sanctions decided by</p>									

	<p>the United Nations Security Council on the basis of article 41 of the UN Charter.</p> <p>Tenderers should alert KPLC in writing, with a copy to the European Investment Bank to <a href="mailto:procurementcomplaints@eib.org">procurementcomplaints@eib.org</a>, in case they should consider that certain clauses or technical specifications of the issue tender document might limit international competition or introduce an unfair advantage to some tenderers.</p>
<b>ITB 4.3</b>	<p>Links of debarred firms:</p> <p><a href="https://www.un.org/sc/suborg/en/sanctions/un-sc-consolidated-list">https://www.un.org/sc/suborg/en/sanctions/un-sc-consolidated-list</a>  <a href="https://eeas.europa.eu/topics/sanctions-policy/8442/consolidated-list-of-sanctions_en">https://eeas.europa.eu/topics/sanctions-policy/8442/consolidated-list-of-sanctions_en</a>  <a href="http://www.eib.org/about/accountability/anti-fraud/exclusion/index.htm">http://www.eib.org/about/accountability/anti-fraud/exclusion/index.htm</a></p>
<b>ITB 4.4</b>	Bid-Securing Declaration <i>is not applicable</i>
<b>ITB 7.1</b>	<p>For <b>clarification of bid purposes</b> only, the Purchaser's address is:</p> <p>Attention;  Contract Project Manager (EIB)  The Kenya Power and Lighting Company PLC  Stima Plaza, 2<sup>nd</sup> Floor  Kolobot Road, Parklands  P.O Box 30099 - 00100  Nairobi, Kenya  Telephone: +254-711-031-000  Electronic mail address: <a href="mailto:Kyaloj@kplc.co.ke">Kyaloj@kplc.co.ke</a> and copy to  <a href="mailto:SMucheke@kplc.co.ke">SMucheke@kplc.co.ke</a>; <a href="mailto:MOchiengOwuor@kplc.co.ke">MOchiengOwuor@kplc.co.ke</a>;  <a href="mailto:VMagana@kplc.co.ke">VMagana@kplc.co.ke</a></p>
<b>ITB 7.1</b>	Web page : <a href="http://www.kplc.co.ke">www.kplc.co.ke</a>
	<b>C. Preparation of Bids</b>
<b>ITB 9</b>	Bid document detailing the; requirements shall be obtained by downloading from the KPLC website ( <a href="http://www.kplc.co.ke">www.kplc.co.ke</a> ). No Bid documents will be issued from any KPLC office.
<b>ITB 10.1</b>	<p>The language of the bid is English.</p> <p>All correspondence exchange shall be in the English language. Language for translation of supporting documents and printed literature is English.</p>
<b>ITB 11.1 (k)</b>	<p>The Bidder shall submit the following additional documents in its bid:</p> <ul style="list-style-type: none"> <li>• Manufacturer's authorizations in case the bidder is not a manufacturer</li> </ul>

	<ul style="list-style-type: none"><li>• Manufacturers shall have ISO 9001:2008 or equivalent quality assurance certificate. A copy of such certificate shall be submitted with the bid.</li><li>• Guaranteed Technical Particulars/characteristics duly completed and signed by the bidder per Annex A of the Technical Specifications.</li><li>• Successful bidders shall be required to submit Guaranteed Technical Particulars including a technical <b>drawing for approval</b> as a post-qualification criteria.</li><li>• For all Goods offered, the bidder shall be required to demonstrate that the Goods or products conform to required standards by evidence of Type Test Reports issued by a third party testing laboratory accredited to ISO/IEC 17025. A copy of the accreditation certificate to ISO/IEC 17025 of the testing laboratory shall be submitted together with the tender. KPLC reserves the right to subject the certificate(s) to authentication.</li><li>• For purposes of the documentary and other evidence to be furnished pursuant to the requirements of this tender, the bidder shall note that standards for workmanship, material, and equipment, as well as references to brand names or catalogue numbers designated by KPLC in its Technical Specifications, are intended to be descriptive only and not restrictive. The bidder may adopt higher standards, brand names, and or catalogue numbers in its bid, provided that it demonstrates to KPLC's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.</li><li>• Bidders shall provide additional information such as brochures/catalogues/drawings describing in detail the proposed items.</li><li>• The Manufacturer's Declaration of Conformity to reference standards.</li><li>• Statement of compliance to tender specifications (indicate deviations if any and supporting documents in the bid)</li><li>• Documentary Evidence indicating manufacturers Supplies record and as stipulated in Section III of the Evaluation criteria</li><li>• List of manufacturer's customer sales records submitted to support the offer</li><li>• Details of the supply contracts:<ul style="list-style-type: none"><li>▪ The Client's name, address and contact person as well as its location.</li></ul></li></ul>
--	---

	<ul style="list-style-type: none"> <li>▪ Copies of contract award letters, and Purchase Orders indicating quantity supplied under the contract and the contract amount</li> <li>• Manufacturer’s warranty as stipulated in Section III – Evaluation Criteria. The Warranty shall warrant that: <ul style="list-style-type: none"> <li>a) The Goods to be supplied under the intended contract are new, unused, of the most recent or current specification and incorporate all recent improvements in design and materials unless provided otherwise in the Tender.</li> <li>b) The Warranty shall also warrant that the Goods in the Tenderer’s bid have no defect arising from manufacture, materials or workmanship or from any act or omission of the Tenderer that may develop under normal use of the Goods under the conditions obtaining in Kenya. <ul style="list-style-type: none"> <li>• Audited Financial Statements for the <b>Three (3) years</b> and as stipulated in Section III of the Evaluation criteria</li> </ul> </li> </ul> </li> </ul> <p>If a Bidder is not a Manufacturer, they shall demonstrate that they have successfully completed at least four (4) contracts of similar goods in the <b>past five (5) years</b>.</p>
<b>ITB 13.1</b>	Alternative Bids <b><i>shall not</i></b> be considered.
<b>ITB 14.5</b>	The prices quoted by the Bidder <b><i>shall not</i></b> be adjustable.
<b>ITB 14.6</b>	<p>(a). Prices quoted shall correspond to <b>100%</b> (Meters and Miniature Circuit) of the items specified</p> <p>(b). Prices quoted shall correspond to <b>100%</b> of the quantities specified for this item.</p>
<b>ITB 14.7</b>	<p>The Incoterms edition is Incoterms 2020. However, the definition of the place and date associated with “delivery” is modified as follows:</p> <p>(a) Under “CIP” Incoterms defines “delivery” as the place and date where risk transfers from the seller to the buyer;</p> <p>(b) In these Bidding Documents, when using “CIP” and not referring to the transfer of risk, the term “delivery” shall be interpreted as the date and place where the Goods and Related Services arrive at the <u>named place of final destination</u>, and this date should be reflected in the Delivery and Completion Schedule.</p>

<b>ITB 14.8 (b) (i)</b>	Named Place of Destination: <b>Final destination named on the List of goods and Delivery Schedule in Section VI</b>										
<b>ITB 14.8 (d)</b>	<p>For Goods manufactured outside the Purchaser's country, to be Imported, the Supplier shall be responsible for clearance of the items. However, KPLC shall issue an exemption letter for the following;</p> <ol style="list-style-type: none"> <li>1. Custom Duties</li> <li>2. Import Declaration Fees</li> <li>3. Value Added Tax(VAT)</li> <li>4. Railway Development Levy (RDL)</li> </ol> <p>The bidders shall include in their bid the agency fees for <b>clearing and forwarding charges</b> for Mombasa Port, inland container depots and border points. The <b>clearing and forwarding charges</b> shall be <b>included in the Price Schedule (Column 8) for Goods manufactured outside the Purchaser's country, to be Imported.</b></p>										
<b>ITB 15.1</b>	<p>The prices shall be quoted by the bidder in: KSH and/or €</p> <p>The Bidder <i>is</i> required to quote in the currency of the Purchaser's Country the portion of the bid price that corresponds to expenditures incurred in that currency.</p>										
<b>ITB 16.4</b>	Period of time the Goods are expected to be functioning (for the purpose of spare parts): <i>N/A</i>										
<b>ITB 17.2 (a)</b>	Manufacturer's authorization is: <b><i>Required</i></b>										
<b>ITB 17.2 (b)</b>	After sales service is: <b><i>Not Required. However, 60 months warranty is required as stipulated in the special conditions of contract (SCC 28.3)</i></b>										
<b>ITB 18.1</b>	The bid validity period shall be <b><i>180</i></b> days.										
<b>ITB 18.3 (a)</b>	The bid price shall be adjusted by the following factor: <i>N/A</i>										
<b>ITB 19.1</b>	A Bid Security <u><i>is</i></u> required.										
	A Bid-Securing Declaration <u><i>is not</i></u> required.										
	If a bid security shall be required, the Bidder shall furnish a bid security in the form of a Bank Guarantee Only; in <b>Kenya shilling or Euros</b> as tabulated below:										
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;"><b>Identification Number</b></th> <th style="width: 20%;"><b>Bid Security Amount in KES</b></th> <th style="width: 10%; text-align: center;"><b>OR</b></th> <th style="width: 20%;"><b>Bid Security Amount in Euro (€)</b></th> </tr> </thead> <tbody> <tr> <td><b>KP1/6E.3/OT/1/24/B19</b></td> <td style="text-align: center;">19,000,000</td> <td></td> <td style="text-align: center;">117,000</td> </tr> </tbody> </table>	<b>Identification Number</b>	<b>Bid Security Amount in KES</b>	<b>OR</b>	<b>Bid Security Amount in Euro (€)</b>	<b>KP1/6E.3/OT/1/24/B19</b>	19,000,000		117,000		
<b>Identification Number</b>	<b>Bid Security Amount in KES</b>	<b>OR</b>	<b>Bid Security Amount in Euro (€)</b>								
<b>KP1/6E.3/OT/1/24/B19</b>	19,000,000		117,000								

<b>ITB 19.3 (a)</b>	The bid Security: The Bid Security shall be issued by a reputable licensed Bank. If the Bid Security is issued by a Bank licensed outside of the Employer's Country, the issuing Bank will enable the Employer to authenticate the validity of the security in question. In case the Employer does not receive confirmation from the issuing bank on the authenticity of the Bid Security and its ability to enforce the security within the requested period, the Employer will have the right to reject the bid.
<b>ITB 19.3 (d)</b>	Other types of acceptable securities: <i>None</i>
<b>ITB 19.9</b>	N/A
<b>ITB 20.1</b>	Bidders <b>shall not</b> have the option of submitting their bids electronically
<b>ITB 20.2</b>	The written confirmation of authorization to sign on behalf of the Bidder shall consist of:  - A Power of Attorney established in the name of the signatory of the bid and his sample signature appended on it.
<b>D. Submission and Opening of Bids</b>	
<b>ITB 22.1</b>	For bid submission purposes only, the employer's address is: Attention: The General Manager, Supply Chain & Logistics The Kenya Power and Lighting Company PLC Stima Plaza, Kolobot Road Floor: 3rd Floor City: Nairobi ZIP/Postal Code: P.O. Box 30099 - 00100 Country: Kenya.  The deadline for bid submission is: <b>Date: 19<sup>th</sup> November, 2024</b> <b>Time: 10:00 AM</b>  Bidders <i>shall not</i> have the option of submitting their bids electronically
<b>ITB 25.1</b>	The bid opening shall take place at: Address: Street Address: <b>Stima Plaza, Kolobot Road, Parklands</b> Floor/Room number: <i>Auditorium</i> City: <i>Nairobi</i> Country: Kenya  <b>Date: 19<sup>th</sup> November, 2024</b> <b>Time: 10:30 AM</b>

<b>E. Evaluation and Comparison of Bids</b>	
<b>ITB 32.1</b>	<p>The currency that shall be used for bid evaluation and comparison purposes to convert all bid prices expressed in different currencies into a single currency is: <b><i>KSH (Kenya Shilling)</i></b></p> <p>The source of exchange rate shall be: <b>CENTRAL BANK OF KENYA</b></p> <p>The date for the exchange rate shall be <b>Tender Closing Date</b> <b><i>(19<sup>th</sup> November, 2024)</i></b></p>
<b>ITB 33.1</b>	A margin of domestic preference <b><i>shall not</i></b> apply.
<b>ITB 34.2</b>	Evaluation will be done for: <b><i>Both Items that will constitute one contract</i></b>
<b>ITB 34.2 (f) The additional evaluation factors as specified in Section III, Evaluation and Qualification Criteria.</b>	<p><i>KPLC is a distribution utility that has been distributing electricity for close to a decade and it has faced several challenges in electricity metering. The business environment surrounding the Kenyan electricity sector has necessitated the company to develop specifications/requirements that go beyond the general guidelines of the IEC standards (IEC 62053-21, IEC 62053-23 and IEC 62055-41). The incorporation of the IEC standards and the requirements of the business environment brings a unique element to the meters supplied to KPLC hence the need of sample testing as a requirement before award.</i></p> <p><i>Submission of Meter Samples is therefore required at bid submission stage. The Meter Sample shall be as required under Technical Specifications for Single Phase Split Prepayment Meters (KP1/13D/4/1/TSP/14/11-02) for testing and approval during evaluation and before award of contract.</i></p> <p><b><i>3pcs of samples for the Meter shall be required</i></b></p>
<b>F. Award of Contract</b>	
<b>ITB 38</b>	<p>Contract award shall be to the lowest evaluated bid that offers lowest total sum for both items.</p> <p><b>KPLC shall also take into consideration the following:</b></p> <ol style="list-style-type: none"> <li>a) Delivery capability as per information given in the Capacity Declaration form in Section III</li> <li>b) The monthly production capacity;</li> <li>c) Timely Delivery as per delivery schedule in previous order and satisfactory performance as per the provided delivery Schedule or at least 50% delivery on previous orders.</li> </ol>

<b>ITB 39.1</b>	<p>The maximum percentage by which quantities may be increased is: <b>15%</b></p> <p>The maximum percentage by which quantities may be decreased is: <b>15%</b></p>
<b>ITB 40.1</b>	<p>If a Bidder wishes to make a Procurement-related Complaint or a request for debriefing, the Bidder should submit its complaint following these procedures, in writing to:</p> <p><b>For the attention:</b></p> <p>The General Manager, Supply Chain &amp; Logistics  Kenya Power and Lighting Company PLC  P.O. Box 30099 – 00100  Nairobi</p> <p><b>Email address:</b> <a href="mailto:JKNgeno@kplc.co.ke">JKNgeno@kplc.co.ke</a></p> <p>In the event that the bidder is not satisfied by the response on their complaints they could channel the same to the Public Procurement Administrative Review Board (PPARB).</p> <p>Additionally, a bidder could also launch their complaints through the EIB Complaints Mechanism (EIB-CM) through <a href="mailto:procurementcomplaints@eib.org">procurementcomplaints@eib.org</a>.</p>



## Section III. Evaluation and Qualification Criteria

*This Section complements the Instructions to Bidders. It contains the criteria that the Purchaser may use to evaluate a bid and determine whether a Bidder has the required qualifications. No other criteria shall be used.*

### Contents

1. EVALUATION (ITB 34) .....	32
2. QUALIFICATION (ITB 36) .....	33
3. DOMESTIC PREFERENCE (ITB 33) .....	40

## 1. Evaluation (ITB 34)

### 1.1 Evaluation Criteria (ITB 34.6)

The Purchaser's evaluation of Bids for Goods shall take into account, in addition to the Bid Price quoted in accordance with ITB Clause 14.8 the following factors as specified in ITB Sub-Clause 34.2 (f), using the following criteria and methodologies.

(a) **Delivery Schedule**

The Goods specified in the List of Goods are required to be delivered within the acceptable time range (after the earliest and before the final date, both dates inclusive) specified in Section VII, Delivery Schedule. No credit will be given to deliveries before the earliest date, and bids offering delivery after the final date shall be treated as non-responsive.

b) **Sample Testing**

The Submitted Meter Samples as per Section 11-Bid data sheet ITB 34.2 (f) shall be tested in accordance to the issued Technical Specifications for Single Phase Split Prepayment Meters (KP1/13D/4/1/TSP/14/11-02). This shall be conducted at bid evaluation stage before contract to award. Samples that do not meet requirements of the specification shall be rejected and the bid shall be treated as non-responsive.

### 1.2. Contract Award (ITB 34.4)

The Purchaser shall award **a single contract** to the lowest evaluated Bid price and meets the post-qualification criteria (this Section III, 2. Qualification (ITB 36)).

## 2. Qualification (ITB 36)

After determining the lowest-evaluated bid in accordance with ITB 35.1, the Purchaser shall carry out the post qualification of the Bidder in accordance with ITB 36, using only the requirements specified. Requirements not included in the tables below shall not be used in the evaluation of the Bidder's qualifications.

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
<b>1. Eligibility</b>							
1.1	<b>Nationality</b>	Nationality in accordance with ITB 4.3	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Forms ELI – 1.1 and 1.2, with attachments
1.2	<b>Conflict of Interest</b>	No conflicts of interest in accordance with ITB 4.2	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Bid Submission Form
1.3	<b>EIB Eligibility</b>	Being eligible for EIB financing, as described in ITB 4.3	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Covenant of Integrity (appendix to Letter of Bid) - must be signed and sealed, failure to which the bid shall be treated as non-responsive.
1.4	<b>State-owned Entity</b>	Meets conditions of ITB 4.3	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Forms ELI – 1.1 and 1.2, with attachments

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
<b>2. Historical Contract Non-Performance</b>							
2.1	<b>History of Non-Performing Contracts</b>	Termination of a contract <sup>1</sup> did not occur as a result of Supplier default in the past 5 years.	Must meet requirement <sup>2</sup>	Must meet requirements	Must meet requirement <sup>2</sup>	N/A	Form CON-2
2.2	<b>Suspension Based on Execution of Bid Securing Declaration by the Purchaser or withdrawal of the Bid within Bid validity</b>	Not under suspension based on execution of a Bid Securing Declaration pursuant to ITB 4.4 or withdrawal of a Bid pursuant ITB 19.9.	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Bid Submission Form
2.3	<b>Pending Litigation</b>	All pending litigation shall in total not represent more than one hundred percent (100%) of the Bidder's net worth and shall be treated as resolved against the Bidder.	Must meet requirement	N/A	Must meet requirement	N/A	Form CON – 2

<sup>1</sup> Non-performance shall include all terminations of contracts where (a) non-performance was not challenged by the supplier, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the supplier. Non-performance shall not include contracts where Purchasers decision was overruled by the dispute resolution mechanism.

<sup>2</sup> This requirement also applies to contracts executed by the Bidder as JV member.

Eligibility and Qualification Criteria		Compliance Requirements			Documentation		
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
<b>3. Financial Situation and Performance</b>							
3.1	<b>Financial Capabilities</b>	Submission of audited balance sheets or if not required by the law of the Bidder's country, other financial statements acceptable to the Purchaser, for the last 3 years to demonstrate the current soundness of the Bidder's financial position based on the following criteria:  <b>a) liquidity ratio <math>\geq 1.1</math></b> ((Current Assets) / (Current Liabilities) $\geq 1.1$ )  <b>b) indebtedness ratio <math>\leq 80\%</math></b> ((Total Liabilities) x 100 / (Total Assets) $\leq 80\%$ )]	Must meet requirement	N/A	Must meet requirement	N/A	Form FIN – 3.1, with attachments
3.2	<b>Average Annual Supplier Turnover</b>	Minimum average annual supplier turnover for the last three (3) years of <b>EUR. 11,500,000</b>	Must meet requirement	Must meet requirement	Must meet at least twenty-five percent (25%) of the requirement	Must meet at least forty percent (40%) of the requirement	Form FIN – 3.2

Eligibility and Qualification Criteria		Compliance Requirements			Documentation		
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
<b>4. Experience</b>							
4.1	<b>Similar Experience</b>	A minimum number of similar <sup>3</sup> contracts specified below that have been satisfactorily and substantially <sup>4</sup> completed as Supplier, or joint venture member <sup>5</sup> , in any period within the last five (5) years. -One (1) Contract of minimum value of Eur. 6,000,000 or Two (2) contracts, each of minimum value of Eur. 3,000,000	Must meet requirement	Must meet requirement <sup>6</sup>	N/A	N/A	Form EXP 4.1

<sup>3</sup> The similarity shall be based on the physical size, complexity, methods/technology and/or other characteristics described in Section VII, Schedule of Requirements. Summation of number of small value contracts (less than the value specified under requirement) to meet the overall requirement will not be accepted.

<sup>4</sup> Substantial completion shall be based on 80% or more completed under the contract.

<sup>5</sup> For contracts under which the Bidder participated as a joint venture member or sub-contractor, only the Bidder's share, by value, shall be considered to meet this requirement.

<sup>6</sup> In the case of JV, the value of contracts completed by its members shall not be aggregated to determine whether the requirement of the minimum value of a single contract has been met. Instead, each contract performed by each member shall satisfy the minimum value of a single contract as required for single entity. In determining whether the JV meets the requirement of total number of contracts, only the number of contracts completed by all members each of value equal or more than the minimum value required shall be aggregated.

## 4.2 SPECIFIC EXPERIENCE

### (A) **If Bidder is Manufacturer:**

#### (i) Experience Capacity

The Bidder shall furnish documentary evidence to demonstrate that it meets the following experience requirement(s):

- (a) The Bidder shall have minimum of three (3) years' experience in manufacturing the meters /MCBs (Miniature circuit breakers). In the event of Joint Venture, the party who will supply goods must meet this requirement.
- (b) The Bidder shall submit the type test reports and certificates from the relevant International or National Testing/Standards Authority or ISO/IEC 17025 accredited independent laboratory for goods being bid for i.e. meters/ MCBs. In the event of Joint Venture, the party who will supply goods must meet this requirement.
- (c) The Bidder shall furnish documentary evidence to demonstrate that the Bidder has supplied similar goods in any period within the last five years between 2019 to 2024. In the event of a joint venture all parties combined must meet this requirement.

**Note:** Where the Bidder is not from the purchaser's country, then the Bidder shall furnish documentary evidence to demonstrate that it has supplied at least equal quantities of the same size and type of Single Phase Pre-paid meters and Miniature Circuit Breakers (as tabulated below) outside the country of the Bidder in any period within the last five years between 2019 to 2024:

<b>Item No.</b>	<b>Description</b>	<b>Quantity</b>
1	Single Phase Prepaid Meters	500,000
2	Miniature Circuit Breakers (MCBs)	250,000

#### (ii) Supply Capacity

The Bidder shall be required to provide the following information in the format shown below in order to determine the available capacity. This information shall be certified by an auditor that certified the financial statements of the Bidder. The Purchaser reserves the right to verify this information before contract award. Details provided in this form must reflect the actual supply capacity of the bidder. Any inconsistency in the capacity declaration may lead to rejection of the bids. The Contracts received from January 1, 2019 till date of invitation for bid shall be included in the table below to demonstrate that bidder meets at least the quantities indicated for each item in the table below in the last five years:

**a) CAPACITY DECLARATION FORM- Single Phase Prepaid Meters**

Contract #	Employer Name	Order No.	Ordered Quantity	Supplied in 2019	Supplied in 2020	Supplied in 2021	Supplied in 2022	Supplied in 2023	Supplied in 2024	Balance to be supplied as on bid submission date-----
		<b>Total</b>								

**b) CAPACITY DECLARATION FORM- Miniature Circuit Breakers (MCBs)**

Contract #	Employer Name	Order No.	Ordered Quantity	Supplied in 2019	Supplied in 2020	Supplied in 2021	Supplied in 2022	Supplied in 2023	Supplied in 2024	Balance to be supplied as on bid submission date-----
		<b>Total</b>								

The Bidder shall meet the available bid capacity which will be calculated as under:

Available Bid capacity = ( A - B )  
 where

A = Total quantity supplied in any period within the last five years (2019, 2020, 2021, 2022,2023 and 2024)

B = Balance Quantity to be supplied as at bid submission date for any ongoing orders.

**Notes:**

1. The Bidder shall have an **available supply capacity equivalent to the quantities required in each item**, based on the above formula
  2. The quantity will be rounded off to next thousand.
-



---

In the event of a joint venture, all parties combined must meet this requirement.  
The Supply Capacity quantity will be rounded off to next thousand.

In the event of a Joint Venture, all parties combined must meet this requirement.

The following supporting documents are required to be submitted in the Bid to support Bidder's supply Capacity information:

- (a) Certified true copies of the contracts/purchase orders to support the data provided in the table above including acceptance certificates. The contract copies shall also have following details:
  - The Client's name, address and contact person's phone number and email address
  - The contract amount
  
- (B) **If the Bidder is not manufacturer:**
  - 1) If a Bidder is not a manufacturer, but is offering the Goods on behalf of the Manufacturer under Manufacturer's Authorization Form (Section IV, Bidding Forms), The Manufacturer who provided the Manufacturer's authorization shall meet the following requirements;
    - (a) Shall have minimum of three (3) years experience in manufacturing the meters and MCBs (Miniature circuit breakers). In the event of Joint Venture, the party who will supply goods must meet this requirement.
    - (b) The Bidder shall submit the type test reports and certificates from the relevant International or National Testing/Standards Authority or ISO/IEC 17025 accredited independent laboratory for goods being bid for i.e. meters and MCBs from the manufacturer.
  - 2) The bidder shall demonstrate that they meet Experience Capacity and supply capacity as given above under ((A) (i) (c) & (ii)).

---

**3. Domestic Preference (ITB 33)**

N/A

---

---

# Section IV. Bidding Forms

## Table of Forms

<b>BID SUBMISSION FORM</b> .....	<b>42</b>
<b>EIB COVENANT OF INTEGRITY TEMPLATE</b> .....	<b>44</b>
<b>FORM ELI-1.2: BIDDER'S JV INFORMATION FORM</b> .....	<b>47</b>
<b>FORM CON-2: HISTORICAL CONTRACT NON-PERFORMANCE, PENDING LITIGATION AND LITIGATION HISTORY</b> .....	<b>48</b>
<b>FORM FIN-3.1: FINANCIAL SITUATION AND PERFORMANCE</b> .....	<b>50</b>
<b>FORM FIN-3.2: AVERAGE ANNUAL TURNOVER</b> .....	<b>52</b>
<b>FORM EXP-4.1: EXPERIENCE</b> .....	<b>53</b>
<b>PRICE SCHEDULE FORMS</b> .....	<b>55</b>
<b>PRICE AND COMPLETION SCHEDULE - RELATED SERVICES – NOT APPLICABLE</b> .....	<b>60</b>
<b>FORM OF BID SECURITY (BANK GUARANTEE)</b> .....	<b>61</b>
<b>MANUFACTURER'S AUTHORIZATION</b> .....	<b>62</b>

## Bid Submission Form

*[The Bidder shall prepare his Bid Submission Form on a Letterhead paper specifying his name and address]*

Date: \_\_\_\_\_

IPC No.: \_\_\_\_\_

Invitation for Bid No.: \_\_\_\_\_

Alternative No.: \_\_\_\_\_

To: \_\_\_\_\_

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB 8) \_\_\_\_\_;
- (b) We have no conflict of interest in accordance with ITB 4.2;
- (c) We have not been suspended nor declared ineligible by the Purchaser based on execution of a Bid Securing Declaration in the Purchaser's country in accordance with ITB 4.4;
- (d) We offer to supply in conformity with the Bidding Documents and in accordance with the Delivery Schedule specified in the Schedule of Requirements the following Goods: \_\_\_\_\_  
\_\_\_\_\_;
- (e) The total price of our Bid, excluding any discounts offered in item (f) below is:
  - i) In case of only one lot, total price of the Bid  
\_\_\_\_\_
  - ii) In case of multiple lots, total price of each lot \_\_\_\_\_
  - iii) In case of multiple lots, total price of all lots (sum of all lots) \_\_\_\_\_
- (f) The discounts offered and the methodology for their application are:
  - i) The discounts offered are: \_\_\_\_\_
  - ii) The exact method of calculations to determine the net price after application of discounts is shown below: \_\_\_\_\_
- (g) Our bid shall be valid for a period of \_\_\_\_\_ days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (h) If our bid is accepted, we commit to obtain a performance security in accordance with ITB 42 of the Bidding Documents;
- (i) We are not participating, as a Bidder, in more than one bid in this bidding process in accordance with ITB 4.2(e), other than alternative bids submitted in accordance with ITB 13;

- (j) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed;
- (k) We understand and accept that the Purchaser reserves the right to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders; and
- (l) We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any type of fraud and corruption.

Name of the Bidder\* \_\_\_\_\_

Name of the person duly authorized to sign the Bid on behalf of the Bidder\*\* \_\_\_\_\_

Title of the person signing the Bid \_\_\_\_\_

Signature of the person named above \_\_\_\_\_

Date signed \_\_\_\_\_ day of \_\_\_\_\_

\*: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

\*\* : Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid

## EIB Covenant of Integrity Template

To: \_\_\_\_\_

“We declare and covenant that neither we nor anyone, including any of our directors, employees, agents, joint venture partners or sub-contractors, where these exist, acting on our behalf with due authority or with our knowledge or consent, or facilitated by us, has engaged, or will engage, in any Prohibited Conduct (as defined below) in connection with the tendering process or in the execution or supply of any works, goods or services for [*specify the contract or tender invitation*] (the “**Contract**”) and covenant to so inform you if any instance of any such Prohibited Conduct shall come to the attention of any person in our organization having responsibility for ensuring compliance with this Covenant.

We shall, for the duration of the tender process and, if we are successful in our tender, for the duration of the Contract, appoint and maintain in office an officer, who shall be a person reasonably satisfactory to you and to whom you shall have full and immediate access, having the duty, and the necessary powers, to ensure compliance with this Covenant.

We declare and covenant that neither we nor anyone, including any of our directors, employees, agents, joint venture partners or sub-contractors, where these exist, acting on our behalf with due authority or with our knowledge or consent, or facilitated by us, (i) is listed or otherwise subject to EU/UN Sanctions and (ii) in connection with the execution or supply of any works, goods or services for the Contract, will act in contravention of EU/UN Sanctions. We covenant to so inform you if any instance shall come to the attention of any person in our organization having responsibility for ensuring compliance with this Covenant.

If (i) we have been, or any such director, employee, agent or joint venture partner, where this exists, acting as aforesaid has been, convicted in any court or sanctioned by any authority of any offence involving a Prohibited Conduct in connection with any tendering process or provision of works, goods or services during the five years immediately preceding the date of this Covenant, or (ii) any such director, employee, agent or a representative of a joint venture partner, where this exists, has been dismissed or has resigned from any employment on the grounds of being implicated in any Prohibited Conduct, or (iii) we have been, or any of our directors, employees, agents or joint venture partners, where these exist, acting as aforesaid has been excluded or otherwise sanctioned by the EU Institutions or any major Multi-lateral Development Bank (including World Bank Group, African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, European Investment Bank or Inter-American Development Bank) from participation in a tendering procedure on the grounds of Prohibited Conduct, we give details of that conviction, dismissal or resignation, or exclusion below, together with details of the measures that we have taken, or shall take, to ensure that neither this company nor any of our directors, employees or agents commits any Prohibited Conduct in connection with the Contract [*give details if necessary*].

We acknowledge that if we are subject to an exclusion decision by the European Investment Bank (EIB), we will not be eligible to be awarded a contract to be financed by the EIB.

---

We grant [indicate the name of the Project Promoter], the European Investment Bank and auditors appointed by either of them, as well as any authority or European Union institution or body having competence under European Union law, the right to inspect and copy our books and records and those of all our sub-contractors under the Contract. We accept to preserve these books and records generally in accordance with applicable law but in any case for at least six years from the date of tender submission and in the event we are awarded the Contract, at least six years from the date of substantial performance of the Contract.”

Name: \_\_\_\_\_ in the capacity of: \_\_\_\_\_

Duly empowered to sign in the name and on behalf of: \_\_\_\_\_

Signature \_\_\_\_\_ Dated: \_\_\_\_\_

***Important Note***

*It should be noted that, in the Covenant of Integrity, the tenderer is requested to self-declare all sanctions and/or exclusions (including any similar decisions having the effect of imposing conditions on the tenderer or its subsidiaries or to exclude the said tenderer or its subsidiaries, such as temporary suspension, conditional non-exclusion, etc.) imposed by the European institutions or any multilateral development banks (including the World Bank Group, the African Development Bank, the Asian Development Bank, European Bank for Reconstruction and Development, European Investment Bank or Inter-American Development Bank), regardless of the date of issue and the expiration or not of such decisions and of the current status of any sanction and/or exclusion. In this regard, any omission or misrepresentation, made knowingly or recklessly, may be considered as fraud under the EIB Anti-Fraud Policy. Therefore, the Employer reserves the right to reject any offer presenting an inaccurate or incomplete Covenant of Integrity, and may cause the rejection of the offer for prohibited conduct.*

---

Form  
Bidder Information Form

ELI-1.1:

Date: \_\_\_\_\_  
IPC No. and title: \_\_\_\_\_  
Page \_\_\_\_\_ of \_\_\_\_\_ pages

Bidder's name
In case of Joint Venture (JV), name of each member:
Bidder's actual or intended country of constitution: <i>[indicate country of Constitution]</i>
Bidder's actual or intended year of constitution:
Bidder's legal address [in country of constitution]:
Bidder's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
1. Attached are copies of original documents of <input type="checkbox"/> Articles of Constitution (or equivalent documents of association) of the legal entity named above; <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITB 4.1; <input type="checkbox"/> In case of state-owned enterprise or institution, in accordance with ITB 4.3 documents establishing: a) Legal and financial autonomy; b) Operation under commercial law; c) Establishing that the Bidder is not dependent agency of the Purchaser.
2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.



## Form ELI-1.2: Bidder's JV Information Form

*(to be completed for each member of Bidder's JV)*

Date: \_\_\_\_\_  
IPC No. and title: \_\_\_\_\_  
Page \_\_\_\_\_ of \_\_\_\_\_ pages

Bidder's JV name:
JV member's name:
JV member's country of constitution:
JV member's year of constitution:
JV member's legal address in country of constitution:
JV member's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
1. Attached are copies of original documents of <input type="checkbox"/> Articles of Constitution (or equivalent documents of association) of the legal entity named above; <input type="checkbox"/> In case of a state-owned enterprise or institution, documents establishing: <ul style="list-style-type: none"> <li>a) Legal and financial autonomy;</li> <li>b) Operation in accordance with commercial law; and</li> <li>c) Absence of dependent status, in accordance with ITB 4.3.</li> </ul>
2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

## Form CON-2: Historical Contract Non-Performance, Pending Litigation and Litigation History

*(to be completed by the Bidder and by each member of the Bidder's JV)*

Bidder's Name: \_\_\_\_\_

Date: \_\_\_\_\_

JV Member's Name \_\_\_\_\_

IPC No. and title: \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_ pages

Non-Performed Contracts in accordance with Section III, Evaluation and Qualification Criteria			
<input type="checkbox"/> Contract non-performance did not occur since 1st January <i>[insert current year number less 5]</i> specified in Section III, Evaluation and Qualification Criteria, subclause 2.1.			
<input type="checkbox"/> Contract(s) not performed since 1st January <i>[insert current year number less 5]</i> specified in Section III, Evaluation and Qualification Criteria, subclause 2.1			
Year	Non-performed portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and EUR equivalent)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Purchaser: <i>[insert full name]</i> Address of Purchaser: <i>[insert street/city/country]</i> Reason(s) for non-performance: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>

Pending Litigation, in accordance with Section III, Qualification Criteria and Requirements			
<input type="checkbox"/> No pending litigation in accordance with Section III, Qualification Criteria and Requirements, subclause 2.3.			
<input type="checkbox"/> Pending litigation in accordance with Section III, Evaluation and Qualification Criteria, subclause 2.3 as indicated below.			
Year of dispute	Amount in dispute (currency)	Contract Identification	Total Contract Amount (currency), EUR Equivalent (exchange rate)
		Contract Identification: _____ Name of Purchaser: _____ Address of Purchaser: _____ Matter in dispute: _____ Party who initiated the dispute: _____ Status of dispute: _____	

## Form FIN-3.1: Financial Situation and Performance

Bidder's Name: \_\_\_\_\_

Date: \_\_\_\_\_

JV Member's Name \_\_\_\_\_

IPC No. and title: \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_ pages

### 1. Financial data

Type of Financial information in (currency)	Historic information for previous _____ years, (amount in currency, currency, exchange rate*, EUR equivalent)		
	Year 1	Year 2	Year 3
Statement of Financial Position (Information from Balance Sheet)			
Total Assets (TA)			
Total Liabilities (TL)			
Total Equity/Net Worth (NW)			
Current Assets (CA)			
Current Liabilities (CL)			
Working Capital (WC)			
Information from Income Statement			
Total Revenue (TR)			
Profits Before Taxes (PBT)			
Cash Flow Information			
Cash Flow from Operating Activities			

\*Refer to ITB 15 for the exchange rate

## 2. Financial documents

The Bidder and its parties shall provide copies of financial statements for *three (3)* years pursuant Section III, Evaluation and Qualifications Criteria, Sub-factor 3.1. The financial statements shall:

- (a) Reflect the financial situation of the Bidder or in case of JV member, and not an affiliated entity (such as parent company or group member);
  - (b) Be independently audited or certified in accordance with local legislation;
  - (c) Be complete, including all notes to the financial statements;
  - (d) Correspond to accounting periods already completed and audited.
- Attached are copies of financial statements<sup>7</sup> for the \_\_\_\_\_ years required above and complying with the requirements.

---

<sup>7</sup> If the most recent set of financial statements is for a period earlier than 12 months from the date of bid, the reason for this should be justified.

---

## Form FIN-3.2: Average Annual Turnover

Bidder's Name: \_\_\_\_\_

Date: \_\_\_\_\_

JV Member's Name \_\_\_\_\_

IPC No. and title: \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_ pages

		Annual turnover data	
Year	Amount Currency	Exchange rate	EUR equivalent
<i>[indicate year]</i>	<i>[insert amount and indicate currency]</i>		
Average Annual Turnover *			

\* See Section III, Evaluation and Qualification Criteria, Sub-Factor 3.2.

## Form EXP-4.1: Experience

Bidder's Legal Name: \_\_\_\_\_

Date: \_\_\_\_\_

JV Member's Legal Name: \_\_\_\_\_

IPC No.: \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_ pages

Similar Contract No. __/insert specific number] of [total number of contracts] __ required	Information	
Contract Identification	_____	
Award date	_____	
Completion date	_____	
Role in Contract	_____	
Total contract amount	_____	EUR equivalent____ _____
If member in a JV, specify participation in total contract amount	_____%	EUR equivalent_____
Purchaser's Name:	_____	
Address:	_____	
Telephone/fax number:	_____	
E-mail:	_____	

**Form EXP – 4.1 (cont.)**  
**Experience (cont.)**

Bidder's Legal Name: \_\_\_\_\_ Page \_\_\_\_\_ of \_\_\_\_\_ pages  
 JV Member's Legal Name: \_\_\_\_\_

<b>Similar Contract No. __ /insert specific number] of [total number of contracts] __ required</b>	<b>Information</b>
Description of the similarity in accordance with Sub-Factor 4.1 or 4.2 of Section III:	
Amount	_____
Physical size	_____
Complexity	_____
Methods/Technology	_____
Other Characteristics	_____



## Price Schedule Forms

*[The Bidder shall fill in these Price Schedule Forms in accordance with the instructions indicated. The list of line items in column 1 of the **Price Schedules** shall coincide with the List of Goods and Related Services specified by the Purchaser in the Schedule of Requirements.]*

---

## Price Schedule 1: Goods Manufactured Outside the Purchaser's Country, to be Imported

Date: _____								
IPC No: <b>KP1/6E.3/OT/1/24/B19</b>								
(Group C bids, goods to be imported)								
Currencies in accordance with ITB Sub-Clause 15								
1	2	3	4	5	6	7	8	9
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price CIP Mombasa in accordance with ITB 14.8(b)(i)	CIP Price per line item (Col. 5x6)	Price per line item for inland transport and other services required in the purchaser's country to convey the goods to their final destination including agency fees for clearing and forwarding charges at Mombasa port/border points	Total Bid Price without taxes and duties per Line item (Col.7+8)
1.	Single Phase Pre-Paid Meters <i>(KP1/13D/4/1/TSP/14/11-02)</i>			14,582			KPLC Eldoret Store	
2.	Miniature Circuit Breaker(1P+1N) 63A 230/400V 50HZ <i>(KP1/6C/4/1/TSP/11/010)</i>			29,164			KPLC Eldoret Store	
3.	Single Phase Pre-Paid Meters <i>(KP1/13D/4/1/TSP/14/11-02)</i>			19,874			KPLC Kisumu Store	
4.	Miniature Circuit Breaker(1P+1N) 63A 230/400V 50HZ <i>(KP1/6C/4/1/TSP/11/010)</i>			39,748			KPLC Kisumu Store	
5.	Single Phase Pre-Paid Meters <i>(KP1/13D/4/1/TSP/14/11-02)</i>			20,157			KPLC Nakuru Store	
6.	Miniature Circuit Breaker(1P+1N) 63A 230/400V 50HZ <i>(KP1/6C/4/1/TSP/11/010)</i>			40,314			KPLC Nakuru Store	
7.	Single Phase Pre-Paid Meters <i>(KP1/13D/4/1/TSP/14/11-02)</i>			7,502			KPLC Ruaraka Store	
8.	Miniature Circuit Breaker(1P+1N) 63A 230/400V 50HZ <i>(KP1/6C/4/1/TSP/11/010)</i>			15,004			KPLC Ruaraka Store	
9.	Single Phase Pre-Paid Meters <i>(KP1/13D/4/1/TSP/14/11-02)</i>			12,853			KPLC Nyeri Store	
10.	Miniature Circuit Breaker(1P+1N) 63A 230/400V 50HZ <i>(KP1/6C/4/1/TSP/11/010)</i>			25,706			KPLC Nyeri Store	

1	2	3	4	5	6	7	8	9
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price CIP Mombasa in accordance with ITB 14.8(b)(i)	CIP Price per line item (Col. 5x6)	Price per line item for inland transport and other services required in the purchaser's country to convey the goods to their final destination including agency fees for clearing and forwarding charges at Mombasa port/border points	Total Bid Price without taxes and duties per Line item (Col.7+8)
11.	Single Phase Pre-Paid Meters <i>(KPI/13D/4/1/TSP/14/11-02)</i>			9,937			KPLC Embu Store	
12.	Miniature Circuit Breaker(1P+1N) 63A 230/400V 50HZ <i>(KPI/6C/4/1/TSP/11/010)</i>			19,874			KPLC Embu Store	
13.	Single Phase Pre-Paid Meters <i>(KPI/13D/4/1/TSP/14/11-02)</i>			8,901			KPLC Kisii Store	
14.	Miniature Circuit Breaker(1P+1N) 63A 230/400V 50HZ <i>(KPI/6C/4/1/TSP/11/010)</i>			17,802			KPLC Kisii Store	
15.	Single Phase Pre-Paid Meters <i>(KPI/13D/4/1/TSP/14/11-02)</i>			5,347			KPLC Mbaraki Store	
16.	Miniature Circuit Breaker(1P+1N) 63A 230/400V 50HZ <i>(KPI/6C/4/1/TSP/11/010)</i>			10,694			KPLC Mbaraki Store	
							<b>Total Bid Price</b>	

Name of Bidder.....

Signature of Bidder .....

Date.....

## Price Schedule 2: Goods Manufactured in the Purchaser's Country

Purchaser's Country _____			(Group A and B bids) Date: _____						
			Currencies in accordance with ITB 15				IPC No: <b>KP1/6E.3/OT/1/24/B19</b>		
1	2	3	4	5	6	7	8	9	10
Line Item N°	Description of Goods	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price EXW	Total EXW price per line item (Col. 4×5)	Price per line item for inland transport and other services required in the purchaser's country to convey the goods to their final destination	Cost of local labor, raw materials and components from within the Purchaser's Country % of Col. 5	Sales and other taxes payable per line item if Contract is awarded (in accordance with ITB 14.8(a)(ii))	Total Price per line item (Col. 6+7+8+9)
1.	Single Phase Pre-Paid Meters <i>(KP1/13D/4/1/TSP/14/11-02)</i>		14,582			KPLC Eldoret Store			
2.	Miniature Circuit Breaker(IP+1N) 63A 230/400V 50HZ <i>(KP1/6C/4/1/TSP/11/010)</i>		29,164			KPLC Eldoret Store			
3.	Single Phase Pre-Paid Meters <i>(KP1/13D/4/1/TSP/14/11-02)</i>		19,874			KPLC Kisumu Store			
4.	Miniature Circuit Breaker(IP+1N) 63A 230/400V 50HZ <i>(KP1/6C/4/1/TSP/11/010)</i>		39,748			KPLC Kisumu Store			
5.	Single Phase Pre-Paid Meters <i>(KP1/13D/4/1/TSP/14/11-02)</i>		20,157			KPLC Nakuru Store			
6.	Miniature Circuit Breaker(IP+1N) 63A 230/400V 50HZ <i>(KP1/6C/4/1/TSP/11/010)</i>		40,314			KPLC Nakuru Store			
7.	Single Phase Pre-Paid Meters <i>(KP1/13D/4/1/TSP/14/11-02)</i>		7,502			KPLC Ruaraka Store			

8.	Miniature Circuit Breaker(1P+1N) 63A 230/400V 50HZ <i>(KPI/6C/4/1/TSP/11/010)</i>		15,004			KPLC Ruaraka Store				
9.	Single Phase Pre-Paid Meters <i>(KPI/13D/4/1/TSP/14/11-02)</i>		12,853			KPLC Nyeri Store				
10.	Miniature Circuit Breaker(1P+1N) 63A 230/400V 50HZ <i>(KPI/6C/4/1/TSP/11/010)</i>		25,706			KPLC Nyeri Store				
11.	Single Phase Pre-Paid Meters <i>(KPI/13D/4/1/TSP/14/11-02)</i>		9,937			KPLC Embu Store				
12.	Miniature Circuit Breaker(1P+1N) 63A 230/400V 50HZ <i>(KPI/6C/4/1/TSP/11/010)</i>		19,874			KPLC Embu Store				
13.	Single Phase Pre-Paid Meters <i>(KPI/13D/4/1/TSP/14/11-02)</i>		8,901			KPLC Kisii Store				
14.	Miniature Circuit Breaker(1P+1N) 63A 230/400V 50HZ <i>(KPI/6C/4/1/TSP/11/010)</i>		17,802			KPLC Kisii Store				
15.	Single Phase Pre-Paid Meters <i>(KPI/13D/4/1/TSP/14/11-02)</i>		5,347			KPLC Mbaraki Store				
16.	Miniature Circuit Breaker(1P+1N) 63A 230/400V 50HZ <i>(KPI/6C/4/1/TSP/11/010)</i>		10,694			KPLC Mbaraki Store				
								Total Price		

Name of Bidder.....Signature of Bidder ..... Date .....

### Price and Completion Schedule - Related Services – Not Applicable

Currencies in accordance with ITB 15					Date: _____	
IPC No: <b>KP1/6E-3/OT/1/24/B19</b>						
1	2	3	4	5	6	7
Service N°	Description of Services (excludes inland transportation and other services required in the Purchaser's country to convey the goods to their final destination)	Country of Origin	Delivery Date at place of Final destination	Quantity and physical unit	Unit price	Total Price per Service (Col. 5*6 or estimate)
Total Bid Price						

Name of Bidder ..... Signature of Bidder ..... Date .....

## Form of Bid Security (Bank Guarantee)

*[The bank shall fill in this Bank Guarantee Form in accordance with the instructions indicated.]*

**Beneficiary:** \_\_\_\_\_

**Invitation for Bids No:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**BID GUARANTEE No.:** \_\_\_\_\_

**Guarantor:** \_\_\_\_\_

We have been informed that \_\_\_\_\_ (hereinafter called "the Applicant") has submitted or will submit to the Beneficiary its bid (hereinafter called "the Bid") for the execution of \_\_\_\_\_ under Invitation for Bids No. \_\_\_\_\_ ("the IFB").

Furthermore, we understand that, according to the Beneficiary's conditions, bids must be supported by a bid guarantee.

At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of \_\_\_\_\_ (\_\_\_\_\_) upon receipt by us of the Beneficiary's first demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:

- (a) Has withdrawn its Bid during the period of bid validity set forth in the Applicant's Bid Submission Form ("the Bid Validity Period"), or any extension thereto provided by the Applicant; or
- (b) Having been notified of the acceptance of its Bid by the Beneficiary during the Bid Validity Period or any extension thereto provided by the Applicant, (i) has failed to execute the contract agreement, or (ii) has failed to furnish the performance security, in accordance with the Instructions to Bidders ("ITB") of the Beneficiary's bidding document.

This guarantee will expire: (a) if the Applicant is the successful bidder, upon our receipt of copies of the contract agreement signed by the Applicant and the performance security issued to the Beneficiary in relation to such contract agreement; or (b) if the Applicant is not the successful bidder, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the bidding process; or (ii) twenty-eight days after the end of the Bid Validity Period.

Consequently, any demand for payment under this guarantee must be received by us at the office indicated above on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758.

\_\_\_\_\_ *[signature(s)]*

## Manufacturer's Authorization

*[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer. The Bidder shall include it in its bid, if so indicated in the **BDS.**]*

Date: *[insert date (as day, month and year) of Bid Submission]*

IPC No.: *[insert number of bidding process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[insert complete name of Purchaser]*

### WHEREAS

We *[insert complete name of Manufacturer]*, who are official manufacturers of *[insert type of goods manufactured]*, having factories at *[insert full address of Manufacturer's factories]*, do hereby authorize *[insert complete name of Bidder]* to submit a bid the purpose of which is to provide the following Goods, manufactured by us:

*[insert name and or brief description of the Goods]*,

and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with Clause 28 of the General Conditions of Contract, with respect to the Goods offered by the above firm.

Signed: *[insert signature(s) of authorized representative(s) of the Manufacturer]*

Name: *[insert complete name(s) of authorized representative(s) of the Manufacturer]*

Title: *[insert title]*

Dated on \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ *[insert date of signing]*



## **Section V. Eligibility Criteria**

### **Eligibility in EIB-Financed Procurement**

**In operations financed by the EIB, tenders are open to nationals of all countries.**

---

## Section VI. EIB Policy – Ethical Conduct

It is the EIB's policy to require that promoters, as well as tenderers, contractors, suppliers and consultants under Bank-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts in accordance with the Bank's Anti-Fraud Policy (published in the Bank's website: [www.eib.org](http://www.eib.org)). The EIB reserves the right to take all appropriate action in order to enforce this policy.

Moreover, the EIB is committed to ensuring that its loans are used for the purposes intended and its operations are free from prohibited conduct (including but not limited to, fraud, corruption, collusion, coercion, obstruction and money laundering and terrorist financing). In pursuance of this policy as set out in EIB's Anti-Fraud Policy and within the framework of its exclusion framework, the Bank:

- may declare an individual or an entity ineligible to be awarded a contract under any EIB Project or to enter into any relationship with the Bank, if it determines pursuant to its exclusion procedures that such individual or entity has engaged in any prohibited conduct in the course of the procurement process and/or implementation of the contract; and
- may cancel all or part of the Bank financing allocated to a contract for works, goods or services if it, at any time, determines pursuant to its exclusion procedures that an individual or an entity has engaged in any prohibited conduct during the procurement process or during the execution of the contract, without the promoter having taken action satisfactory to the Bank to investigate and/or terminate the prohibited conduct or, as the case may be, remedy the damage.

EIB defines prohibited conduct as:

- Corrupt Practice is the offering, giving, receiving or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party.
  - Fraudulent Practice is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation.
  - Coercive Practice is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of any party to influence improperly the actions of a party.
  - Collusive Practice is an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party.
  - Obstructive Practice is (a) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from
-

pursuing the investigation, or (b) acts intended to materially impede the exercise of the EIB's contractual rights of audit or access to information or the rights that any banking, regulatory or examining authority or other equivalent body of the European Union or of its Member States may have in accordance with any law, regulation or treaty or pursuant to any agreement into which the EIB has entered in order to implement such law, regulation or treaty;

- Money Laundering is defined in the Bank's Anti-Fraud Policy on the EIB website ([www.eib.org](http://www.eib.org))
- Terrorist Financing is defined in the Bank's Anti-Fraud Policy

#### Covenant of Integrity

The EIB requires:

- Any tenderer for works, goods or services, as a condition of admission to eligibility, to execute and attach to its tender a Covenant of Integrity (CoI) in the form indicated in Section IV; and
- the promoter, the EIB and auditors appointed by either of them, as well as any authority or European Union institution or body having competence under European Union law, to have the right of inspection of the records of the contractor, supplier or consultant in connection with any Bank-financed contract

#### **Social and Environmental Responsibility**

In order to promote sustainable development, the EIB seeks to ensure that internationally recognized environmental and social standards are complied with. Candidates for EIB-financed contracts shall consequently undertake in the Covenant of Integrity to:

- (i) Comply with and ensure that all their subcontractors or subconsultants comply with international environmental and labour standards, consistent with applicable law and regulations in the country of implementation of the contract, including the fundamental conventions of the International Labour Organization (ILO) and international environmental treaties;
  - (ii) Implement environmental and social risks mitigation measures when specified in the environmental and social management plan (ESMP) provided by the Contracting Authority.
-

## **PART 2 – Supply Requirements**

# Section VII. Schedule of Requirements

## Contents

1.	LIST OF GOODS AND DELIVERY SCHEDULE .....	68
2.	LIST OF RELATED SERVICES AND COMPLETION SCHEDULE .....	71
3.	TECHNICAL SPECIFICATIONS .....	72
4.	DRAWINGS .....	73
5.	INSPECTIONS AND TESTS .....	74

---

### 1. LIST OF GOODS AND DELIVERY SCHEDULE

Item	Description of Goods	Quantity	Physical unit	Final Destination as specified in BDS	Delivery Date			
					Earliest Delivery Date	Latest Delivery Date	Bidder's offered Delivery date [to be provided by the bidder]	
1	Single Phase Prepaid Meters	14,582	Piece	KPLC Eldoret Stores	Within 4 Months after date of contract signature	6 Months after date of contract signature		
		19,874	Piece	KPLC Kisumu Stores	Within 4 Months after date of contract signature	6 Months after date of contract signature		
		20,157	Piece	KPLC Nakuru Stores	Within 4 Months after date of contract signature	6 Months after date of contract signature		
			7,502	Piece	KPLC Ruaraka Stores	Within 4 Months after date of contract signature	6 Months after date of contract signature	
			12,853	Piece	KPLC Nyeri Stores	Within 4 Months after date of contract signature	6 Months after date of contract signature	
			9,937	Piece	KPLC Embu Stores	Within 4 Months after date of contract signature	6 Months after date of contract signature	

Item	Description of Goods	Quantity	Physical unit	Final Destination as specified in BDS	Delivery Date		
					Earliest Delivery Date	Latest Delivery Date	Bidder's offered Delivery date [to be provided by the bidder]
		8,901	Piece	KPLC Kisii Stores	Within 4 Months after date of contract signature	6 Months after date of contract signature	
		5,347	Piece	KPLC Mbaraki Stores	Within 4 Months after date of contract signature	6 Months after date of contract signature	
2	Miniature Circuit Breakers (MCBs)	29,164	Piece	KPLC Eldoret Stores	Within 4 Months after date of contract signature	6 Months after date of contract signature	
		39,748	Piece	KPLC Kisumu Stores	Within 4 Months after date of contract signature	6 Months after date of contract signature	
		40,314	Piece	KPLC Nakuru Stores	Within 4 Months after date of contract signature	6 Months after date of contract signature	
		15,004	Piece	KPLC Ruaraka Stores	Within 4 Months after date of contract signature	6 Months after date of contract signature	





## 2. List of Related Services and Completion Schedule

*– Not Applicable*

*[This table shall be filled in by the Purchaser. The Required Completion Dates should be realistic, and consistent with the required Goods Delivery Dates]*

<b>Service</b>	<b>Description of Service</b>	<b>Quantity<sup>1</sup></b>	<b>Physical Unit</b>	<b>Place where Services shall be performed</b>	<b>Final Completion Date(s) of Services</b>
<i>[insert Service No]</i>	<i>[insert description of Related Services]</i>	<i>[insert quantity of items to be supplied]</i>	<i>[insert physical unit for the items]</i>	<i>[insert name of the Place]</i>	<i>[insert required Completion Date(s)]</i>
	<i>[Training]</i>				
	<i>[Servicing and maintenance]</i>				
	<i>[List of spare parts]</i>				
	<i>[List of consumables]</i>				

1. If applicable

### **3. Technical Specifications**

*1.1 - Single Phase Prepaid Meters Technical Specifications- Refer to Appendix 2*

*1.2 - Miniature Circuit Breakers (MCBs) Technical Specifications- Refer to Appendix 3*

#### 4. Drawings

These Bidding Documents includes *[insert “the following” or “no”]* drawings.

*[If documents shall be included, insert the following List of Drawings]*

<b>List of Drawings</b>		
<b>Drawing Nr.</b>	<b>Drawing Name</b>	<b>Purpose</b>

## **5. Inspections and Tests**

The following inspections and tests shall be performed: *[As per the Technical Specifications attached]*

---

## **PART 3 - Contract**

## Section VIII. General Conditions of Contract

### Table of Clauses

1.	DEFINITIONS.....	78
2.	CONTRACT DOCUMENTS.....	79
3.	ETHICAL CONDUCT.....	79
4.	INTERPRETATION.....	79
5.	LANGUAGE.....	80
6.	JOINT VENTURE, CONSORTIUM OR ASSOCIATION.....	80
7.	ELIGIBILITY.....	80
8.	NOTICES.....	80
9.	GOVERNING LAW.....	80
10.	SETTLEMENT OF DISPUTES.....	81
11.	INSPECTIONS AND AUDIT BY THE EIB.....	81
12.	SCOPE OF SUPPLY.....	81
13.	DELIVERY AND DOCUMENTS.....	81
14.	SUPPLIER'S RESPONSIBILITIES.....	81
15.	CONTRACT PRICE.....	81
16.	TERMS OF PAYMENT.....	82
17.	TAXES AND DUTIES.....	82
18.	PERFORMANCE SECURITY.....	82
19.	COPYRIGHT.....	83
20.	CONFIDENTIAL INFORMATION.....	83
21.	SUBCONTRACTING.....	84
22.	SPECIFICATIONS AND STANDARDS.....	84
23.	PACKING AND DOCUMENTS.....	84
24.	INSURANCE.....	85
25.	TRANSPORTATION.....	85
26.	INSPECTIONS AND TESTS.....	85
27.	LIQUIDATED DAMAGES.....	86
28.	WARRANTY.....	86

---

---

29.	PATENT INDEMNITY.....	87
30.	LIMITATION OF LIABILITY.....	88
31.	CHANGE IN LAWS AND REGULATIONS.....	88
32.	FORCE MAJEURE .....	89
33.	CHANGE ORDERS AND CONTRACT AMENDMENTS.....	89
34.	EXTENSIONS OF TIME.....	90
35.	TERMINATION.....	90
36.	ASSIGNMENT .....	91
37.	EXPORT RESTRICTION.....	91

---

## Section VIII. General Conditions of Contract

- 1. Definitions**
- 1.1 The following words and expressions shall have the meanings hereby assigned to them:
- (a) “EIB” means the European Investment Bank;
  - (b) “Contract” means the Contract Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein;
  - (c) “Contract Documents” means the documents listed in the Contract Agreement, including any amendments thereto;
  - (d) “Contract Price” means the price payable to the Supplier as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions therefrom, as may be made pursuant to the Contract;
  - (e) “Day” means calendar day;
  - (f) “Completion” means the fulfillment of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Contract;
  - (g) “GCC” means the General Conditions of Contract;
  - (h) “Goods” means all of the commodities, raw material, machinery and equipment, and/or other materials that the Supplier is required to supply to the Purchaser under the Contract;
  - (i) “Purchaser’s Country” is the country specified in the Special Conditions of Contract (SCC);
  - (j) “Purchaser” means the entity purchasing the Goods and Related Services, as specified in the SCC;
  - (k) “Related Services” means the services incidental to the supply of the goods, such as insurance, installation, training and initial maintenance and other such obligations of the Supplier under the Contract;
  - (l) “SCC” means the Special Conditions of Contract;
  - (m) “Subcontractor” means any natural person, private or state entity, or a combination of the above, to whom any part of the Goods to be supplied or execution of any part of the Related Services is subcontracted by the Supplier;
-



- (n) "Supplier" means the natural person, private or state entity, or a combination of the above, whose bid to perform the Contract has been accepted by the Purchaser and is named as such in the Contract Agreement;
- (o) "The Project Site," where applicable, means the place named in the SCC.
2. Contract Documents
- 2.1 Subject to the order of precedence set forth in the Contract Agreement, all documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory. The Contract Agreement shall be read as a whole.
3. Ethical Conduct
- 3.1 The EIB requires compliance with its policy in regard to Ethical Conduct as set forth in Appendix 1 to the SCC.
4. Interpretation
- 4.2 If the context so requires it, singular means plural and vice versa.
- 4.3 Incoterms
- (a) Unless inconsistent with any provision of the Contract, the meaning of any trade term and the rights and obligations of parties thereunder shall be as prescribed by Incoterms;
- (b) The terms CIP and other similar terms, when used, shall be governed by the rules prescribed in the current edition of Incoterms specified in the SCC and published by the International Chamber of Commerce in Paris, France.
- 4.4 Entire Agreement
- The Contract constitutes the entire agreement between the Purchaser and the Supplier and supersedes all communications, negotiations and agreements (whether written or oral) of the parties with respect thereto made prior to the date of Contract.
- 4.5 Amendment
- No amendment or other variation of the Contract shall be valid unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party thereto.
- 4.6 Nonwaiver
- (a) Subject to GCC Sub-Clause 4.5(b) below, no relaxation, forbearance, delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect, or restrict the rights of that party under the Contract, neither shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract;
-

- (b) Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, dated, and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

#### 4.7 Severability

If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

### 5. Language

5.1 The Contract as well as all correspondence and documents relating to the Contract exchanged by the Supplier and the Purchaser, shall be written in the language specified in the **SCC**. Supporting documents and printed literature that are part of the Contract may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified, in which case, for purposes of interpretation of the Contract, this translation shall govern.

5.2 The Supplier shall bear all costs of translation to the governing language and all risks of the accuracy of such translation, for documents provided by the Supplier.

### 6. Joint Venture, Consortium or Association

6.1 If the Supplier is a joint venture, consortium, or association, all of the parties shall be jointly and severally liable to the Purchaser for the fulfillment of the provisions of the Contract and shall designate one party to act as a leader with authority to bind the joint venture, consortium, or association. The composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior consent of the Purchaser.

### 7. Eligibility

7.1 All Goods and Related Services to be supplied under the Contract and financed by the EIB shall have their origin in any eligible source as specified in the **SCC**. For the purpose of this Clause, origin means the country where the goods have been grown, mined, cultivated, produced, manufactured, or processed; or through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its components.

### 8. Notices

8.1 Any notice given by one party to the other pursuant to the Contract shall be in writing to the address specified in the **SCC**. The term "in writing" means communicated in written form with proof of receipt.

8.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.

### 9. Governing Law

9.1 The Contract shall be governed by and interpreted in accordance with the laws of the Purchaser's Country, unless otherwise specified in the **SCC**.

---

- 
- 10. Settlement of Disputes**
- 10.1 The Purchaser and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.
- 10.2 If, after twenty-eight (28) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract. Arbitration proceedings shall be conducted in accordance with the rules of procedure **specified in the SCC**.
- 10.3 Notwithstanding any reference to arbitration herein,
- (a) The parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
- (b) The Purchaser shall pay the Supplier any monies due the Supplier.
- 11. Inspections and Audit by the EIB**
- 11.1 The Supplier shall keep, and shall make all reasonable efforts to cause its Subcontractors to keep accurate and systematic accounts and records, in respect of the Goods in such form and details as will clearly identify relevant time changes and costs.
- 11.2 The Supplier shall permit, and shall cause its Subcontractors and consultants to permit, the EIB and/or persons appointed by the EIB to inspect the Supplier's offices and all accounts and records relating to the performance of the Contract and the submission of the bid, and to have such accounts and records audited by auditors appointed by the EIB if requested by the EIB.
- 12. Scope of Supply**
- 12.1 The Goods and Related Services to be supplied shall be as specified in the Schedule of Requirements.
- 13. Delivery and Documents**
- 13.1 Subject to GCC Sub-Clause 33.1, the Delivery of the Goods and Completion of the Related Services shall be in accordance with the Delivery and Completion Schedule specified in the Schedule of Requirements. The details of shipping and other documents to be furnished by the Supplier are specified in the **SCC**.
- 14. Supplier's Responsibilities**
- 14.1 The Supplier shall supply all the Goods and Related Services included in the Scope of Supply in accordance with GCC Clause 12, and the Delivery and Completion Schedule, as per GCC Clause 13.
- 15. Contract Price**
- 15.1 Prices charged by the Supplier for the Goods supplied and the Related Services performed under the Contract shall not vary from the prices
-

- quoted by the Supplier in its bid, with the exception of any price adjustments authorized in the **SCC**.
- 16. Terms of Payment**
- 16.1 The Contract Price, including any Advance Payments, if applicable, shall be paid as specified in the **SCC**.
- 16.2 The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by invoices describing, as appropriate, the Goods delivered, and Related Services performed, and by the documents submitted pursuant to GCC Clause 13 and upon fulfillment of all other obligations stipulated in the Contract.
- 16.3 Payments shall be made promptly by the Purchaser, but in no case later than sixty (60) days after submission of an invoice or request for payment by the Supplier, and after the Purchaser has accepted it.
- 16.4 The currencies in which payments shall be made to the Supplier under this Contract shall be those in which the bid price is expressed.
- 16.5 In the event that the Purchaser fails to pay the Supplier any payment by its due date or within the period set forth in the **SCC**, the Purchaser shall pay to the Supplier interest on the amount of such delayed payment at the rate shown in the **SCC**, for the period of delay until payment has been made in full, whether before or after judgment or arbitration award.
- 17. Taxes and Duties**
- 17.1 For goods manufactured outside the Purchaser's Country, the Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the Purchaser's Country.
- 17.2 For goods manufactured within the Purchaser's country, the Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.
- 17.3 If any tax exemptions, reductions, allowances or privileges may be available to the Supplier in the Purchaser's Country as specified in the **SCC**, the Purchaser shall use its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.
- 18. Performance Security**
- 18.1 The Supplier shall, within twenty-eight (28) days of the notification of contract award, provide a performance security for the performance of the Contract in the amount specified in the **SCC**.
- 18.2 The proceeds of the Performance Security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
- 18.3 The Performance Security shall be denominated in the currency(ies) of the Contract, or in a freely convertible currency acceptable to the Purchaser; and shall be in one of the format stipulated by the
-

Purchaser in the **SCC**, or in another format acceptable to the Purchaser.

- 18.4 The Performance Security shall be discharged by the Purchaser and returned to the Supplier not later than twenty-eight (28) days following the date of Completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless specified otherwise in the **SCC**.
- 19. Copyright**
- 19.1 The copyright in all drawings, documents, and other materials containing data and information furnished to the Purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party.
- 20. Confidential Information**
- 20.1 The Purchaser and the Supplier shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data, or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following completion or termination of the Contract. Notwithstanding the above, the Supplier may furnish to its Subcontractor such documents, data, and other information it receives from the Purchaser to the extent required for the Subcontractor to perform its work under the Contract, in which event the Supplier shall obtain from such Subcontractor an undertaking of confidentiality similar to that imposed on the Supplier under GCC Clause 20.
- 20.2 The Purchaser shall not use such documents, data, and other information received from the Supplier for any purposes unrelated to the contract. Similarly, the Supplier shall not use such documents, data, and other information received from the Purchaser for any purpose other than the performance of the Contract.
- 20.3 The obligation of a party under GCC Sub-Clauses 20.1 and 20.2 above, however, shall not apply to information that:
- (a) The Purchaser or Supplier need to share with the EIB or other institutions participating in the financing of the Contract;
  - (b) Now or hereafter enters the public domain through no fault of that party;
  - (c) Can be proven to have been possessed by that party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other party; or
  - (d) Otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.
- 20.4 The above provisions of GCC Clause 20 shall not in any way modify any undertaking of confidentiality given by either of the parties hereto
-

- prior to the date of the Contract in respect of the Supply or any part thereof.
- 20.5 The provisions of GCC Clause 20 shall survive completion or termination, for whatever reason, of the Contract.
- 21. Subcontracting**
- 21.1 The Supplier shall notify the Purchaser in writing of all subcontracts awarded under the Contract if not already specified in the bid. Such notification, in the original bid or later shall not relieve the Supplier from any of its obligations, duties, responsibilities, or liability under the Contract.
- 21.2 Subcontracts shall comply with the provisions of GCC Clauses 3 and 7.
- 22. Specifications and Standards**
- 22.1 Technical Specifications and Drawings
- (a) The Goods and Related Services supplied under this Contract shall conform to the technical specifications and standards mentioned in Section VII, Schedule of Requirements and, when no applicable standard is mentioned, the standard shall be equivalent or superior to the official standards whose application is appropriate to the Goods' country of origin;
- (b) The Supplier shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document, or any modification thereof provided or designed by or on behalf of the Purchaser, by giving a notice of such disclaimer to the Purchaser;
- (c) Wherever references are made in the Contract to codes and standards in accordance with which it shall be executed, the edition or the revised version of such codes and standards shall be those specified in the Schedule of Requirements. During Contract execution, any changes in any such codes and standards shall be applied only after approval by the Purchaser and shall be treated in accordance with GCC Clause 33.
- 23. Packing and Documents**
- 23.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their named place of destination, as indicated in the Contract. During transit, the packing shall be sufficient to withstand, without limitation, rough handling and exposure to extreme temperatures, salt and precipitation, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the goods' named place of destination and the absence of heavy handling facilities at all points in transit.
- 23.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional
-

requirements, if any, specified in the **SCC**, and in any other instructions ordered by the Purchaser.

- 24. Insurance**
- 24.1 Unless otherwise specified in the **SCC**, the Goods supplied under the Contract shall be fully insured—in a freely convertible currency from an eligible country—against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery, in accordance with the applicable Incoterms or in the manner specified in the **SCC**.
- 25. Transportation**
- 25.1 Unless otherwise specified in the **SCC**, responsibility for arranging transportation of the Goods shall be in accordance with the specified Incoterms.
- 25.2 The Supplier may be required to provide any or all of the following services, including additional services, if any, specified in **SCC**:
- (a) Performance or supervision of on-site assembly and/or start-up of the supplied Goods;
  - (b) Furnishing of tools required for assembly and/or maintenance of the supplied Goods;
  - (c) Furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods;
  - (d) Performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and
  - (e) Training of the Purchaser's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods.
- 25.3 Prices charged by the Supplier for incidental services, if not included in the Contract Price for the Goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.
- 26. Inspections and Tests**
- 26.1 The Supplier shall at its own expense and at no cost to the Purchaser carry out all such tests and/or inspections of the Goods and Related Services as are specified in the **SCC**.
- 26.2 The inspections and tests may be conducted on the premises of the Supplier or its Subcontractor, and/or at the Goods' named place of destination, or in another place in the Purchaser's Country as specified in the **SCC**. Subject to GCC Sub-Clause 26.3, if conducted on the premises of the Supplier or its Subcontractor, all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Purchaser.
- 26.3 The Purchaser or its designated representative shall be entitled to attend the tests and/or inspections referred to in GCC Sub-Clause 26.2, provided that the Purchaser bear all of its own costs and
-

expenses incurred in connection with such attendance including, but not limited to, all traveling and board and lodging expenses.

- 26.4 Whenever the Supplier is ready to carry out any such test and inspection, it shall give a reasonable advance notice, including the place and time, to the Purchaser. The Supplier shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Purchaser or its designated representative to attend the test and/or inspection.
- 26.5 The Purchaser may require the Supplier to carry out any test and/or inspection not required by the Contract but deemed necessary to verify that the characteristics and performance of the Goods comply with the technical specifications, codes and standards under the Contract, provided that the Supplier's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impedes the progress of manufacturing and/or the Supplier's performance of its other obligations under the Contract, due allowance will be made in respect of the Delivery Dates and Completion Dates and the other obligations so affected.
- 26.6 The Supplier shall provide the Purchaser with a report of the results of any such test and/or inspection.
- 26.7 The Purchaser may reject any Goods or any part thereof that fail to pass any test and/or inspection or do not conform to the specifications. The Supplier shall either rectify or replace such rejected Goods or parts thereof or make alterations necessary to meet the specifications at no cost to the Purchaser, and shall repeat the test and/or inspection, at no cost to the Purchaser, upon giving a notice pursuant to GCC Sub-Clause 26.4.
- 26.8 The Supplier agrees that neither the execution of a test and/or inspection of the Goods or any part thereof, nor the attendance by the Purchaser or its representative, nor the issue of any report pursuant to GCC Sub-Clause 26.6, shall release the Supplier from any warranties or other obligations under the Contract.
- 27. Liquidated Damages**
- 27.1 Except as provided under GCC Clause 32, if the Supplier fails to deliver any or all of the Goods by the Date(s) of delivery or perform the Related Services within the period specified in the Contract, the Purchaser may without prejudice to all its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in the SCC of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in those SCC. Once the maximum is reached, the Purchaser may terminate the Contract pursuant to GCC Clause 35.
- 28. Warranty**
- 28.1 The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent
-



improvements in design and materials, unless provided otherwise in the Contract.

- 28.2 Subject to GCC Sub-Clause 22.1(b), the Supplier further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in the country of named place of destination.
- 28.3 Unless otherwise specified in the **SCC**, the warranty shall remain valid for twelve (12) months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the named place of destination indicated in the **SCC**, or for eighteen (18) months after the date of shipment from the port or place of loading in the country of origin, whichever period concludes earlier.
- 28.4 The Purchaser shall give notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect such defects.
- 28.5 Upon receipt of such notice, the Supplier shall, within the period specified in the **SCC**, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.
- 28.6 If having been notified, the Supplier fails to remedy the defect within the period specified in the **SCC**, the Purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

**29. Patent Indemnity**

- 29.1 The Supplier shall, subject to the Purchaser's compliance with GCC Sub-Clause 29.2, indemnify and hold harmless the Purchaser and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of:
- (a) The installation of the Goods by the Supplier or the use of the Goods in the country where the Site is located; and
  - (b) The sale in any country of the products produced by the Goods.

Such indemnity shall not cover any use of the Goods or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Contract, neither any infringement resulting from the use of the Goods or any part thereof, or any products produced

---

thereby in association or combination with any other equipment, plant, or materials not supplied by the Supplier, pursuant to the Contract.

- 29.2 If any proceedings are brought or any claim is made against the Purchaser arising out of the matters referred to in GCC Sub-Clause 29.1, the Purchaser shall promptly give the Supplier a notice thereof, and the Supplier may at its own expense and in the Purchaser's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.
- 29.3 If the Supplier fails to notify the Purchaser within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Purchaser shall be free to conduct the same on its own behalf.
- 29.4 The Purchaser shall, at the Supplier's request, afford all available assistance to the Supplier in conducting such proceedings or claim, and shall be reimbursed by the Supplier for all reasonable expenses incurred in so doing.
- 29.5 The Purchaser shall indemnify and hold harmless the Supplier and its employees, officers, and Subcontractors from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Supplier may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided or designed by or on behalf of the Purchaser.
- 30. Limitation of Liability**
- 30.1 Except in cases of criminal negligence or willful misconduct,
- (a) The Supplier shall not be liable to the Purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the Purchaser; and
- (b) The aggregate liability of the Supplier to the Purchaser, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the supplier to indemnify the purchaser with respect to patent infringement
- 31. Change in Laws and Regulations**
- 31.1 Unless otherwise specified in the Contract, if after the date of 28 days prior to date of Bid submission, any law, regulation, ordinance, order or bylaw having the force of law is enacted, promulgated, abrogated, or changed in the place of the Purchaser's country where the Site is

located (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the Delivery Date and/or the Contract Price, then such Delivery Date and/or Contract Price shall be correspondingly increased or decreased, to the extent that the Supplier has thereby been affected in the performance of any of its obligations under the Contract. Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable, in accordance with GCC Clause 15.

- 32. Force Majeure**
- 32.1 The Supplier shall not be liable for forfeiture of its Performance Security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- 32.2 For purposes of this Clause, “Force Majeure” means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.
- 32.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.
- 33. Change Orders and Contract Amendments**
- 33.1 The Purchaser may at any time order the Supplier through notice in accordance GCC Clause 8, to make changes within the general scope of the Contract in any one or more of the following:
- (a) Drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
  - (b) The method of shipment or packing;
  - (c) The place of delivery; and
  - (d) The Related Services to be provided by the Supplier.
- 33.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier’s performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or in the Delivery/Completion Schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this Clause must be asserted within twenty-eight
-

- (28) days from the date of the Supplier's receipt of the Purchaser's change order.
- 33.3 Prices to be charged by the Supplier for any Related Services that might be needed but which were not included in the Contract shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.
- 33.4 Subject to the above, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.
- 34. Extensions of Time**
- 34.1 If at any time during performance of the Contract, the Supplier or its subcontractors should encounter conditions impeding timely delivery of the Goods or completion of Related Services pursuant to GCC Clause 13, the Supplier shall promptly notify the Purchaser in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may at its discretion extend the Supplier's time for performance, in which case the extension shall be ratified by the parties by amendment of the Contract.
- 34.2 Except in case of Force Majeure, as provided under GCC Clause 32, a delay by the Supplier in the performance of its Delivery and Completion obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 27, unless an extension of time is agreed upon, pursuant to GCC Sub-Clause 34.1.
- 35. Termination**
- 35.1 Termination for Default
- (a) The Purchaser, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate the Contract in whole or in part:
- (i) If the Supplier fails to deliver any or all of the Goods within the period specified in the Contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause 34;
- (ii) If the Supplier fails to perform any other obligation under the Contract; or
- (iii) If the Supplier, in the judgment of the Purchaser has engaged in fraud and corruption, as defined in GCC Clause 3, in competing for or in executing the Contract.
- (b) In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 35.1(a), the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Related Services similar to those
-

undelivered or not performed, and the Supplier shall be liable to the Purchaser for any additional costs for such similar Goods or Related Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

### 35.2 Termination for Insolvency

- (a) The Purchaser may at any time terminate the Contract by giving notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In such event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to the Purchaser.

### 35.3 Termination for Convenience

- (a) The Purchaser, by notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective;
- (b) The Goods that are complete and ready for shipment within twenty-eight (28) days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:
  - (i) To have any portion completed and delivered at the Contract terms and prices; and/or
  - (ii) To cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Related Services and for materials and parts previously procured by the Supplier.

**36. Assignment**      36.1 Neither the Purchaser nor the Supplier shall assign, in whole or in part, their obligations under this Contract, except with prior written consent of the other party.

**37. Export Restriction**      37.1 Notwithstanding any obligation under the Contract to complete all export formalities, any export restrictions attributable to the Purchaser, to the country of the Purchaser, or to the use of the products/goods, systems or services to be supplied, which arise from trade regulations from a country supplying those products/goods, systems or services, and which substantially impede the Supplier from meeting its obligations under the Contract, shall release the Supplier from the obligation to provide deliveries or services, always provided, however, that the Supplier can demonstrate to the satisfaction of the Purchaser and of the EIB that it has completed all formalities in a timely manner, including applying for permits, authorizations and

---

licenses necessary for the export of the products/goods, systems or services under the terms of the Contract. Termination of the Contract on this basis shall be for the Purchaser's convenience pursuant to Sub-Clause 35.3.

---

## Section IX. Special Conditions of Contract

The following Special Conditions of Contract (SCC) shall supplement and / or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

<b>GCC 1.1(i)</b>	The Purchaser's country is: KENYA
<b>GCC 1.1(j)</b>	The Purchaser is: KENYA POWER & LIGHTING COMPANY LTD
<b>GCC 1.1 (o)</b>	The Named Place of Destination is: <i>Kenya Power &amp; Lighting Company Limited Nairobi Stores as per the delivery schedule.</i>
<b>GCC 4.2</b>	<p>The meaning of the trade terms shall be as prescribed by Incoterms.</p> <p>The version edition of Incoterms shall be <b>Incoterms 2020</b>.</p> <p>However, the definition of the place and date associated with "delivery" is modified as follows:</p> <ul style="list-style-type: none"> <li>(a) Under "CIP" Incoterms defines "delivery" as the place and date where risk transfers from the seller to the buyer.</li> <li>(b) In these Bidding Documents, when using "CIP" and not referring to the transfer of risk, the term "delivery" shall be interpreted as the date and place where the Goods and Related Services arrive at the named place of final destination, and this date shall be reflected in the Delivery Schedule.</li> </ul>
<b>GCC 5.1</b>	The governing and communication language shall be <b>English</b>
<b>GCC 7.1</b>	N/A
<b>GCC 8.1</b>	<p>For <b>notices</b>, the Purchaser's address shall be:</p> <p>Attention:</p> <p style="padding-left: 40px;">Contract Project Manager (EIB) The Kenya Power and Lighting Company Stima Plaza, 2<sup>nd</sup> Floor Kolobot Road, Parklands P.O Box 30099 - 00100 Nairobi, Kenya Telephone: +254-20-3201821</p> <p>Electronic mail address: <a href="mailto:Kyaloj@kplc.co.ke">Kyaloj@kplc.co.ke</a> and a copy to <a href="mailto:Smucheke@kplc.co.ke">Smucheke@kplc.co.ke</a>; <a href="mailto:DMuthangya@kplc.co.ke">DMuthangya@kplc.co.ke</a>; <a href="mailto:VMagana@kplc.co.ke">VMagana@kplc.co.ke</a></p>
<b>GCC 9.1</b>	The governing law shall be the law of: <b>KENYA</b>
<b>GCC 10.2</b>	The rules of procedure for arbitration proceedings pursuant to GCC Clause 10.2 shall be as follows:

	<p><b>(a) Contract with foreign Supplier:</b></p> <p>GCC 10.2—All disputes arising in connection with the present Contract shall be finally settled under the Rules of Conciliation and Arbitration of the International Chamber of Commerce by one or more arbitrators appointed in accordance with said Rules.</p> <p><b>(b) Contracts with Supplier national of the Purchaser's country:</b></p> <p>In the case of a dispute between the Purchaser and a Supplier who is a national of the Purchaser's country, the dispute shall be referred to adjudication or arbitration in accordance with the laws of the Purchaser's country.</p>
GCC 13.1	<p><b>For Goods supplied from abroad:</b></p> <p>Upon shipment, the Supplier shall notify the Purchaser and the Insurance Company by cable or by electronic way previously agreed between parties the full details of the shipment, including Contract number, description of Goods, quantity, the mode of transport, the bill of lading number and date, place of loading, date of shipment, place of discharge, etc. The Supplier shall mail the following documents to the Purchaser, with a copy to the Insurance Company:</p> <ul style="list-style-type: none"> <li>(i) Copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount;</li> <li>(ii) Original and ONE copy of the negotiable, clean, on-board bill of lading marked "freight prepaid" and ONE copy of nonnegotiable bill of lading;</li> <li>(iii) Copies of the packing list identifying contents of each package;</li> <li>(iv) Insurance certificate;</li> <li>(v) Manufacturer's or Supplier's warranty certificate;</li> <li>(vi) Inspection certificate, issued by the nominated inspection agency, and the Supplier's factory inspection report; and</li> <li>(vii) Certificate of origin.</li> </ul> <p>The above documents shall be received by the Purchaser at least two weeks before arrival of the Goods at the place of arrival and, if not received, the Supplier will be responsible for any consequent expenses.</p> <p><b>For Goods from within the Purchaser's country:</b></p> <p>Upon delivery of the Goods to the transporter, the Supplier shall notify the Purchaser and mail the following documents to the Purchaser:</p> <ul style="list-style-type: none"> <li>(i) copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount;</li> <li>(ii) delivery note, railway receipt, or truck receipt;</li> <li>(iii) Manufacturer's or Supplier's warranty certificate;</li> </ul>



	<p>(iv) inspection certificate issued by the nominated inspection agency, and the Supplier's factory inspection report; and</p> <p>(v) Certificate of origin.</p> <p>The above documents shall be received by the Purchaser before arrival of the Goods and, if not received, the Supplier will be responsible for any consequent expenses.</p>
GCC 15.1	<p>The prices charged for the Goods supplied and the related Services performed <b>Shall not</b> be adjustable.</p>
GCC 16.1	<p>GCC 16.1—The method and conditions of payment to be made to the Supplier under this Contract shall be as follows:</p> <p><b>Payment for Goods supplied from abroad:</b></p> <p>Payment of foreign currency portion shall be made in <b>Euros</b> in the following manner:</p> <p>(i) <b>Advance Payment:</b> Ten (10) percent of the Contract Price shall be paid within sixty (60) days of signing of the Contract, and upon submission of claim and a bank guarantee for equivalent amount valid until the Goods are delivered and in the form provided in the bidding documents or another form acceptable to the Purchaser;</p> <p>(ii) <b>On Shipment:</b> Eighty (80) percent of the Contract Price of the Goods shipped shall be paid within sixty (60) days through irrevocable confirmed letter of credit opened in favor of the Supplier in a bank in its country, and/or upon submission of documents specified in GCC Clause 13.1. Payment shall be for the specified quantities as per the delivery period.</p> <p>(iii) <b>On Acceptance:</b> Ten (10) percent of the Contract Price of Goods received shall be paid within sixty (60) days of receipt of the Goods upon submission of claim supported by the acceptance certificate issued by the Purchaser.</p> <p>Payment of local currency portion shall be made in <b>Ksh</b> within sixty (60) days of presentation of claim supported by a certificate from the Purchaser declaring that the Goods have been delivered and that all other contracted Services have been performed.</p> <p><b>Payment for Goods and Services supplied from within the Purchaser's country:</b></p> <p>Payment for Goods and Services supplied from within the Purchaser's country shall be made in <b>Ksh</b> as follows:</p> <p>(i) <b>Advance Payment:</b> Ten (10) percent of the Contract Price shall be paid within Sixty (60) days of signing of the Contract, and upon submission of claim and a Bank guarantee for the equivalent amount and in the form provided in the bidding documents or another form acceptable to the Purchaser;</p>

	<p>(ii) <b>On Delivery:</b> Eighty (80) percent of the Contract Price shall be paid within sixty (60) days on receipt of the Goods and upon submission of the documents specified in GCC Clause 13. Payment shall be for the specified quantities as per the delivery period.</p> <p>(iii) <b>On Acceptance:</b> The remaining ten (10) percent of the Contract Price shall be paid to the Supplier within Sixty (60) days after the date of the acceptance certificate for the respective delivery issued by the Purchaser.</p>
<b>TGCC 16.1</b>	<p>Payment to the Supplier of the amounts due in each currency shall be made into the following bank accounts:</p> <p><i>[insert bank account details at the time of contract signing]</i></p>
<b>GCC 16.5</b>	<p>The payment-delay period after which the Purchaser shall pay interest to the supplier shall be 60 days.</p> <p>The interest rate for payments in foreign currency that shall be applied is <i>[insert LIBOR (6 Months Average)]</i>.</p> <p>The interest rate for payments in local currency that shall be applied is the prevailing Central Bank of Kenya <b>Treasury Bill Rate</b>.</p>
<b>GCC 17.3</b>	<p>The following taxes, duties and fees exemptions apply to the Contract: <i>Custom duties, Value Added Tax, Import Declaration Fee and Railway Development Levy</i></p>
<b>GCC 18.1</b>	<p>The amount of the Performance Security shall be: <b>10% of the Contract Value</b></p>
<b>GCC 18.3</b>	<p>The Performance Security shall be in the form of: <b>A Bank Guarantee</b>. The Performance security shall be denominated in <b>The currencies of payment of the Contract, in accordance with their portions of the Contract Price</b>.</p>
<b>GCC 18.4</b>	<p>Discharge of the Performance Security shall take place: <i>30 days following the completion of the supplier's performance obligations including warranty</i></p>
<b>GCC 23.2</b>	<p>The packing, marking and documentation within and outside the packages shall be: as indicated in <b>Clause 6 of the Technical Specifications - (Marking, Labelling and Packing)</b> and attached to the order.</p>
<b>GCC 24.1</b>	<p>The insurance coverage shall be as specified in the Incoterms.</p>
<b>GCC 25.1</b>	<p>Responsibility for transportation of the Goods shall be as specified in the Incoterms.</p>
<b>GCC 25.2</b>	<p>Incidental services to be provided are: N/A</p>
<b>GCC 26.1</b>	<p>The inspections and tests shall be: as indicated in the Technical Specifications</p>
<b>GCC 26.2</b>	<p>The Inspections and tests shall be conducted by three (3) KPLC Staff at Manufacturer's Place.</p> <p>The cost of inspection and tests shall be borne by the bidder. The cost Exclude costs of travel &amp; accommodation from Kenya to the Nearest Airport to Manufacturer's facility which shall be borne by KPLC.</p>

<b>GCC 27.1</b>	The liquidated damage shall be: <i>0.5%</i> per week
<b>GCC 27.1</b>	The maximum amount of liquidated damages shall be: <i>10%</i>
<b>GCC 28.3</b>	<p>The period of validity of the Warranty shall be: <i>60Months</i> after the date of delivery.</p> <p>For purposes of the Warranty, the named place(s) of destination(s) shall be: <i>As per the delivery Schedule in Section VI</i></p> <p><b>OR</b></p> <p>(b) Pay liquidated damages to the Purchaser with respect to the failure to meet the contractual guarantees. The rate of these liquidated damages shall be <b>10%</b>.</p>
<b>GCC 28.5 and GCC 28.6</b>	The period for repair or replacement shall be: <i>45</i> days.

## Appendix 1 to Special Conditions of Contract –

It is the Bank's policy to require that promoters, as well as tenderers, contractors, suppliers, and consultants under Bank-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. The Bank reserves the right to take all appropriate action in order to enforce this policy. Moreover, the Bank is committed to ensuring that its loans are used for the purposes intended and its operations are free from prohibited conduct (including but not limited to, fraud, corruption, collusion, coercion<sup>1</sup>, and money laundering and terrorist financing).

In pursuance of this policy as set out in EIB's Anti-Fraud Policy and within the framework of its exclusion procedures (published in the Bank's website: [www.eib.org](http://www.eib.org)), the Bank:

- may declare an individual or an entity ineligible to be awarded a contract under any EIB Project or to enter any relationship with the Bank, if it determines pursuant to its exclusion procedures that such individual or entity has engaged in any prohibited conduct in the course of the procurement process and/or implementation of the contract; and
- may cancel all or part of the Bank financing allocated to a contract for works, goods or services if it, at any time, it determines, pursuant to its exclusion procedures, that an individual or an entity has engaged in any prohibited conduct during the procurement process or during the execution of the contract, without the promoter having taken action satisfactory to the Bank to investigate and/or terminate the prohibited conduct or, as the case may be, remedy the damage.

Prohibited Conduct includes corruption, fraud, coercion, collusion, obstruction, money laundering and financing of terrorism defined as follows:

- a. A corrupt practice, which is the offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party.
  - b. A fraudulent practice, which is any act or omission, including a misrepresentation that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation.
  - c. A coercive practice, which is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party.
  - d. A collusive practice, which is an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party.
  - e. An obstructive practice is (a) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or (b) acts intended to materially impede the exercise of the EIB's contractual rights of audit or access to information or the rights that any banking, regulatory or examining authority or other equivalent body of the European Union or of its Member States may have in accordance with any law, regulation or treaty or pursuant to any
-

agreement into which the EIB has entered in order to implement such law, regulation or treaty.

Money laundering and financing of terrorism are defined in EC Directives on the prevention of the use of the financial system for the purpose of money laundering and terrorist financing, as amended and supplemented from time to time (hereafter “AML/CFT Directive”), as follows:

f. Money laundering is

(i) the conversion or transfer of property, knowing that such property is derived from criminal activity or from an act of participation in such activity, for the purpose of concealing or disguising the illicit origin of the property or of assisting any person who is involved in the commission of such activity to evade the legal consequences of his action;

(ii) the concealment or disguise of the true nature, source, location, disposition, movement, rights with respect to, or ownership of property, knowing that such property is derived from criminal activity or from an act of participation in such activity;

(iii) the acquisition, possession or use of property, knowing, at the time of receipt, that such property was derived from criminal activity or from an act of participation in such activity;

(iv) participation in, association to commit, attempts to commit and aiding, abetting, facilitating, and counselling the commission of any of the actions mentioned in the foregoing points.

g. Financing of terrorism is the provision or collection of funds, by any means, directly or indirectly, with the intention that they should be used or in the knowledge that they are to be used, in full or in part, in order to carry out any of the offences within the meaning of Articles 1 to 4 of the Council Framework Decision 2002/475/JHA of 13 June 2002 on combating terrorism.

---

## Section X. Contract Forms

This Section contains forms which, once completed, will form part of the Contract. The forms for Performance Security and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.

### Table of Forms

LETTER OF ACCEPTANCE.....	101
CONTRACT AGREEMENT .....	102
PERFORMANCE SECURITY (BANK GUARANTEE) .....	104
ADVANCE PAYMENT SECURITY .....	105

---

# Letter of Acceptance

*[Letterhead paper of the Purchaser]*

*[date]*

To: *[name and address of the Supplier]*

Subject: **Notification of Award Contract No.** \_\_\_\_\_

This is to notify you that your Bid dated \_\_\_\_\_ *[insert date]* for execution of the \_\_\_\_\_ *[insert name of the contract and identification number,*  
as given in the SCC] for the Contract Price of \_\_\_\_\_ *[insert*  
*amount in numbers and words and name of currency]*, as corrected and modified in accordance with the  
Instructions to Bidders is hereby accepted by our institution.

You are requested to furnish the Performance Security within 28 days but not earlier than 14 days in  
accordance with the Conditions of Contract, using for that purpose the Performance Security Form  
included in Section X, Contract Forms, of the Bidding Documents.

Authorized Signature: \_\_\_\_\_  
Name and Title of Signatory: \_\_\_\_\_  
Name of Institution: \_\_\_\_\_

**Attachment: Contract Agreement**

---

# Contract Agreement

THIS AGREEMENT made

the [ *insert number* ] day of [ *insert: month* ], [ *insert: year* ].

BETWEEN

- (1) [ *insert complete name of Purchaser* ], a [ *insert description of type of legal entity, for example, an agency of the Ministry of .... of the State of {insert name of Country of Purchaser } , or corporation incorporated under the laws of { insert name of Country of Purchaser }* ] and having its principal place of business at [ *insert address of Purchaser* ] (hereinafter called “the Purchaser”), and
- (2) [ *insert name of Supplier* ], a corporation incorporated under the laws of [ *insert: country of Supplier* ] and having its principal place of business at [ *insert: address of Supplier* ] (hereinafter called “the Supplier”).

WHEREAS the Purchaser invited bids for certain Goods and ancillary services, viz., [ *insert brief description of Goods and Services* ] and has accepted a Bid by the Supplier for the supply of those Goods and Services in the sum of [ *insert Contract Price in words and figures, expressed in the Contract currency (ies)* ] (hereinafter called “the Contract Price”).

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
  2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other contract documents.
    - (a) The Letter of Acceptance;
    - (b) The Bid Submission Form and Appendix to Bid Submission Form (including the signed Covenant of Integrity);
    - (c) The Addenda Nos. \_\_\_\_\_ (if any);
    - (d) Special Conditions of Contract;
    - (e) General Conditions of Contract;
    - (f) The Specification (including Schedule of Requirements and Technical Specifications);
    - (g) The completed Bidding Forms (including Price Schedules);
    - (h) Any other document listed in GCC as forming part of the Contract.
  3. In the event of any discrepancy or inconsistency within the Contract documents, then the documents shall prevail in the order listed above.
-



4. In consideration of the payments to be made by the Purchaser to the Supplier as specified in this Agreement, the Supplier hereby covenants with the Purchaser to provide the Goods and Services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
5. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the Goods and Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.
6. The address of the Employer for notice purposes pursuant to GCC 1.3 is:  
\_\_\_\_\_
7. The address of the Contractor for notice purposes pursuant to GCC 1.3 is:  
\_\_\_\_\_

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of *[insert the name of the Contract governing law country]* on the day, month and year indicated above.

For and on behalf of the Purchaser

Signed: *[insert signature]*

In the capacity of *[insert title or other appropriate designation]*

In the presence of *[insert identification of official witness]*

For and on behalf of the Supplier

Signed: *[insert signature of authorized representative(s) of the Supplier]*

In the capacity of *[insert title or other appropriate designation]*

In the presence of *[insert identification of official witness]*

---

*Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.*

## Performance Security (Bank Guarantee)

**Beneficiary:** *[Insert name and Address of Purchaser]*

**Date:** *[Insert date of issue]*

**PERFORMANCE GUARANTEE No.:** *[Insert guarantee reference number]*

**Guarantor:** *[Insert name and address of place of issue, unless indicated in the letterhead]*

WHEREAS..... (hereinafter called “the Supplier”) has undertaken, in pursuance of your Tender Number.....(reference number of the Tender) and its Tender dated .....(insert Supplier’s date of Tender taken from the Tender Form) to supply .....(description of the goods) (hereinafter called “the Tender).. Furthermore, we understand that, according to the conditions of the Tender, a performance guarantee is required.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (\_\_\_\_\_) *[insert amount in words]*,<sup>1</sup> such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary’s first demand supported by the Beneficiary’s statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the .... Day of ....., 2...<sup>2</sup>, and any demand for payment under it must be received by us at this office indicated above on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

\_\_\_\_\_  
*[signature(s)]*

<sup>1</sup>The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, and denominated either in the currency (ies) of the Contract or a freely convertible currency acceptable to the Beneficiary.

<sup>2</sup>Insert the date twenty-eight days after the expected completion date as described in GC Clause 18.4. The Purchaser should note that in the event of an extension of this date for completion of the Contract, the Purchaser would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Purchaser might consider adding the following text to the form, at the end of the penultimate paragraph: “The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Beneficiary’s written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.”

## Advance Payment Security

*[Guarantor letterhead or SWIFT identifier code]*

**Beneficiary:** *[Insert name and Address of Purchaser]*

**Date:** *[Insert date of issue]*

**ADVANCE PAYMENT GUARANTEE No.:** *[Insert guarantee reference number]*

**Guarantor:** *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *[insert name of Supplier, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the execution of *[insert name of contract and brief description of Goods and related Services]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum *[insert amount in figures]* ( ) *[insert amount in words]* is to be made against an advance payment guarantee.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (\_\_\_\_\_) *[insert amount in words]*<sup>1</sup> upon receipt by us of the Beneficiary's first demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:

- (a) Has used the advance payment for purposes other than toward delivery of Goods; or
- (b) Has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Applicant on its account number *[insert number]* at *[insert name and address of Applicant's bank]*.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Applicant as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount,

---

<sup>1</sup> *The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency(ies) of the advance payment as specified in the Contract, or in a freely convertible currency acceptable to the Purchaser.*

---

has been certified for payment, or on the *[insert date<sup>8</sup>]*., whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No.758.

---

*[signature(s)]*

***Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.***

---

<sup>8</sup> *Insert the Delivery date of the Goods at the named place of destination stipulated in the Contract Delivery Schedule. The Purchaser should note that in the event of an extension of the time to perform the Contract, the Purchaser would need to request an extension of this Guarantee from the bank. Such request must be in writing and must be made prior to the expiration date established in the Guarantee. In preparing this Guarantee, the Purchaser might consider adding the following text to the Form, at the end of the penultimate paragraph: “We agree to a one-time extension of this Guarantee for a period not to exceed [six months] [one year], in response to the Purchaser’s written request for such extension, such request to be presented to us before the expiry of the Guarantee.”*

---

## **TECHNICAL SPECIFICATIONS**

***Appendix 2: Single Phase Prepaid Meters Technical Specifications***

---

DOCUMENT NO.: KPI/13D/4/1/TSP/14/11-02




**Kenya Power**

**Single-Phase Split Din-rail Mounting Static Watt-hour Prepayment Meter for Active Energy- Using Power Line Carrier (PLC) as Medium of Communication Between Measurement and Control Unit (MCU) and User Interface Unit (UIU)- Specification**

A Document of The Kenya Power & Lighting Company PLC

February 2023

	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b>	KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b>	1
		<b>Revision No.</b>	4
		<b>Date of Issue</b>	2023-02-10
		Page 2 of 43	

**0.1 CIRCULATION LIST**



COPY NO.	COPY HOLDER
1	Manager, Standards
2	Electronic copy (pdf) on Kenya Power server ( <a href="http://172.16.1.40/dms/browse.php?fFolderId=23">http://172.16.1.40/dms/browse.php?fFolderId=23</a> )

**REVISION OF KPLC STANDARDS**




To keep abreast of progress in the industry, KPLC Standards shall be regularly reviewed. Suggestions for improvements to approved Standards, addressed to the Manager, Standards Department are welcome.


**©THE KENYA POWER & LIGHTING COMPANY PLC**

Users are reminded that by virtue of Section 25 of the Copyright Act, 2001(Revised 2014) Cap 130 of the Laws of Kenya, copyright subsists in all KPLC Standards and except as provided under Section 26 of this Act, no KPLC Standard produced by KPLC may be reproduced, stored in retrieval system by any means without prior permission from the Managing Director & CEO, KPLC.

<b>Issued by: Head of Section, Standards Development</b>	<b>Authorized by: Head of Department, Standards</b>
Signed: 	Signed: 
Date: Date: 2023-02-10	Date: Date: 2023-02-10






 <p><b>Kenya Power</b></p>	<p><b>TITLE:</b>                  SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU</p>	<b>Doc. No.</b>	KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b>	1
		<b>Revision No.</b>	4
		<b>Date of Issue</b>	2023-02-10
		Page 3 of 43	
<p><b>0.2 TABLE OF CONTENTS</b></p> <p>0.1 CIRCULATION LIST ..... 2</p> <p>0.2 TABLE OF CONTENTS ..... 3</p> <p>0.3 AMMENDMENT RECORDS ..... 4</p> <p>0.4 FOREWORD ..... 6</p> <p>1. SCOPE ..... 7</p> <p>2. NORMATIVE REFERENCES ..... 7</p> <p>3. DEFINITIONS AND ABBREVIATIONS ..... 9</p> <p>4. REQUIREMENTS ..... 10</p> <p>    4.1 Operating Conditions ..... 10</p> <p>    4.2 Design and construction requirements ..... 10</p> <p>    4.3 Electrical Requirements ..... 17</p> <p>    4.4 Interoperability Requirements ..... 23</p> <p>5. TESTS AND INSPECTIONS ..... 29</p> <p>6. MARKING AND PACKING ..... 26</p> <p>7. INFORMATION AND WARRANTY ..... 27</p> <p>8. APPENDIX A: TEST AND INSPECTION ..... 29</p> <p>9. APPENDIX B: QUALITY MANAGEMENT SYSTEMS ..... 29</p> <p>10. APPENDIX C: TECHNICAL DOCUMENTATION ..... 29</p> <p>11. APPENDIX D: GUARANTEED TECHNICAL PARTICULARS ..... 32</p>			
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>	
Signed: 		Signed: 	
Date: Date: 2023-02-10		Date: Date: 2023-02-10	

 Kenya Power	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b> KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b> 1
		<b>Revision No.</b> 4
		<b>Date of Issue</b> 2023-02-10
Page 4 of 43		

## 0.3 AMMENDMENTS

Rev No.	Date (YYYY-MM-DD)	Description of Change	Prepared by (Name & Signature)	Approved by (Name & Signature)
4	08/02/2023	Cancels and replaces revision 3 and all previous issues	Peter Wanyonyi Benson Dianga Nancy Wairimu Cleophas Ogutu John Kenyanya John Kinyua	Dr. Eng. Peter Kimemia
4	08/02/2023	Removed part of clause 4.2.1.13 that requires IEC 62059-31-1 based Accelerated Reliability Test (ALT) and Dependability report on meters		
4	08/02/2023	Amended the Rated Voltage and Frequency tolerances on Table 2 to read-Rated nominal voltage (Un) 230vac ±10% & Frequency (Hz) , 50 Hz±1.25Hz		
4	08/02/2023	Amended latching contactor type on Table 2 from Single pole Latching to double pole latching in accordance with IEC 61810- 1 and as indicated in clause 4.3.1		
4	08/02/2023	Added specified characteristics of disconnecting device on Table 2		
4	08/02/2023	Amended load threshold on Table 3 to 22.08kW to accommodate power subtended by 125% I <sub>max</sub> current limit provisions as indicated clause 4.2.1.9		
4	08/02/2023	Amended clause 5.1 to include testing procedures in IEC 62055-31: 2005 including Annexes of A, B, C and D		
4	08/02/2023	Added a section of Appendices having Test Inspection, QMS, Technical Documentation and GTP		

<b>Issued by: Head of Section, Standards Development</b> Signed:  Date: Date: 2023-02-10	<b>Authorized by: Head of Department, Standards</b> Signed:  Date: Date: 2023-02-10
---	---

 <b>Kenya Power</b>	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU		<b>Doc. No.</b> KP1/13D/4/1/TSP/14/11-02
			<b>Issue No.</b> 1
			<b>Revision No.</b> 4
			<b>Date of Issue</b> 2023-02-10
			Page 5 of 43



  


Rev No.	Date (YYYY-MM-DD)	Description of Change	Prepared by (Name & Signature)	Approved by (Name & Signature)
4	08/02/2023	Updated the table 4 on Clause 4.3.7 to include code 095 for Cancelling Audible Alarm.		

-----THIS SPACE IS LEFT BLANK-----

<b>Issued by: Head of Section, Standards Development</b>	<b>Authorized by: Head of Department, Standards</b>
Signed: 	Signed: 
Date: Date: 2023-02-10	Date: Date: 2023-02-10

 Kenya Power	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b>	KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b>	1
		<b>Revision No.</b>	4
		<b>Date of Issue</b>	2023-02-10
		Page 6 of 43	

**0.4 FOREWORD**

This Specification has been prepared by the Customer Service Division in collaboration with Standards Department, Meter Lab, Infrastructure Development and Network Management- all of The Kenya Power & Lighting Company PLC (KPLC). It lays down requirements for single-phase DIN-rail mounting split prepayment meters for active energy.

The specification establishes uniform requirements for Single-Phase Split Prepayment Meters for active energy, using Power Line Carrier (PLC) as the means of communication between Measurement and Control Unit (MCU) and User Interface Unit(UIU).

Specifications in this series are:



- (i) TSP/14/011 – 04 - Three-Phase Watt-Hour Smart Meter with Selectable Prepayment and Postpaid Modes- Specification
- (ii) TSP/14/011 – 05 - Single-Phase Watt-Hour Smart Meter with Selectable Prepayment and Postpaid Modes- Specification
- (iii) TSP/14/011 – 06 - Three-Phase Watt-Hour Meter with Selectable Prepayment and Postpaid Modes- Specification




The Specification is intended for use by KPLC for procurement of Three-Phase Watt-hour Smart Meter and does not purport to include provisions of a contract.




Users of this KPLC specification are responsible for its correct interpretation and application.




The following are members of the team that reviewed this specification:




Name	Division
Peter Wanyonyi	Commercial Service and Sales
Benson Dianga	Standards
Nancy Wairimu	Standards
Cleophas Ogutu	Infrastructure Projects
John Kenyanya	Meter Lab
John Kinyua	Procurement

<b>Issued by: Head of Section, Standards Development</b>	<b>Authorized by: Head of Department, Standards</b>
Signed: 	Signed: 
Date: Date: 2023-02-10	Date: Date: 2023-02-10


 Kenya Power	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b>	KP1/13D/4/1/TSP/14/11-02										
		<b>Issue No.</b>	1										
		<b>Revision No.</b>	4										
		<b>Date of Issue</b>	2023-02-10										
		Page 7 of 43											
<p><b>1. SCOPE</b></p> <p>1.1 This Specification applies to newly manufactured, Single-Phase Split Din-Rail Mounting Static Watt-Hour Prepayment Meters for direct connection in measurement of Alternating Current (AC) electrical energy consumption at a nominal frequency of 50 Hz.</p> <p>1.2 The specification also covers inspections and tests of the meters as well as schedule of Guaranteed Technical Particulars to be filled and signed by the manufacturer and submitted with bids for tender evaluation.</p> <p>1.3 The specification stipulates the minimum requirements for Single-Phase Din-Rail Mounting Static Watt-Hour Prepayment Meters acceptable for use in the Company (Kenya Power) and it shall be the responsibility of manufacturer to ensure adequacy of the design, good workmanship, good engineering practice and adherence to Standards, Specifications and applicable regulations in the manufacture of the meters.</p> <p><b>2. NORMATIVE REFERENCES</b></p> <p>The following Standards contain provisions, which through reference in text constitute provisions of this Specification. Unless otherwise stated, the latest Editions (including amendments) apply. In case of conflict, the requirements of this Specification take precedence.</p> <table border="0"> <tr> <td>IEC 60695-2-11:2014</td> <td>Fire Hazards Testing-Part 2-Test Methods-Section 1/sheet: Glow-wire end-product test and guidance.</td> </tr> <tr> <td>IEC 61000-4-5:2014</td> <td>Electromagnetic Compatibility (EMC)-Part 4-5: Testing and measurement Techniques- Surge immunity test</td> </tr> <tr> <td>IEC 61010-1:2010</td> <td>Safety requirements for electrical equipment for measurement, control, and laboratory use -Part 1: General requirements</td> </tr> <tr> <td>IEC 61140:2016</td> <td>Protection against electric shock-common aspects for installation and equipment</td> </tr> <tr> <td>IEC 62058-11:2008</td> <td>Electricity Metering Equipment (AC) -Acceptance inspection Part 11- General Acceptance Inspection methods.</td> </tr> </table>				IEC 60695-2-11:2014	Fire Hazards Testing-Part 2-Test Methods-Section 1/sheet: Glow-wire end-product test and guidance.	IEC 61000-4-5:2014	Electromagnetic Compatibility (EMC)-Part 4-5: Testing and measurement Techniques- Surge immunity test	IEC 61010-1:2010	Safety requirements for electrical equipment for measurement, control, and laboratory use -Part 1: General requirements	IEC 61140:2016	Protection against electric shock-common aspects for installation and equipment	IEC 62058-11:2008	Electricity Metering Equipment (AC) -Acceptance inspection Part 11- General Acceptance Inspection methods.
IEC 60695-2-11:2014	Fire Hazards Testing-Part 2-Test Methods-Section 1/sheet: Glow-wire end-product test and guidance.												
IEC 61000-4-5:2014	Electromagnetic Compatibility (EMC)-Part 4-5: Testing and measurement Techniques- Surge immunity test												
IEC 61010-1:2010	Safety requirements for electrical equipment for measurement, control, and laboratory use -Part 1: General requirements												
IEC 61140:2016	Protection against electric shock-common aspects for installation and equipment												
IEC 62058-11:2008	Electricity Metering Equipment (AC) -Acceptance inspection Part 11- General Acceptance Inspection methods.												
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>											
Signed: 		Signed: 											
Date: Date: 2023-02-10		Date: Date: 2023-02-10											

 Kenya Power	<b>TITLE:</b> <b>SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU</b>	<b>Doc. No.</b>	<b>KP1/13D/4/1/TSP/14/11-02</b>
		<b>Issue No.</b>	<b>1</b>
		<b>Revision No.</b>	<b>4</b>
		<b>Date of Issue</b>	<b>2023-02-10</b>
		Page 8 of 43	
IEC 62058-31:2008	Electricity Metering Equipment (AC) -Acceptance inspection Part 31- Particular requirements for static meters for active energy (classes 0.2S, 0.5S, 1 & 2)		
IEC 61557-1: 2019	Electrical safety in low voltage distribution systems up to 1000V A.C. and 1,500V D.C. – Equipment for Testing, measuring or monitoring of protective measures-Part 1: General Requirements		
IEC 61810-1:2015	Electromechanical elementary relays - Part 1: General and safety requirements		
IEC 60529	Degrees of protection provided by Enclosures (IP Code)		
IEC 62052-11:2003	Electricity Metering equipment (A.C) – General Requirements, Tests and Test Conditions- Part 11: Metering equipment.		
IEC 62053-21:2003	Electricity metering equipment (A.C) – Particular Requirements - Part 21: Static meters for active energy (class 1 and 2).		
IEC 62055-31:2005	Electricity metering – Payment systems – Part 31: Particular requirements – Static payment meters for active energy (classes 1 and 2).		
IEC 62055-51:2007	Electricity metering - Payment systems - Part 51: Standard transfer specification (STS) - Physical layer protocol for one-way numeric and magnetic card token carriers		
IEC 62056-21	Electricity metering - Data exchange for meter reading, tariff and load control - Part 21: Direct local data exchange		
IEC 62059-31-1	Electricity Metering Equipment - Dependability - Part 31-1: Accelerated Reliability Testing - Elevated Temperature And Humidity		
IEEE 1901.2-2013	IEEE Standard for Low-Frequency (less than 500 kHz) Narrowband Power Line Communications for Smart Grid Applications.		
SANS1524-1:2014	Electricity prepayment Systems, Part 1: Prepayment meters.		
CISPR 22	Measurement methods, measurement equipment, limit lines and interpretation of applicability of limit lines.		
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>	
Signed: 		Signed: 	
Date: Date: 2023-02-10		Date: Date: 2023-02-10	

 Kenya Power	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b>	KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b>	1
		<b>Revision No.</b>	4
		<b>Date of Issue</b>	2023-02-10
		Page 9 of 43	
<p><b>3. DEFINITIONS AND ABBREVIATIONS</b></p> <p>For the purposes of this Specification, the Terms, Definitions and Abbreviations given in the Reference Standards apply, and shall include the following:</p>			
DC	Direct Current		
DLMS/COSEM	Device Language Message Specification/Companion Specification for Energy Metering		
Hz	Hertz		
KPLC	Kenya Power & Lighting Company Limited		
kV	Kilovolt		
KWH	Kilowatt-hour		
LCD	Liquid crystal display		
LED	Light emitting diode		
MCU	Measurement and Control Unit		
MDMS	Meter Data Management System		
OFDM	Orthogonal Frequency Division-Multiplexing		
PLC	Power Line Carrier		
SRE	Significant Reverse Energy		
STS	Standard Transfer Specification		
UIU/CIU	User Interface Unit/Customer Interface Unit.		
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>	
Signed: 		Signed: 	
Date: Date: 2023-02-10		Date: Date: 2023-02-10	

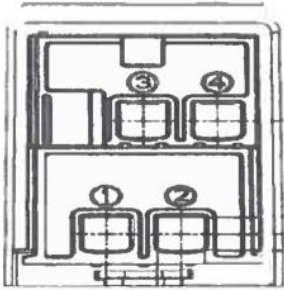
 Kenya Power	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b>	KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b>	1
		<b>Revision No.</b>	4
		<b>Date of Issue</b>	2023-02-10
		Page 10 of 43	
<p><b>4. REQUIREMENTS</b></p> <p><b>4.1 Operating Requirements</b></p> <p><b>4.1.1 Operating Environmental Conditions</b></p> <p>The meters shall be suitable for continuous indoor and outdoor operation in tropical climate with the following conditions:</p> <p>a) Altitude: Up to 2,200m above sea level (ASL)</p> <p>b) Temperature: Average of 30° C with a minimum of -1° C and maximum of +55° C</p> <p>c) Humidity: Up to 95%</p> <p>d) Pollution: Pollution level III ('Heavy')</p> <p>e) Isokeraunic 180 thunderstorm days per year</p> <p><b>4.1.2 System Characteristics</b></p> <p>4.1.2.1. The meter will be connected to an overhead or underground earthed system.</p> <p>4.1.2.2 The nominal voltage (<math>U_n</math>) is 230 volts, 50Hz.</p> <p><b>4.2 Design and Construction</b></p> <p><b>4.2.1 General Requirements</b></p> <p>4.2.1.1 The Measurement and Control Unit (MCU) shall be of DIN rail mounting with locking clip, to fit to a 35 mm DIN rail.</p> <p>4.2.1.2 The MCU and User Interface Unit (UIU) shall communicate via Power Line Carrier(PLC) for a distance not less than one hundred (100) meters.</p> <p>4.2.1.3 The meters shall be constructed as Single-Phase 2-Wire Direct-Connected Prepayment Meter.</p> <p>4.2.1.4 The meter shall have terminals as in Figure 1. The connections to the meter shall be Bottom-in, Bottom-Out and with Line-in Neutral-In terminals at the base level to allow racking of the meter on a test bench. The meter terminals shall have a protection cover with sealable Nickel-plated steel screws to protect against tampering and ingress of water. The protection cover shall be transparent and shall ensure adequate coverage of all the terminals. The connections shall be as illustrated in Figure 1.</p>			
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>	
Signed: 		Signed: 	
Date: Date: 2023-02-10		Date: Date: 2023-02-10	



 <p><b>Kenya Power</b></p>	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b> KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b> 1
		<b>Revision No.</b> 4
		<b>Date of Issue</b> 2023-02-10
	Page 11 of 43	

**Connection Terminals**



**Figure 1. Terminals Configuration**



*N.B: Terminals 1 & 2 for Line In, Neutral In and terminals 3&4 for Line Out, Neutral Out Respectively*




4.2.1.5 The MCU dimensions shall not exceed the following dimensions: Height of 170 mm; Width of 60 mm; and Depth of 95 mm; and meter base shall be on the width side where the Din rail mount shall be located.


4.2.1.6 The MCU body shall be ultrasonically sealed for life and there shall be no screws on the MCU body except for the termination of cables.

4.2.1.7 The meter shall have terminal cover open detection mechanism. Once the terminal cover is opened, the load shall be disconnected. The mechanism shall be designed to operate as in sub-clauses (a) to (c) below:

- (a) The MCU shall be supplied with loading switch in open mode and installer can open terminal cover when MCU is not activated by commissioning code (token).
- (b) After installation of MCU, the installer will input a commission code (token) to close the loading switch and activate terminal cover open detection function.
- (c) After commissioning token is put into the MCU and loading switch closes, opening of the terminal cover shall lead to tamper. When MCU has power and terminal cover is opened, MCU will disconnect immediately. When MCU has no power and terminal cover is opened, MCU will detect and record the event and disconnect immediately power resumes.

<b>Issued by: Head of Section, Standards Development</b>	<b>Authorized by: Head of Department, Standards</b>
Signed: 	Signed: 
Date: 2023-02-10	Date: 2023-02-10

 Kenya Power	<b>TITLE:</b> <b>SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU</b>	<b>Doc. No.</b>	<b>KP1/13D/4/1/TSP/14/11-02</b>
		<b>Issue No.</b>	<b>1</b>
		<b>Revision No.</b>	<b>4</b>
		<b>Date of Issue</b>	<b>2023-02-10</b>
		Page 12 of 43	
<p>4.2.1.8 The MCU shall be sealed and its Printed Circuit Boards conformal coated in a manner so as not to allow malfunction due to ingress of moisture, vermin, dust, chemicals and temperature extremes.</p> <p>4.2.1.9 The meter terminal illustrated in Figure 1 shall have holes and screws of moving-cage type made of nickel-plated brass for high conductivity and corrosion resistance. The terminals shall be of suitable rating to carry continuously 125% I<sub>max</sub>.</p> <p>4.2.1.10 Terminal holes shall be of at least 10-mm diameter and 15mm in depth. The dimension from the Linc-in, Neutral-in terminal holes to meter base shall not exceed 20mm.</p> <p>4.2.1.11 The meter terminal cover shall have screw inserts sealable with utility wire seals. The terminal cover shall be transparent with sealable Nickel-plated steel screws. The nickel plated steel screw shall be long enough for firm holding of the cover, and shall have a stopper to prevent the cover from falling off when unscrewed.</p> <p>4.2.1.12 The meter protection class shall be Class II (Double insulated) as per IEC 61140:2016 standard.</p> <p>4.2.1.13 The meter shall have a non-volatile memory capable of data storage and with a long term data retention period of not less than 10 years or for certified life of meter whichever is greater without an electrical supply being supplied to the meter.</p> <p>4.2.1.14 The meters shall have register codes to indicate information like instantaneous power, current credit register, power fail counter, last credit token number, value of last credit token, etc. The values shall be available on the UIU display.</p> <p>4.2.1.15 The principal unit for the measured values shall be the kilowatt-hour (kWh).</p> <p>4.2.1.16 The meter shall have a means of reading the credit register to within a resolution of at least 0.01 kWh for testing purposes.</p> <p>4.2.1.17 The cumulative consumption register of the meter shall NOT be resettable to zero.</p> <p>4.2.1.18 The meters shall detect significant reverse energy (SRE) when the line and load wires are swapped.</p> <p>4.2.1.19 The meters shall continue to operate correctly and decrement credit during SRE detection.</p> <p>4.2.1.20 The meters shall have LED indicators for testing and indication of kWh consumption.</p> <p>4.2.1.21 The meters shall have an optical communication port, compliant to IEC62056-21 for accessing information stored inside the meter through a handheld unit.</p>			
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>	
Signed: 		Signed: 	
Date: 2023-02-10		Date: 2023-02-10	

 <b>Kenya Power</b>	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b> KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b> 1
		<b>Revision No.</b> 4
		<b>Date of Issue</b> 2023-02-10 Page 13 of 43

4.2.1.22 The PLC shall comply with IEEE1901.2 using Orthogonal Frequency Division Multiplexing (OFDM) modulation at frequency band of up to 500KHZ(G3/PRIME)

4.2.1.23 The meters shall be compliant with the Device Language Message Specification/Companion Specification for Energy Metering (DLMS/COSEM) or equivalent communication Protocol.

4.2.1.24 The meters shall work under Postpaid Mode or Prepaid Mode. The switch of mode shall be done via meter-specific token or optical communication.

4.2.1.25 The MCU shall conform to the degree of protection IP 54 as given in IEC 60529. The terminals shall be so designed to ensure protection from ingress of water and dust.

4.2.1.26 The MCU enclosure shall be made of UV-stable unbreakable high-grade flame retardant polycarbonate that complies with IEC 60695-2-11 glow wire test. The material shall be of good dielectric and mechanical strength with a minimum thickness of 2.0mm.



4.2.1.27 The meters shall be supplied together with a scanner and laptop for scanning the meters at the KPLC warehouse and a laptop loaded with software for interrogating the meter data and loading commissioning and credit token during testing at our laboratory.


4.2.1.28 The laptop specification shall include, but not be limited to, the following or higher specification as in Table 1.

**Table 1: Laptop Technical Specifications**

Description	Mandatory Minimum Requirements
Processor	Intel Core i7-5500 (2.60GHz 1600MHz 3MB, 8 Cores)
RAM	16GB DDR4-2133MHz SODIMM
Operating System	Windows 10 pro 64 bit
Optical Drive	Super Multi DVD-RW or DVD Recordable Burner
Hard Disk	1TB 7200 rpm Hard Drive
Display Panel	15.6" FHD LED Glossy (1920x1080) with integrated Webcam 720p camera
Graphics	Integrated Intel HD Graphics 520
Internal Audio	Integrated HD audio internal speaker (standard) or Stereo with Dolby Audio TM, 1xMic Headphones Combo
Communications	GPRS/ HSDPA Modem, Integrated Intel Gigabit Network Connection (10/100/1000 NIC)
Wireless	Intel 802.12 AC WLAN and Bluetooth(R)
Interfaces	VGA, MDP, 4-in-1 Card Reader, Smart Card Reader. RJ-45, Headphone and Microphone Jack, Mechanical Docking, 2 x USB 3.0, W/WAN SIM, Express Card Slot, 1 HDMI port, Bluetooth, Wi-Fi enabled

<b>Issued by: Head of Section, Standards Development</b>	<b>Authorized by: Head of Department, Standards</b>
Signed: 	Signed: 
Date: 2023-02-10	Date: 2023-02-10



 Kenya Power	<b>TITLE:</b> <b>SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU</b>	<b>Doc. No.</b>	<b>KP1/13D/4/1/TSP/14/11-02</b>
		<b>Issue No.</b>	<b>1</b>
		<b>Revision No.</b>	<b>4</b>
		<b>Date of Issue</b>	<b>2023-02-10</b>
		Page 14 of 43	




Pointing Devices	Touchpad with scroll zone, Two Pick Buttons or Pick Stick, Two Pick Buttons
Keyboard	Keyboard with Number Pad – English (Standard)
Mouse	External USB Mouse
Warranty	1 Year
Power	4-cell 41Whr Lithium-ion Battery; External AC adapter
Power Supply	230V AC, 50 Hz, British plugs
Carrying Case	Genuine Leather Carrying Case
Manufacturer's Authorization	Manufacturers Authorization Certificate/ Letter and for the models quoted, the principal (Manufacturer) MUST have an established regional office in Kenya.




#### 4.2.2 Functionality Requirements




##### 4.2.2.1 Measurement and Control Unit (MCU)

- 4.2.2.1.1 The MCU shall have a load switch to automatically interrupt the load circuit on the expiry of credit balance.
- 4.2.2.1.2 The load switch shall automatically restore the load circuit after token top up.
- 4.2.2.1.3 The meter load switch shall comply with the requirements given in IEC 62053-21:2003 or later versions.
- 4.2.2.1.4 The meters shall be able to indicate absence or presence of continuous power by use of a Light Emitting Diode (LED).
- 4.2.2.1.5 The meters shall disconnect the load if power failure is detected and connect the load after normalization.
- 4.2.2.1.6 The meters shall have a programmable power limit setting that shall disconnect the load once exceeded and reconnect once the load falls below the set limit.
- 4.2.2.1.7 The MCU shall have an LED indicator to show the rate of consumption. The pulse rate shall be proportional to current rate of consumption.
- 4.2.2.1.8 The MCU shall have a diagnostic LED to indicate the presence of communication between the MCU and the UIU.

<b>Issued by: Head of Section, Standards Development</b>	<b>Authorized by: Head of Department, Standards</b>
Signed: 	Signed: 
Date: Date: 2023-02-10	Date: Date: 2023-02-10

 <b>Kenya Power</b>	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b>	KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b>	1
		<b>Revision No.</b>	4
		<b>Date of Issue</b>	2023-02-10
		Page 15 of 43	
<p>4.2.2.1.9 The MCU shall continue metering and decrement credit, regardless of the state of the communications interface or the UIU.</p> <p>4.2.2.1.10 The Live and Neutral shall be DC immune complying with requirements of IEC 62052-11:2003 and IEC 62053-21:2003.</p> <p>4.2.2.1.11 The MCU shall support two elements double circuit measurement. The MCU shall be equipped with two 100A relays (loading switch) both in Live and Neutral circuits. These relays shall operate simultaneously. In case there is an imbalance between the Live circuit and the Neutral circuit, the MCU will take it as a tamper event and record it. The MCU will measure on the higher current without disconnecting the loading switch.</p> <p>4.2.2.1.12 The MCU shall come fitted with an SCSSCAA9 (MC171) compliant data port for programming and interrogating the meter. Two (2) sets of data interrogating and programming probes and software (1 each for optical and SCSSCAA9 ports) shall be provided with the meter sample for evaluation. For the winning bidders, each delivery of 100,000 meters or less shall have 50 sets of probes and read-only software for use with the optical and the SCSSCAA9 ports.</p> <p>4.2.2.1.13 The MCU shall be supplied together with a plastic card of dimension 85mm x 54 (length x height) mm and material similar to that of a credit card indicating the meter number. The meter serial number shall be engraved on the card together with its bar code version and stored in a magnetic medium with the capability of being read out when the card is swiped. No random redundant digits shall be added to the meter number.</p> <p>4.2.2.1.14 The MCU shall be with Nil units pre-loaded (i.e. 0 (Zero) kWh).</p> <p><b>4.2.2.2 User Interface Unit (UIU)</b></p> <p>4.2.2.2.1 The UIU shall comply with 20-digit Standard Transfer Specification (STS) encryption algorithms. All correctly entered tokens shall be registered to eliminate fraud.</p> <p>4.2.2.2.2 The UIU's Keypad shall be user-friendly with a Liquid Crystal Display (LCD) for numeric credit display and language-independent pictograms to identified operational features. The LCD shall have a wide viewing angle of 45<sup>0</sup> to 60<sup>0</sup> cone, up to the one-meter distance.</p> <p>4.2.2.2.3 The UIU display shall have at least seven (7)-numerical characters comprising of five integers and two decimals. The UIU display shall in addition have icons; icon information; numeric information display of all meter information such as credit levels, token entry,</p>			
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>	
Signed: 		Signed: 	
Date: Date: 2023-02-10		Date: Date: 2023-02-10	

	<b>TITLE:</b> <b>SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU</b>	<b>Doc. No.</b>	<b>KP1/13D/4/1/TSP/14/11-02</b>
		<b>Issue No.</b>	<b>1</b>
		<b>Revision No.</b>	<b>4</b>
		<b>Date of Issue</b>	<b>2023-02-10</b>
		Page 16 of 43	
<p>cumulative kWh, tamper mode, etc.</p> <p>4.2.2.2.4 The LCD shall have the height of the display characters for the numeric values not be less than 4.5 mm.</p> <p>4.2.2.2.5 The UIU keypad shall be of 12-key, the international standard layout including "information" and "backspace" keys.</p> <p>4.2.2.2.6 The UIU enclosure material shall be UV-stable polycarbonate/ABS blend with flame retardant as per IEC 60695-2-11.</p> <p>4.2.2.2.7 The UIU shall conform to the degree of protection IP 54 as specified in IEC 60529.</p> <p>4.2.2.2.8 The UIU shall communicate with MCU through Power Line Carrier (PLC) communication link for a distance not less than one hundred (100) meters.</p> <p>4.2.2.2.9 The UIU shall be an interchangeable unit and it shall be possible to view the paired MCU on the UIU.</p> <p>4.2.2.2.10 The UIU shall enable loading the MCU with many pre-purchased units of credit, without loss of any existing credit balance.</p> <p>4.2.2.2.11 The UIU shall, upon acceptance of a valid token, credit the exact amount contained on the token to the appropriate register in the meter and shall increment the register by this amount.</p> <p>4.2.2.2.12 The UIU shall transfer the credit in kWh.</p> <p>4.2.2.2.13 The UIU shall display the cumulative kilowatt-hour register.</p> <p>4.2.2.2.14 The UIU shall have a means to remove digits from a partially entered number sequence-backspace key.</p> <p>4.2.2.2.15 The UIU shall have the ability to recall at least the last five successful credit tokens entered and the associated dates and time.</p> <p>4.2.2.2.16 The UIU shall be able to indicate the meter software.</p> <p>4.2.2.2.17 The UIU shall indicate the status of the incoming supply.</p> <p>4.2.2.2.18 The UIU shall indicate the credit status.</p>			
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>	
Signed: 		Signed: 	
Date: Date: 2023-02-10		Date: Date: 2023-02-10	

 Kenya Power	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b>	<b>KP1/13D/4/1/TSP/14/11-02</b>
		<b>Issue No.</b>	<b>1</b>
		<b>Revision No.</b>	<b>4</b>
		<b>Date of Issue</b>	<b>2023-02-10</b>
		Page 17 of 43	
<p>4.2.2.2.19 The UIU shall indicate token acceptance or rejection.</p> <p>4.2.2.2.20 The UIU shall give low credit warning by means of a flag on UIU display and audio alarm. The UIU shall have option of muting the low credit warning sound by entering a code on the UIU.</p> <p>4.2.2.2.21 The UIU shall have a buzzer that will give a feedback on key press, Token Accept and Reject melodies, low-credit alarms as a factory-programmable option.</p> <p>4.2.2.2.22 The UIU keypad shall have backlight to enable keying of tokens in the dark.</p> <p>4.2.2.2.23 The UIU shall be wall mountable.</p> <p>4.2.2.2.24 The meters CIU/UIU shall be able to communicate with MCU when power is off via any regular exchangeable 2xAA or 4xAA alkaline batteries. The UIU/CIU shall be supplied with batteries.</p> <p><b>4.3 Electrical Requirements</b></p> <p>4.3.1 The meters shall be operated from mains with reference values of 230V, 50 Hz <math>\pm</math> 5%, with a load switching voltage range from 0.4Un to 1.3Un. The load switch shall be of bi-stable type designed and manufactured in accordance with IEC 61810- 1, as well as meet the overload and short circuit requirement of IEC 62052-11 / 62053-21. The Latching relay shall conform to the load switching capabilities as per relevant IEC standards.</p> <p>4.3.2 The load switch shall interrupt the supply when the voltage is below 0.4 Un and above 1.3Un.</p> <p>4.3.3 The load switch shall automatically restore supply within a minute when the voltage falls within 0.4 Un – 1.3 Un.</p> <p>4.3.4 The meters shall be connectable for 2-wire systems, a permanent connection drawing of which shall be printed on the meter body. Stickers of any kind shall not be accepted.</p> <p>4.3.5 The meter shall have Reference Standard Electrical Design Parameters as in Table 2.</p>			
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>	
Signed: 		Signed: 	
Date: Date: 2023-02-10		Date: Date: 2023-02-10	





 Kenya Power	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b>	KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b>	1
		<b>Revision No.</b>	4
		<b>Date of Issue</b>	2023-02-10
		Page 18 of 43	

Table 2: Summary of Electrical Parameters

Measurement and Control Unit	
<b>Electrical Parameters</b>	
Accuracy	kWh Class I (IEC 62053-21)
Rated Nominal Voltage ( $U_n$ ), Frequency (Hz)	230V $\pm$ 5% , 50Hz $\pm$ 1.25%
Load switching voltage range	0.4 $U_n$ to 1.3 $U_n$
Base Reference current, $I_b$	5A
Max. Voltage circuit burden	2W and 10 VA @230V, 50Hz, 30 <sup>0</sup> C
Max. Current circuit burden	4VA @ 5A, 50Hz, 30 <sup>0</sup> C
Maximum Current $I_{max}$ (A)	80 A.
Protective class	Class II (double insulated)
Accurate metering range	0.05 $I_b$ to 1.2 $I_{max}$
Starting current	0.2% $I_b$
Running with no-load	No more than one pulse on application of 0.4 $U_n$ - 1.3 $U_n$
Short circuit current	30 $I_{max}$
Meter Constant	1000 imp/kwh
<b>Disconnection Device</b>	
Type	Double Pole Latching Contactor, 100A.
Mechanical life at maximum power, PF=1	At least 3,000 cycles
Maximum switching current	At least 100 A
Maximum switching voltage	At least 265 V AC
Maximum overload current	100 A (30 min)
<b>Insulation; Over voltage and Surge Protection</b>	
Insulation classification	Protective Class II
Insulation level	At least 4 kV rms for 1 minute
Over voltage withstand	400 VAC for 48 hours
Voltage Impulse withstand	At least 6 kV, 1.2/50 $\mu$ s (IEC 62052-11) with
Current Impulse withstand	At least 5kA, 8/20 $\mu$ s
Lightning Surge Withstand	At least 30kA, 4/10 $\mu$ s
<b>Electromagnetic compatibility</b>	
Electrostatic discharge	15 kV air discharge

Issued by: Head of Section, Standards Development	Authorized by: Head of Department, Standards
Signed: 	Signed: 
Date: Date: 2023-02-10	Date: Date: 2023-02-10



 Kenya Power	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b>	KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b>	1
		<b>Revision No.</b>	4
		<b>Date of Issue</b>	2023-02-10
		Page 19 of 43	



  


Immunity to HF fields	80 MHz to 2 GHz @ 10V/m with load; 80 MHz to 2 GHz @ 30V/m no load- Accuracy not affected by magnetic fields from all sides-front, sides, top and bottom of the meter.
Immunity to Fast Transient Bursts	4 kV
Radio interference	Complies with requirements for CISPR 22, IEC 61000-4-2,3,4,6
<b>Communication Circuitry</b>	
Type	Power Line Carrier(PLC) -G3/PRIME OFDM modulation at frequency band of up to 500KHZ
Rated Impulse Voltage	Peak Voltage 6 kV (1.2/50 $\mu$ s) waveform (IEC 62052-11) Protective Class II
Insulation level	4 kV <sub>rms</sub> (1 Minute) - IEC 62052-11 Protective Class II
Communication Protocol	DLMS/COSEM
Communication Range	>100m for MCU to CIU

4.3.6 The meter shall have Default Factory Parameters settings as in Table 3 below:

**Table 3. Default Factory Parameters Settings**

CONFIGURATION ITEM	DATA VALUE
<b>Basic Parameters</b>	
Rated Voltage	230V
Basic Current (I <sub>b</sub> )	5A
Maximum Current(I <sub>max</sub> )	80A
Meter Constant	1000imp/kWh
Frequency	50Hz
Load Threshold	22.08 kW
Time zone	GMT+3



<b>Issued by: Head of Section, Standards Development</b>	<b>Authorized by: Head of Department, Standards</b>
Signed: 	Signed: 
Date: Date: 2023-02-10	Date: Date: 2023-02-10


 <b>Kenya Power</b>	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b> KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b> 1
		<b>Revision No.</b> 4
		<b>Date of Issue</b> 2023-02-10
		Page 20 of 43

<b>Measurement configuration</b>	
Active	$ A_i  =  +A  +  -A $ $ A_e  =  -A $
Reactive	Not Applicable
<b>Prepaid parameters</b>	
Factory default payment mode	Prepaid
Pre-load credit	0KWh
Low credit warning(Alarm level green LED)	20KWh
Low credit warning(Alarm level Red LED)	10KWh
Low credit warning(Alarm buzzer or bell)	5KWh
Emergency recharge credit limit	0KWh
Maximum recharge credit limit	999999.99kWh
<b>STS Key</b>	
Supplier Group Code(SGC)	XXXXXXXX (to be supplied by KPLC)
Tariff Index	1
<b>Events Parameters</b>	
Overvoltage threshold value	299V
Overvoltage estimate delay	10s
Under voltage threshold value	92V
Under voltage estimate delay	10s
Bypass define Threshold	10%
Bypass Enter Define Delay	30s
Overload trip threshold value	$Un * 1.2I_{max}$
Duration time of over load for disconnection	30s
Overload Exit(recovery) Define Delay	30s

<b>Issued by: Head of Section, Standards Development</b>	<b>Authorized by: Head of Department, Standards</b>
<b>Signed:</b> 	<b>Signed:</b> 
<b>Date: Date: 2023-02-10</b>	<b>Date: Date: 2023-02-10</b>

 Kenya Power	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b>	KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b>	1
		<b>Revision No.</b>	4
		<b>Date of Issue</b>	2023-02-10
		Page 21 of 43	



  


Overload Recover Define Delay(after sustained overload)	30Mins
Over current trip threshold	96A
<b>Display</b>	
CIU Auto -scroll interval	3s
CIU Auto -scroll sequence	Available Credit (balance)

4.3.7 The meter shall have standard query codes and their definitions as in Table 4. Any additional manufacturer codes may be added as from code 096.

**Table 4: Query codes and definitions of meter**

Display Code	Data Item	Display Code	Data Item
001	Meter number	002	SGC number
003	Total active consumed energy to date in kWh	004	Credit balance
005	Current date	006	Current time
007	Voltage in V	008	Current in A
009	Meter status	010	Accumulated recharged credit
011	Total active power	012	Maximum demand of current month and its occurrence date and time
013	Maximum demand of and its occurrence date and time of the last 1 <sup>st</sup> month	014	Maximum demand of and its occurrence date and time of the last 2 <sup>nd</sup> month
015	Maximum demand of and its occurrence date and time of the last 3 <sup>rd</sup> month	016	Maximum demand of and its occurrence date and time of the last 4 <sup>th</sup> month
017	Maximum demand of and its occurrence date and time of the last 5 <sup>th</sup> month	018	Maximum demand of and its occurrence date and time of the last 6 <sup>th</sup> month
019	Total active energy consumption of current month.	020	Total active energy Consumed in last 1 <sup>st</sup> month
021	Total active energy Consumed in 2 <sup>nd</sup> last month	022	Total active energy Consumed in 3 <sup>rd</sup> last month.
023	Total active energy consumed in 4 <sup>th</sup> last month.	024	Total active energy Consumed in 5 <sup>th</sup> last month.



<b>Issued by: Head of Section, Standards Development</b>	<b>Authorized by: Head of Department, Standards</b>
Signed: 	Signed: 
Date: Date: 2023-02-10	Date: Date: 2023-02-10


 Kenya Power	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b>	KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b>	1
		<b>Revision No.</b>	4
		<b>Date of Issue</b>	2023-02-10
		Page 22 of 43	

025	Total active energy Consumed in 6 <sup>th</sup> last month.	026	Total active energy Consumed in 7 <sup>th</sup> last month.
027	Total active energy Consumed in 8 <sup>th</sup> last month.	028	Total active energy Consumed in 9 <sup>th</sup> last month.
029	Total active energy Consumed in 10 <sup>th</sup> last month.	030	Total active energy Consumed in 11 <sup>th</sup> last month.
031	Total active energy Consumed in 12 <sup>th</sup> last month.	032	Recharge times
033	Last 1 <sup>st</sup> recharge information(recharge credit, token code, recharge date/time)	034	Last 2 <sup>nd</sup> recharge information(recharge credit, token code, recharge date/time)
035	Last 3 <sup>rd</sup> recharge information(recharge credit, token code, recharge date/time)	036	Last 4 <sup>th</sup> recharge information(recharge credit, token code, recharge date/time)
037	Last 5 <sup>th</sup> recharge information(recharge credit, token code, recharge date/time)	038	Last 6 <sup>th</sup> recharge information(recharge credit, token code, recharge date/time)
039	Last 7 <sup>th</sup> recharge information(recharge credit, token code, recharge date/time)	040	Last 8 <sup>th</sup> recharge information(recharge credit, token code, recharge date/time)
041	Last 9 <sup>th</sup> recharge information(recharge credit, token code, recharge date/time)	042	Last 10 <sup>th</sup> recharge information(recharge credit, token code, recharge date/time)
043	Technical Token entered times	044	Last 1 <sup>st</sup> technical token information(token type, token code, token date/time)
045	Last 2 <sup>nd</sup> technical token information(token type, token code, token date/time)	046	Last 3 <sup>rd</sup> technical token information(token type, token code, token date/time)
047	Last 4 <sup>th</sup> technical token information(token type, token code, token date/time)	048	Last 5 <sup>th</sup> technical token information(token type, token code, token date/time)
049	Terminal cover open times	050	The last 1 <sup>st</sup> terminal cover open date and time
051	The last 2 <sup>nd</sup> terminal cover open date and time	052	The last 3 <sup>rd</sup> terminal cover open date and time
053	The last 4 <sup>th</sup> terminal cover open date and time	054	The last 5 <sup>th</sup> terminal cover open date and time
055	The last 6 <sup>th</sup> terminal cover open date and time	056	The last 7 <sup>th</sup> terminal cover open date and time
057	Power off times	058	Last 1 <sup>st</sup> power off date and time



<b>Issued by: Head of Section, Standards Development</b>	<b>Authorized by: Head of Department, Standards</b>
Signed: 	Signed: 
Date: Date: 2023-02-10	Date: Date: 2023-02-10




 Kenya Power	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU		<b>Doc. No.</b> KP1/13D/4/1/TSP/14/11-02
			<b>Issue No.</b> 1
			<b>Revision No.</b> 4
			<b>Date of Issue</b> 2023-02-10
			Page 23 of 43




  




059	Last 2 <sup>nd</sup> Power off date and time	060	Last 3 <sup>rd</sup> power off date and time
061	Last 4 <sup>th</sup> power off date and time	062	Last 5 <sup>th</sup> power off date and time
063	Overload power off times	064	Last 1 <sup>st</sup> overload power off record( value, date/time)
065	Last 2 <sup>nd</sup> overload power off record( value ,date/time)	066	Last 3 <sup>rd</sup> overload power off record( value, date/time)
067	Last 4 <sup>th</sup> overload power off record( value, date/time)	068	Last 5 <sup>th</sup> overload power off record( value, date/time)
069	High voltage times	070	Last 1 <sup>st</sup> high voltage event record
071	Last 2 <sup>nd</sup> high voltage event record	072	Last 3 <sup>rd</sup> high voltage event record
073	Last 4 <sup>th</sup> high voltage event record	074	Last 5 <sup>th</sup> high voltage event record
075	Low voltage times	076	Last 1 <sup>st</sup> low voltage event record
077	Last 2 <sup>nd</sup> low voltage event record	078	Last 3 <sup>rd</sup> low voltage event record
079	Last 4 <sup>th</sup> low voltage event record	080	Last 5 <sup>th</sup> low voltage event record
081	Magnet interference times	082	Last 1 <sup>st</sup> magnetic interference date and time
083	Last 2 <sup>nd</sup> magnetic interference date and time	084	Last 3 <sup>rd</sup> magnetic interference date and time
085	Last 4 <sup>th</sup> magnetic interference date and time	086	Last 5 <sup>th</sup> magnetic interference date and time
087	Relay disconnection times	089	Reason for last relay disconnection
090	Last relay disconnection date and time	091	Last 2 <sup>nd</sup> Relay disconnection date and time
092	Last 3 <sup>rd</sup> Relay disconnection date and time	093	Last 4 <sup>th</sup> Relay disconnection date and time
094	Last 5 <sup>th</sup> Relay disconnection date and time	95	Cancel Audible Alarm
096-onwards	Other manufacturers necessary codes		




<b>Issued by: Head of Section, Standards Development</b> Signed:  Date: Date: 2023-02-10	<b>Authorized by: Head of Department, Standards</b> Signed:  Date: Date: 2023-02-10
---	--




 Kenya Power	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b>	KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b>	1
		<b>Revision No.</b>	4
		<b>Date of Issue</b>	2023-02-10
		Page 24 of 43	
<b>4.4 Interoperability Requirements</b>			
<b>4.4.1</b> The Manufacturer shall manufacture meters that fully meet the requirements of the IEC 62055-51:2007 on Standard Transfer Specification protocol and hence: <ol style="list-style-type: none"> <li>Facilitates interoperability amongst hardware, software and meters supplied by other manufacturers.</li> <li>Does not lock KPLC to only the bidder or any one supplier or manufacturer in its future procurement of prepayment meters, software or hardware.</li> <li>The meters shall be interoperable with the existing KPLC Smart Metering Management System. The bidder shall be able to demonstrate this before award.</li> </ol>			
<b>5.0 TESTS AND INSPECTIONS</b>			
<b>5.1</b> The meters shall be tested in accordance with the requirements of IEC 62052-11: 2003, IEC 62053-21: 2003, IEC 62055-31: 2005 including Annex A, B, C and D and other relevant standards, as well as provisions of this specification. <b>5.2</b> It shall be the responsibility of the supplier to perform or to have performed the tests specified in their premise or a third-party accredited laboratory. <b>5.3</b> The bidder shall submit copies of the type test report for each type of meter offered with a tender for technical evaluation. The type test reports shall cover all, but not limited to, the tests outlined in clauses 5.4.1, 5.4.2, 5.4.3, 5.4.4, 5.4.5, 5.4.6, 5.4.7 and 5.4.8 of this specification and shall have been issued by a Third-Party testing laboratory accredited to ISO/IEC 17025. The accreditation certificate for the same third-party testing laboratory used shall also be submitted with the tender document (all in the English language) <b>5.4</b> The following tests shall be conducted on the meter as per IEC 62052-11: 2003, IEC 62053-21: 2003, IEC 62055-31: 2005 including Annex A, B, C and D and other relevant standards: <b>5.4.1 Tests of Insulation Properties</b> <ol style="list-style-type: none"> <li>Impulse Voltage Test</li> <li>AC High Voltage Test</li> <li>Insulation Test</li> </ol> <b>5.4.2 Test of Accuracy Requirements</b> <ol style="list-style-type: none"> <li>Tests on Limits of Error</li> <li>Interpretation of Test Results</li> <li>Test of Meter Constant</li> </ol>			
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>	
<b>Signed:</b> 		<b>Signed:</b> 	
<b>Date: Date: 2023-02-10</b>		<b>Date: Date: 2023-02-10</b>	




 <b>Kenya Power</b>	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b>	KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b>	1
		<b>Revision No.</b>	4
		<b>Date of Issue</b>	2023-02-10
		Page 25 of 43	
<p>d) Test of Starting Conditions</p> <p>e) Test of No-load Condition</p> <p>f) Test of Ambient Temperature Influence</p> <p>g) Test of Repeatability Error</p> <p>h) Test of Influence Quantities</p> <p><b>5.4.3 Test of Electrical Requirements</b></p> <p>a) Test of Power Consumption</p> <p>b) Test of Influence of Supply Voltage</p> <p>c) Test of influence of Short-term Over-currents</p> <p>d) Test of Influence of Self-heating</p> <p>e) Test of Influence of Heating</p> <p>f) Test of Influence of Immunity to Earth Faults</p> <p><b>5.4.4 Test for Electromagnetic Compatibility</b></p> <p>a) Radio Interference Measurement</p> <p>b) Fast Transient Burst Test</p> <p>c) Test of Immunity to Electrostatic Discharges</p> <p>d) Test of Immunity to electromagnetic HF Fields</p> <p><b>5.4.5 Test for Climatic Influences</b></p> <p>a) Dry Heat Test</p> <p>b) Cold Test</p> <p>c) Damp Heat Cyclic Test</p> <p><b>5.4.6 Test for Mechanical Requirements</b></p> <p>a) Vibration Test</p> <p>b) Shock Test</p> <p>c) Spring Hammer Test</p> <p>d) Protection Against Penetration of Dust and Water</p> <p>e) Test of Resistance to Heat and Fire</p> <p><b>5.4.7 Functional Tests</b></p> <p>a) Open Cover tamper detection.</p> <p>b) Token validation test</p> <p>c) Decrementing of units when connected to Load.</p> <p>d) Automatic interrupting of the load circuit on expiry of units</p> <p>e) Test of credit balance and debit</p> <p>f) Test of disconnect of supply when credit decrement to zero</p> <p>g) Test of reconnecting supply on providing credit</p> <p>h) Test to disconnect supply if load/current exceeds the preset value of the meter</p> <p>i) Test to reconnect supply if load current falls within present value.</p>			
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>	
Signed: 		Signed: 	
Date: Date: 2023-02-10		Date: Date: 2023-02-10	




 Kenya Power	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b>	KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b>	1
		<b>Revision No.</b>	4
		<b>Date of Issue</b>	2023-02-10
		Page 26 of 43	
<p><b>5.4.8 Additional Tests</b></p> <ul style="list-style-type: none"> <li>a) Glow wire testing for polycarbonate material</li> <li>b) Accuracy tests in the presence of harmonics</li> <li>c) Influence of d.c and even harmonics</li> <li>d) Measurement of Total energy – Effect of Harmonics</li> <li>e) Magnetic induction of external origin (AC &amp; DC)</li> </ul> <p><b>5.5 Minimum Testing Facilities</b></p> <p>The manufacturer shall have the necessary minimum testing facilities for carrying out the following Routine Tests:</p> <ul style="list-style-type: none"> <li>(a) AC high voltage test</li> <li>(b) Insulation resistance test</li> <li>(c) Test of limits of errors</li> <li>(d) Test of meter constant</li> <li>(e) Test of starting condition</li> <li>(f) Test of no-load condition</li> <li>(g) Repeatability of error test</li> <li>(h) Test of power consumption</li> <li>(i) Tamper conditions - as per this specification</li> <li>(j) Transportation Test.</li> </ul> <p>NB: The manufacturer shall have duly calibrated Equivalent Series Resistance (ERS) meter of Class 0.5 accuracy or better.</p> <p><b>6 MARKING AND PACKING</b></p> <p><b>6.1 Marking</b></p> <p>Markings shall comply with IEC 61010-1 unless otherwise specified in other parts of IEC 61557. The measuring equipment shall carry the following marking which shall be clearly readable and indelible (in the English Language) on the meter. The markings for Meter Number {section (h) of this clause} should at least be 4mm figure height. Stickers shall not be accepted</p> <p>The following information shall be marked on each meter.</p> <ul style="list-style-type: none"> <li>(a) The Standard Transfer Specification (STS) compliant serial number, in the preferred format known as a national meter number,</li> <li>(b) The STS compliance logo,</li> <li>(c) The inscription “Property of KPLC.”,</li> </ul>			
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>	
Signed: 		Signed: 	
Date: Date: 2023-02-10		Date: Date: 2023-02-10	




 Kenya Power	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b>	KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b>	1
		<b>Revision No.</b>	4
		<b>Date of Issue</b>	2023-02-10
		Page 27 of 43	
<p>(d) Name or trademark of the manufacturer;</p> <p>(e) Wiring Connection diagram.</p> <p>(f) Country of Origin</p> <p>(g) Type/model</p> <p>(h) Meter number</p> <p>(i) Barcode comprising of meter serial number without blank spaces</p> <p>(j) Standard(s) to which the meter complies</p> <p>(k) Year of Manufacture</p> <p>(l) Warranty – 5 Years</p> <p>(m) KEBS Mark (for Kenyan Manufactured Meters)</p> <p><b>6.2 Packing</b></p> <p>6.2.1 The meters shall be packaged in such a manner as to minimize damage and entry of moisture during transportation and handling.</p> <p>6.2.2 The meters shall be packed in suitable groups and / or batches with consecutive serial numbers. Packaging shall be done only after KPLC approval.</p> <p>6.2.3 The meters shall be packaged in multiples of ten unless where the number of meters in group/batch does not make a multiple of ten, the number of CIU should match the number of MCU.</p> <p>6.2.4 The number of meters packaged in groups and/or batches for handling/lifting/carrying by an operator manually shall be such that their weight does not exceed 15 kg.</p> <p><b>7.0 INFORMATION AND WARRANTY</b></p> <p><b>7.1 Warranty, Qualification and Capacity</b></p> <p>7.1.1 The supplied meters, MCUs, UIUs, and associated software/hardware shall be guaranteed by Warranty against any defects, which may develop due to faulty material, calibration, transportation, or workmanship for a period of fifty-four (54) months from the date of successful commissioning certificate for KPLC or sixty (60) months from dispatch, whichever is later. All defective meters shall be replaced at the supplier's cost within one (1) month of receipt of intimation.</p>			
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>	
Signed: 		Signed: 	
Date: 2023-02-10		Date: 2023-02-10	

 <b>Kenya Power</b>	<b>TITLE:</b>	<b>Doc. No.</b>	<b>KP1/13D/4/1/TSP/14/11-02</b>	
	<b>SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU</b>		<b>Issue No.</b>	<b>1</b>
			<b>Revision No.</b>	<b>4</b>
			<b>Date of Issue</b>	<b>2023-02-10</b>
			Page 28 of 43	
<p>7.1.2 The successful bidder/supplier shall be in compliance with the manufacturers experience or relevant manufactures qualification requirement as defined in the tender documents under the relevant manufacturers qualification clauses and also the Appendix C,Part C1 xiv,xv,xvi of this Specification.</p> <p>7.1.3 All software supplied shall be updated by the supplier at no extra cost while any required changes, e.g. tariff changes, statutory changes, etc. shall be implemented free of cost during the warranty period and beyond.</p> <p>7.1.4 The successful bidder/supplier shall observe the performance of their meters on site for a period of at least one (1) year. The bidder/ supplier shall independently verify accuracy and carry out functional tests to verify that the meters are working as expected for at least 0.5% of the meters supplied and submit a performance evaluation report to KPLC for review. The sampled meters shall be from at least 3 counties with the leading number of meters installed.</p> <p>7.1.5 Energy meter models which have registered poor performance with failure rates above 1.5 % within the warranty period of 5yrs while in service in Kenya Power system shall not be accepted.</p> <p><b>7.2 Samples</b></p> <p>7.2.1 The tenderer shall submit three (3) MCUs and three (3) UIUs samples together with the tender documents. Samples shall not be returned to the tenderers.</p> <p>7.2.2 The submitted meter samples shall be subjected to accuracy tests at KPLC's Meter Central Laboratory or independent third-party accredited laboratory of KPLC's choice to verify compliance with all the requirements of IEC 62053-21:2003 other requirements of this specification.</p> <p>7.2.3 The samples of the meters offered shall be submitted together with test tokens for; different Power Limit Settings and resets for the same, Credit and Clear Credit Tokens to aid in the testing of the meters. The manufacturer might be required to provide more tokens at no extra cost.</p> <p>7.2.4 The samples provided during tendering shall be the same as the product being delivered and this shall be confirmed with the samples and the approved drawings to verify that there is no variation of the product.</p> <p>7.2.5 Bidders are advised that the Laws of Kenya require that the Kenya Bureau of Standards must approve any new meter being introduced in the country. Bidders therefore shall furnish the Bureau with 4 (four) samples of each meter type to be supplied. The winning bidders therefore must submit KEBS approval before signing of the supply contract.</p>				
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>		
Signed: 		Signed: 		
Date: Date: <b>2023-02-10</b>		Date: Date: <b>2023-02-10</b>		

 Kenya Power	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b>	KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b>	1
		<b>Revision No.</b>	4
		<b>Date of Issue</b>	2023-02-10
		Page 29 of 43	
<b>APPENDICES</b>			
<b>APPENDIX A: TESTS AND INSPECTIONS</b>			
<p>A.1 Routine and sample test reports for the meter to be supplied shall be submitted to KPLC for approval before shipment/delivery of the goods.</p> <p>A.2 All acceptance tests as stipulated in the relevant standards shall be carried out by the supplier and shall be witnessed by KPLC Engineers at the Manufacturers factory before shipment.</p> <p>A.3 On receipt of the goods KPLC will perform any of the tests specified in order to verify compliance with this specification.</p> <p>A.4 The supplier shall conduct training in Nairobi for 25no. Personnel on the use of optical and the SCSSCAA9 ports. The training shall also include installation, commissioning, and metering operation management.</p> <p>A.5 The supplier shall replace without charge to KPLC, the meters which upon examination, test or use; fail to meet any of the requirements in the specification.</p>			
<b>APPENDIX B: QUALITY MANAGEMENT SYSTEMS</b>			
<p>B.1 The supplier shall submit a Quality Assurance Plan (QAP) that will be used to ensure that the meter design, physical properties, tests and documentation, will fulfill the requirements stated in the contract documents, standards, specifications and regulations. The QAP shall be based on, and include, relevant parts to fulfill the requirements of ISO 9001: 2015.</p> <p>B.2 The supplier shall submit, with the tender for evaluation ,Copies of Quality Management Certifications including a copy of valid and relevant ISO 9001: 2015 Certificate for international manufacturers and/or KEBS Standardization Certificate for local manufacturers shall be submitted with the tender for evaluation as a declaration of Conformity to reference standards.</p> <p>B.3 The bidder shall indicate the delivery time of the ordered meters, manufacturer's monthly &amp; annual production capacity and experience in the production of the type and size of meter being offered versus quantities of each type of meter.</p>			
<b>APPENDIX C: TECHNICAL DOCUMENTATION</b>			
<p>C.1 The bidder shall submit its tender complete with technical documents required by Appendix D (Guaranteed Technical Particulars) for tender evaluation. The technical documents to be submitted (all in English language) for Tender Evaluation shall include the following:</p>			
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>	
Signed: 		Signed: 	
Date: Date: 2023-02-10		Date: Date: 2023-02-10	

	<b>TITLE:</b> <b>SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU</b>	<b>Doc. No.</b>	<b>KP1/13D/4/1/TSP/14/11-02</b>
		<b>Issue No.</b>	<b>1</b>
		<b>Revision No.</b>	<b>4</b>
		<b>Date of Issue</b>	<b>2023-02-10</b>
		Page 30 of 43	
<p>(i) Fully filled clause by clause Guaranteed Technical Particulars (GTP) signed and stamped by the manufacturer;</p> <p>(ii) Meter drawings, giving all the relevant dimensions.</p> <p>(iii) Wiring diagrams;</p> <p>(iv) Users and Operating Manuals.</p> <p>(v) Copies of the Manufacturer's Catalogues, Brochures, Drawings and Technical Data;</p> <p>(vi) Copies of required type test reports by an Independent Third-Party Testing Laboratory accredited to ISO/IEC 17025; The test certificates shall bear the product serial number of meter on offer. KPLC reserves the right to demand repetition of some or all the type tests in presence of KPLC's representative, which acceptance should be submitted together with the offer. The retest results of the 3<sup>rd</sup> Party Laboratory shall be binding and not be disputed. All type test reports of the meters shall be approved by Head of Standards, KPLC, before commencement of supply. Type tests conducted in the manufacturer's own laboratory and certified by testing bodies shall not be acceptable.</p> <p>(vii) Current e-mail addresses, and telephone numbers of the National / International Testing / Calibration Laboratories and Meter Certification bodies used to test the meter on offer.</p> <p>(viii) Copy of Accreditation Certificate to ISO/IEC 17025 for the third-party testing laboratory</p> <p>(ix) A copy of ISO 9001: 2015 Certificate</p> <p>(x) KEBS standardization quality mark certificate for local manufacturers.</p> <p>(xi) Manufacturer's letter of authorization.</p> <p>(xii) Manufacturer's warranty and Guarantee.</p> <p>(xiii) Copies of DLMS/COSEM certificates</p> <p>(xiv) Evidence that the manufacturer has supplied a given number of pieces of the meters type offered – and having done so within a given duration, as stated in the tender document.</p> <p>(xv) Sales records of the last 3 years. International (non-Kenyan) manufacturers to submit reference letters for sales over the same period from at least four different customers.</p> <p>(xvi) Details of manufacturing capacity and the manufacturer's experience.</p> <p>C.2 The successful bidder (supplier) shall submit the following documents/details to The Kenya Power &amp; Lighting Company for Approval Bcforc Manufacture:</p> <p>(i) Fully filled clause by clause Guaranteed Technical Particulars (GTP) signed by the manufacturer;</p> <p>(ii) Design Drawings with details of meters to be manufactured for KPLC.</p> <p>(iii) Wiring diagrams</p>			
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>	
Signed: 		Signed: 	
Date: Date: 2023-02-10		Date: Date: 2023-02-10	



 <p><b>Kenya Power</b></p>	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b> KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b> 1
		<b>Revision No.</b> 4
		<b>Date of Issue</b> 2023-02-10
		Page 31 of 43


  

- (iv) Detailed of Tests and Test Program to be used during Factory Acceptance Testing;
- (v) A copy of ISO 9001: 2015 Certificate
- (vi) Copy of Accreditation Certificate to ISO/IEC 17025 for the third-party testing laboratory
- (vii) Copies of DLMS/COSEM certificates
- (viii) Manufacturer's Warranty and Guarantee;
- (ix) Manufacturer's letter of authorization,
- (x) KEBS standardization quality mark certificate for local manufacturers.
- (xi) Quality Assurance Plan (QAP) that will be used to ensure that the design, material; workmanship, tests, service capability, maintenance and documentation will fulfill the requirements stated in the contract documents, standards, specifications and regulations. The QAP shall be based on requirements of ISO 9001:2015.
- (xii) An outline of the proposed manufacturing process and program sequence.
- (xiii) List of areas in manufacturing process, where stage inspections are normally carried out for quality control and details of such tests and inspections.

C.3 All documentation necessary for Safety and Operation of the equipment after Installation as specified in IEC 61010-1:2010 clause 5.4 shall be provided with the meter during delivery to KPLC. The supplier shall submit recommendations for use, care, storage and routine inspection/testing procedures, all in the English Language, during delivery of the meters to KPLC stores.



-----THIS SPACE IS LEFT BLANK-----


<b>Issued by: Head of Section, Standards Development</b>	<b>Authorized by: Head of Department, Standards</b>
Signed: 	Signed: 
Date: Date: 2023-02-10	Date: Date: 2023-02-10

 <b>Kenya Power</b>	<b>TITLE:</b>	<b>Doc. No.</b>	<b>KP1/13D/4/1/TSP/14/11-02</b>
	<b>SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU</b>	<b>Issue No.</b>	<b>1</b>
		<b>Revision No.</b>	<b>4</b>
		<b>Date of Issue</b>	<b>2023-02-10</b>
		Page 32 of 43	

**Appendix D (Normative): Guaranteed Technical Particulars**  
**For Split Prepayment Static Meters for Active Energy Measurement** *(to be filled and signed by the Manufacturer and submitted together with a sample meter, relevant copies of the Manufacturer's catalogues, brochures, drawings, technical data, sales records for previous five years, four customer reference letters, details of manufacturing capacity, the manufacturer's experience and copies of complete type test certificates and type test reports for tender evaluation, all in English Language)*

Clause number	KPLC requirement	Bidder's offer (indicate full details of the offered for the prepayment meter)	
	Manufacturer's Name and address	Specify	
	Brand name or designation	Specify	
	Country of Manufacture	Specify	
	Bidder's Name and address	Specify	
1.	Scope	Specify	
2.	Normative References	Specify	
3.	Terms, Definitions and Abbreviations	Specify	
<b>4.</b>	<b>REQUIREMENTS</b>		
4.1	<b>Operating Conditions</b>		
4.1.1	Operating environmental conditions	Altitude	State
		Operating temperature	State
		Storage temperature	State
		Humidity range - Rel. humidity	State
		Pollution category	State
		Isokeraunic Levels	State
4.1.2	System Characteristics	Electrical system Application	State
		Nominal voltage and frequency	State
4.2	<b>Design And Construction Requirements</b>		
4.2.1	<b>General Requirements-Standards applicable</b>	State	
4.2.1.1	The Measurement and Control Unit (MCU) shall be of DIN rail mounting with locking clip, to fit to a 35 mm Din rail.	Specify	
4.2.1.2	Distance of MCU and UIU communication via PLC	Specify	
4.2.1.3	The meters constructed as 1 phase 2-wire direct connected prepayment meter.	Specify	



<b>Issued by: Head of Section, Standards Development</b>	<b>Authorized by: Head of Department, Standards</b>
Signed: 	Signed: 
Date: Date: 2023-02-10	Date: Date: 2023-02-10


 Kenya Power	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b>	KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b>	1
		<b>Revision No.</b>	4
		<b>Date of Issue</b>	2023-02-10
		Page 33 of 43	

Clause number	KPLC requirement	Bidder's offer (indicate full details of the offered for the prepayment meter)
4.2.1.4	(a) Connection to the meter Bottom-In, Bottom-Out with Line-in and Neutral-in terminals at the base level to allow racking of the meter on a test bench.	Specify
	(b) Meter terminals protection cover (transparent) with sealable screws against tampering and ingress of water	Specify
	(c) Material of the screws	
4.2.1.5	The MCU dimensions not exceeding: Height of 170 mm; Width of 60 mm; and Depth of 95 mm; and meter base on the width side where the Din rail mount shall be located.	Specify
4.2.1.6	The MCU body ultrasonically sealed for life without screws on the MCU body except for the termination of cables.	Specify
4.2.1.7	Terminal cover open detection mechanism	Specify
(a)	Supply with load switch in open mode and commissioning code (token) and installer can open terminal cover when MCU not activated	Specify
	(b) Activation of cover open detection function at installation of MCU by inputting a commissioning code	Specify
	(c) Terminal cover detect opening of cover and MCU disconnects as well as record tamper event.	Specify
4.2.1.8	MCU sealed and its printed circuit boards conformal coated in a manner so as not to allow malfunction due to ingress of moisture, vermin, dust, chemicals and temperature extremes.	Specify
4.2.1.9	(a) Meters terminal holes and screws of Moving-cage type made of brass or nickel-plated brass for high conductivity and corrosion resistance	Specify type and class of brass and reference standard
	(b) Meter terminals with a continuous current rating of at least 125%Imax	Specify
4.2.1.10	Terminal holes of at least 10-mm diameter and 15mm in depth. The dimension from the Line-in, Neutral-in terminal holes to meter base not exceeding 20mm.	Specify
4.2.1.11	The meter's terminal cover shall have screw inserts sealable with utility wire seals. The terminal cover shall have holding/retaining mechanism for the crew.	Specify
4.2.1.12	The meter protection class II (Double insulated)	Specify class and reference standard



<b>Issued by: Head of Section, Standards Development</b>	<b>Authorized by: Head of Department, Standards</b>
Signed: 	Signed: 
Date: Date: 2023-02-10	Date: Date: 2023-02-10

 Kenya Power	<b>TITLE:</b> <b>SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU</b>	<b>Doc. No.</b>	<b>KP1/13D/4/1/TSP/14/11-02</b>
		<b>Issue No.</b>	<b>1</b>
		<b>Revision No.</b>	<b>4</b>
		<b>Date of Issue</b>	<b>2023-02-10</b>
		Page 34 of 43	


  

Clause number	KPLC requirement	Bidder's offer (indicate full details of the offered for the prepayment meter)
4.2.1.13	Non-volatile memory capable of data storage and with a long-term data retention period of not less than 10 years or for the certified life of the meter or whichever is greater without an electrical supply being supplied to the meter.	Specify type of memory and the period of data retention
4.2.1.14	Meter register codes to indicate information like instantaneous power, current credit register, power fail counter, last credit token number, value of last credit token, etc. The values shall be available on the UIU display.	Specify all the codes
4.2.1.15	Principal unit for the measured values	Specify
4.2.1.16	Means of reading the credit register to within a resolution of at least 0.01 kWh for testing purposes.	Specify
4.2.1.17	The cumulative consumption register of the meter shall NOT be resettable to zero.	Specify
4.2.1.18	Detection of significant reverse energy (SRE) when the line and load wires are swapped	Specify
4.2.1.19	Meter to continue to operate correctly and decrement credit during SRE detection	Specify
4.2.1.20	LED indicators for testing and indication of kWh consumption.	Specify
4.2.1.21	Optical communication port, compliant to IEC62056-21 for accessing information stored inside the meter through a handheld unit.	Specify
4.2.1.22	Compliance with IEEE1901.2 using the OFDM modulation at frequency band up to 500kHz(G3/PRIME)	Specify
4.2.1.23	Compliance with the DLMS/COSEM or equivalent communication protocol.	Specify
4.2.1.24	(a) Ability of meter to work under postpaid mode or prepaid mode. The switch of mode shall be done via meter specific token or optical communication.	Specify
	(b) Method of switching to and from postpaid and prepaid modes	Specify
4.2.1.25	MCU to conform to the degree of protection IP 54 given in IEC60529	
4.2.1.26	Material of the MCU enclosure,	Specify material and reference standard

<b>Issued by: Head of Section, Standards Development</b>	<b>Authorized by: Head of Department, Standards</b>
Signed: 	Signed: 
Date: Date: 2023-02-10	Date: Date: 2023-02-10






 Kenya Power	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b>	KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b>	1
		<b>Revision No.</b>	4
		<b>Date of Issue</b>	2023-02-10
		Page 35 of 43	

Clause number	KPLC requirement	Bidder's offer (indicate full details of the offered for the prepayment meter)
4.2.1.27	The meters shall be supplied together with a scanner and laptop for scanning the meters at KPLC warehouse and a laptop loaded with software for interrogating the meter data and loading commissioning and credit token during testing at our laboratory. The laptop specification shall include, but not limited to, the following or higher specification as in Table I	Specify
<b>4.2.2</b>	<b>Functionality Requirements</b>	
<b>4.2.2.1</b>	<b>Measurement and Control Unit (MCU)</b>	
4.2.2.1.1	MCU with a load switch to automatically interrupt the load circuit on the expiry of credit balance.	Specify
4.2.2.1.2	Load switch to automatically restore the load circuit after top up.	Specify
4.2.2.1.3	Reference standard for the meter load switch	Specify the reference standard
4.2.2.1.4	MCU indication for absence or presence of continuous power.	Specify
4.2.2.1.5	Disconnection of the load if power failure is detected and connect the load after normalization.	Specify
4.2.2.1.6	Programmable power limit setting that disconnects the load once exceeded and reconnect once the load falls below the set limit.	Specify
4.2.2.1.7	Light Emitting Diode (LED) to indicate rate of consumption. The pulse rate to be proportional to current rate of consumption	Specify
4.2.2.1.8	Diagnostic LED to indicate the presence of communication between the MCU and the UIU.	Specify
4.2.2.1.9	The MCU to continue metering and decrement credit, regardless of the state of the communications interface or the UIU.	Specify
4.2.2.1.10	Immunity to DC for the Live and Neutral circuits of the MCU	Specify
4.2.2.1.11	(a) MCU with two elements double circuit measurement.	Specify
	(b) MCU equipped with 100A relay (loading switch) both in Live and Neutral circuits and operating simultaneously	Specify
	(c) In case there is an imbalance between the Live circuit and the Neutral circuit, the MCU takes it as a tamper event and record it. The MCU then measure on the higher current without disconnecting the loading switch.	Specify



<b>Issued by: Head of Section, Standards Development</b>	<b>Authorized by: Head of Department, Standards</b>
Signed: 	Signed: 
Date: Date: 2023-02-10	Date: Date: 2023-02-10




 Kenya Power	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b>	KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b>	1
		<b>Revision No.</b>	4
		<b>Date of Issue</b>	2023-02-10
		Page 36 of 43	




  




Clause number	KPLC requirement	Bidder's offer (indicate full details of the offered for the prepayment meter)
4.2.2.1.12	(a) MCU to be fitted with an SCSSCAA9 (MC171) compliant data port for programming and interrogating the meter.	Specify
	(b) Two (2) sets of data interrogating and programming probes and software (1 each for optical and SCSSCAA9 ports) shall be provided with the meter sample for evaluation	To Comply
	(c) For the winning bidders, each delivery of 100,000 meters shall have 100 sets of probes and software for use with the optical and the SCSSCAA9 ports.	To comply
4.2.2.1.13	The MCU shall be supplied together with a plastic card of dimension 85mm x 54 (length X height) mm and material similar to that of a credit card indicating the meter number. The meter serial number shall be engraved on the card together with its bar code version and also stored in a magnetic medium with capability of being read out when the card is swiped. No redundant digits shall be in the card	Specify
4.2.2.1.14	The MCU shall be with Nil Units pre-loaded (i.e. 0 (Zero) kWh)	Comply
<b>4.2.2.2</b>	<b>User Interface Unit (UIU)</b>	
4.2.2.2.1	The UIU comply with 20-digit (STS) encryption algorithms. All correctly entered tokens to be registered to eliminate fraud.	Specify
4.2.2.2.2	User friendly UIU's keypad with a LCD display for numeric credit display and language independent pictograms to identified operational features.	Specify
4.2.2.2.3	The UIU display shall have at least seven 7-numerical characters comprising of five integers and two decimals and Icons, Icon information and numeric information	Specify all info to be displayed
4.2.2.2.4	The height of the LCD display characters for the numeric values to not be less than 4.5 mm.	Specify
4.2.2.2.5	UIU keypad of 12-key, international standard layout including 'information' and 'backspace' keys	Specify
4.2.2.2.6	UIU enclosure material to be UV-stable polycarbonate and fire-redundant	Specify material and applicable standard
4.2.2.2.7	The UIU conforming to the degree of protection IP 54.	Specify


  

<b>Issued by: Head of Section, Standards Development</b>	<b>Authorized by: Head of Department, Standards</b>
Signed: 	Signed: 
Date: Date: 2023-02-10	Date: Date: 2023-02-10

 Kenya Power	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b>	KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b>	1
		<b>Revision No.</b>	4
		<b>Date of Issue</b>	2023-02-10
		Page 37 of 43	
<b>Clause number</b>	<b>KPLC requirement</b>	<b>Bidder's offer</b> (indicate full details of the offered for the prepayment meter)	
4.2.2.2.8	The UIU and MCU communicate through PLC communication link for distance not less than one hundred (100) meters.	Specify	
4.2.2.2.9	Interchangeability of UIU unit and possibility to view the paired MCU on the UIU.	Specify	
4.2.2.2.10	UIU enables loading the meter with a number of pre-purchased units of credit, without loss of any existing credit balance.	Specify	
4.2.2.2.11	The UIU upon acceptance of a valid token credit, the exact amount contained on the token recorded to the appropriate register in the meter and increment the register by similar amount.	Specify	
4.2.2.2.12	The UIU to transfer the credit in kWh.	Specify	
4.2.2.2.13	The UIU to display the cumulative kilowatt-hour register.	Specify	
4.2.2.2.14	The UIU to have a means to remove digits from a partially entered number sequence-backspace key.	Specify	
4.2.2.2.15	The UIU to have the ability to recall at least the last five successful credit tokens entered and the associated dates and time.	Specify	
4.2.2.2.16	The UIU to be able to indicate the meter software.	Specify	
4.2.2.2.17	The UIU to indicate the status of the incoming supply.	Specify	
4.2.2.2.18	The UIU to indicate the credit status.	Specify	
4.2.2.2.19	The UIU to indicate token acceptance or rejection.	Specify	
4.2.2.2.20	The UIU to give low credit warning by means of a flag on UIU display and audio alarm. The UIU to have option of muting the low credit warning sound by entering a code on the UIU.	Specify	
4.2.2.2.21	UIU has a buzzer that gives feedback on keypress, token acceptance and rejection melodies, low credit alarms as a factory programmable option	Specify	
4.2.2.2.22	UIU keypad has a backlight to enable keying of tokens in the dark.	Specify	
4.2.2.2.23	UIU is wall mountable	Specify	
4.2.2.2.24	UIU is able to communicate with MCU when power is off via any regular 2xAA or 4xAA alkaline battery. The Batteries are to be supplied with the UIU.	Specify	
4.3	<b>Electrical requirements</b>	Specify	
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>	
Signed: 		Signed: 	
Date: Date: 2023-02-10		Date: Date: 2023-02-10	

 Kenya Power	<b>TITLE:</b> <b>SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU</b>	<b>Doc. No.</b>	KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b>	1
		<b>Revision No.</b>	4
		<b>Date of Issue</b>	2023-02-10
		Page 38 of 43	
<b>Clause number</b>	<b>KPLC requirement</b>	<b>Bidder's offer</b> (indicate full details of the offered for the prepayment meter)	
4.3.1	The meter is operated from mains with reference values of 230V, 50 Hz, with a load switching voltage range from 0.4Un to 1.3Un.	Specify and reference the standard of the load switch	
4.3.2	The load switch is able to interrupt the supply when the voltage is below 0.4 Un and above 1.3Un.	Specify	
4.3.3	The load switch automatically restores supply within a minute when the voltage falls within 0.4Un – 1.3 Un.	Specify	
4.3.4	The meters is connectable for 2-wire systems, drawing of which shall be printed on the meter body. Stickers of any kind shall not be accepted	Specify	
4.3.5	<b>Summary of electrical parameters as per table 1 of specification</b>	Specify	
(a)	Meter accuracy class	Specify class and reference standard	
(b)	Rated Nominal Voltage (Un)	Specify	
(c)	Load switching voltage range	Specify	
(d)	Maximum Voltage Circuit burden (W and VA)	Specify	
(e)	Base Reference Current, Ib	Specify	
(f)	Maximum Current circuit burden (VA)	Specify	
(g)	Maximum Current Imax (A)	Specify	
(h)	Protective class	Specify class and reference standard	
(i)	Accurate Metering Range	Specify	
(j)	Starting Current (as a percentage of Ib)	Specify	
(k)	Running with no-load	Specify	
(l)	Short Circuit current (as a function of Imax)	Specify	
(m)	Meter constant	Specify	
(n)	Disconnection device operating characteristics	Specify type and current rating	
(o)	Insulation class	Specify and reference standard	
(p)	Insulation Level (kV)	Specify and reference standard	
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>	
<b>Signed:</b> 		<b>Signed:</b> 	
<b>Date: Date: 2023-02-10</b>		<b>Date: Date: 2023-02-10</b>	



 Kenya Power	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b>	KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b>	1
		<b>Revision No.</b>	4
		<b>Date of Issue</b>	2023-02-10
		Page 39 of 43	
<b>Clause number</b>	<b>KPLC requirement</b>	<b>Bidder's offer</b> (indicate full details of the offered for the prepayment meter)	
(q)	Overvoltage withstand (VAC for 48 hours)	Specify and reference standard	
(r)	Voltage Impulse Withstand (KV)	Specify withstand value and reference standard	
(s)	Current Impulse withstand (kA/microsecs)	Specify withstand value and reference standard	
(t)	Lightning Surge Withstand	Specify withstand value and reference standard	
(u)	EMC-Electrostatic discharge (kV air discharge)	Specify rating and reference standard	
(v)	Immunity to HF Fields	Specify rating and reference standard	
(w)	Immunity to Fast Transient Bursts	Specify rating and reference standard	
(x)	Immunity to Radio interference	Specify rating and reference standard	
(y)	Rated impulse withstand voltage of PLC (kV)	Specify withstand value and reference standard	
(z)	Insulation level of PLC (kVrms)	Specify withstand value and reference standard	
(aa)	Communication Protocol	Specify	
(bb)	Communication Range of PLC	Specify	
4.3.6	Default Factory Parameters settings	Specify	
4.3.7	Standard Query Codes and their definitions	Specify	
<b>4.4</b>	<b>Interoperability Requirements</b>		
4.4.1	The meter's applicable standards	Specify	
(a)	Interoperability of the meter on offer among hardware, software and meters supplied by other manufacturers	Specify	
(b)	Non-proprietary technology that does not lock KPLC to only one bidder or any one manufacturer in its future procurement of software, hardware or meters	Specify	
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>	
Signed: 		Signed: 	
Date: Date: 2023-02-10		Date: Date: 2023-02-10	


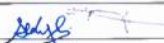

 Kenya Power	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b> KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b> 1
		<b>Revision No.</b> 4
		<b>Date of Issue</b> 2023-02-10
		Page 40 of 43


  

Clause number	KPLC requirement	Bidder's offer (indicate full details of the offered for the prepayment meter)
(c)	Meter interoperable with the existing KPLC smart metering management system. The bidder shall be able to demonstrate this capability before award.	Specify
<b>5.0</b>	<b>TESTS AND INSPECTIONS</b>	
5.1	Test standards and responsibility of carrying out tests	Provide
5.2	Copies of valid Type Test Reports and 3 <sup>rd</sup> Party testing lab accreditation certificate submitted with tender	Provide
5.3	List of tests to be conducted on the meter as per IEC 62052-11: 2003, IEC 62053-21: 2003, IEC 62055-31: 2005 including Annex A, B, C and D and other relevant standards.	State
5.4	Minimum calibrated testing facilities	State
<b>6.0</b>	<b>MARKING AND PACKING</b>	
6.1	Marking as per specification	Specify
	Markings Legibility, Language and Font dimension	Specify
	Markings with No stickers	State
	Markings to be indicated on meter	State
6.2	Packing requirements for safe freight	Specify
	Packing requirements for CIU and MCU batch numbers	State
	Packing requirements batch weight	State
<b>7.0</b>	<b>INFORMATION AND WARRANTY</b>	
<b>7.1</b>	<b>Warranty, Qualification and Capacity</b>	
7.1.1	Fifty four (54) months warranty from date of successful commissioning certificate for KPLC or Sixty (60) months warranty from the date of dispatch whichever is later	Specify
7.1.2	Compliance with the manufacturers experience or relevant manufactures qualification requirement as defined in the tender documents	State
7.1.3	Software supplied shall be updated by the supplier at no extra cost while any required changes, e.g. tariff changes, statutory changes, etc. shall be implemented free of cost during the warranty period and beyond.	Specify

<b>Issued by: Head of Section, Standards Development</b> Signed:  Date: Date: 2023-02-10	<b>Authorized by: Head of Department, Standards</b> Signed:  Date: Date: 2023-02-10
---	---



 Kenya Power	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b> KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b> 1
		<b>Revision No.</b> 4
		<b>Date of Issue</b> 2023-02-10 <small>Page 41 of 43</small>
<b>Clause number</b>	<b>KPLC requirement</b>	<b>Bidder's offer</b> (indicate full details of the offered for the prepayment meter)
7.1.4	Compliance with functional test of 0.5% of supplied meters to verify accuracy over a period of at least one (1) year and submission of a report to KPLC for review. The sampled meters shall be from at least 3 counties with the leading number of meters installed.	State
7.1.5	State if models offered has registered poor performance with failure rates above 1.5 % within the warranty period of 5yrs while in service in Kenya Power system	State
<b>7.2</b>	<b>Samples</b>	
7.2.1	Compliance with requirement to submit three (3) MCUs and three (3) UIUs samples together with the tender documents.	State
7.2.2	Authority to KPLC to subject the submitted meter to accuracy test and other compliances according to IEC 62053-21:2003	State
7.2.3	Compliance with requirement to provide token and other resources facilitation for testing at KPLC lab	State
7.2.4	Meter delivered should be same as of sample provided during tendering	State
7.2.5	Kenya Bureau of Standards approval on submitted samples	State
	<b>APPENDICES</b>	
	<b>APPENDIX A: TEST AND INSPECTION</b>	
A.1	Required Type Tests and Routine Acceptance Tests	Specify
A.2	Acceptance tests to be witnessed by KPLC Engineers at factory before shipment	Provide
A.3	KPLC to perform any of the tests independently in order to verify compliance with this specification	Comply
A.4	Training of 20No. KPLC staff on the use of optical, the SCSSCAA9 ports, installation, commissioning and metering operation managements.	Comply
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>
<b>Signed:</b> 		<b>Signed:</b> 
<b>Date: 2023-02-10</b>		<b>Date: 2023-02-10</b>

 Kenya Power	<b>TITLE:</b> SPECIFICATION FOR SINGLE-PHASE SPLIT DIN RAIL MOUNTING STATIC WATT - HOUR PREPAYMENT METERS FOR ACTIVE ENERGY- Using PLC as Medium of Communication Between MCU and UIU	<b>Doc. No.</b> KP1/13D/4/1/TSP/14/11-02
		<b>Issue No.</b> 1
		<b>Revision No.</b> 4
		<b>Date of Issue</b> 2023-02-10
		Page 42 of 43

Clause number	KPLC requirement	Bidder's offer (indicate full details of the offered for the prepayment meter)
A.5	Supplier to replace without charge to KPLC meters which upon examination, test, or use, fail to meet any requirements in the specification	Comply
<b>APPENDIX B: QUALITY MANAGEMENT SYSTEMS</b>		
B.1	Submission of Quality Assurance Plan to ensure fulfillment of the requirements	Provide
B.2	Copy of valid ISO 9001:2015 Certificate for international manufacturers and/or KEBS standardization certificate for local manufacturers	Provide
B.3	Delivery time of the meter, monthly & annual production capacity and experience in the production of the type and size of meter being offered.	Provide
<b>APPENDIX C: TECHNICAL DOCUMENTATION</b>		
C1	Submission of tender complete with technical documents required by GTP for tender evaluation. List all technical documents to be submitted (all in English language) for Tender Evaluation	List
C2	Submission of Technical Documents required for Drawing and GTP approval Before Manufacture.  List all technical documents to be submitted (all in English language) for Approval Before Manufacturing	List
C3	Submission of Technical Documents required for Safety and Operation of the meter after Installation as specified in IEC 61010-1:2010 clause 5.4  List all technical documents to be submitted (all in English language) with the meter during delivery to KPLC. The documents specify- in the English Language- the Recommendations for use, Care, Storage and Routine Inspection/Testing procedures of the meter during use.	List

<b>Issued by: Head of Section, Standards Development</b> Signed:  Date: Date: 2023-02-10	<b>Authorized by: Head of Department, Standards</b> Signed:  Date: Date: 2023-02-10
---	---









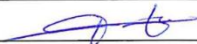
**DOCUMENT NO: KP1/6C/4/1/TSP/11/010**




**Kenya Power**

**LOW VOLTAGE MINIATURE CIRCUIT BREAKERS (MCB) -  
SPECIFICATION**

A Document of the Kenya Power & Lighting Company Plc  
**June 2020**

 Kenya Power	<b>TITLE:</b> <b>LOW VOLTAGE MINIATURE          CIRCUIT BREAKERS (MCB) -          SPECIFICATION</b>	<b>Doc. No.</b>	<b>KP1/6C/4/1/TSP/11/010</b>
		<b>Issue No.</b>	<b>1</b>
		<b>Revision No.</b>	<b>1</b>
		<b>Date of Issue</b>	<b>2020-06-16</b>
		<b>Page 2 of 18</b>	
<p><b>Table of Contents</b></p> <p>0.1 CIRCULATION LIST ..... 3</p> <p>0.2 AMENDMENT RECORD..... 4</p> <p>FOREWORD ..... 5</p> <p>1. SCOPE..... 6</p> <p>2. NORMATIVE REFERENCES ..... 6</p> <p>3. DEFINITIONS ..... 6</p> <p>4. REQUIREMENTS ..... 7</p> <p>    4.1. Service conditions ..... 7</p> <p>    4.2. GENERAL REQUIREMENTS..... 7</p> <p>        4.2.1. Design and construction ..... 7</p> <p>        4.2.2. Power System parameters..... 9</p> <p>        4.2.3. Mounting ..... 9</p> <p>        4.2.4. Housing ..... 9</p> <p>        4.2.5. Dimensions..... 9</p> <p>        4.2.6. Terminals..... 9</p> <p>        4.2.7. Markings..... 10</p> <p>        4.2.8. Tamper Evidence..... 10</p> <p>        4.2.9. Neutral Link ..... 11</p> <p>        4.2.10. Motor Starting ..... 11</p> <p>        4.2.11. Tripping Mechanism: ..... 11</p> <p>APPENDICES..... 12</p> <p>    APPENDIX A: Tests and Inspection (Normative)..... 12</p> <p>    APPENDIX B: Inspection at Delivery Point ..... 13</p> <p>    APPENDIX C: Warranty ..... 13</p> <p>    APPENDIX D: Qualification of the Manufacturer (Normative)..... 13</p> <p>    APPENDIX E: Documentation (Normative)..... 14</p> <p>    APPENDIX F: Guaranteed Technical Particulars ..... 15</p>			
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>	
Signed: 		Signed: 	
Date: 2020-06-16		Date: 2020-06-16	

 Kenya Power	TITLE:	Doc. No.	KP1/6C/4/1/TSP/11/010
	LOW VOLTAGE MINIATURE CIRCUIT BREAKERS (MCB) - SPECIFICATION	Issue No.	1
		Revision No.	1
		Date of Issue	2020-06-16
		Page 3 of 18	

**0.1 CIRCULATION LIST**



COPY NO.	COPY HOLDER
1	Manager, Standards
2	Electronic copy (pdf) on Kenya Power server ( <a href="http://172.16.1.40/dms/browse.php?folderId=23">http://172.16.1.40/dms/browse.php?folderId=23</a> )





**REVISION OF KPLC STANDARDS**


To keep abreast of progress in the industry, KPLC Standards shall be regularly reviewed. Suggestions for improvements to approved standards, addressed to the Manager, Standards Department, are welcome.

**© Kenya Power & Lighting Company Plc**

Users are reminded that by Section 25 of the Copyright Act, 2001 (Revised 2009) Cap 130 of the Laws of Kenya, copyright subsists in all KPLC Standards and except as provided under Section 26 of this Act, no KPLC Standard produced by KPLC may be reproduced, stored in a retrieval system by any means without prior permission from the Managing Director & CEO, KPLC.

Issued by: Head of Section, Standards Development	Authorized by: Head of Department, Standards
Signed: 	Signed: 
Date: 2020-06-16	Date: 2020-06-16

 Kenya Power	<b>TITLE:</b> <b>LOW VOLTAGE MINIATURE  CIRCUIT BREAKERS (MCB) -  SPECIFICATION</b>		<b>Doc. No.</b>	<b>KP1/6C/4/1/TSP/11/010</b>
			<b>Issue No.</b>	<b>1</b>
			<b>Revision No.</b>	<b>1</b>
			<b>Date of Issue</b>	<b>2020-06-16</b>
			<b>Page 4 of 18</b>	
<b>0.2 AMENDMENT RECORD</b>				
<b>Rev No.</b>	<b>Date (YYYY-MM-DD)</b>	<b>Description of Change</b>	<b>Prepared by (Name &amp; Signature)</b>	<b>Approved by (Name &amp; Signature)</b>
Issue1 Rev 0	2018-06-14	NEW ISSUE	Eng. Stephen Nguli Eng. Raphael Ndolo	Dr. Eng. Peter Kimemia
Issue1 Rev 1	2020-06-16	i. Changed the specification code from TSP/011/002 to TSP/11/010  ii. Replaces <i>TSP/11/010 Issue 1 Rev 0</i> dated 2014- 10-18	Rotich Benard	Dr. Eng. Peter Kimemia 
<b>Issued by: Head of Section, Standards Development</b>			<b>Authorized by: Head of Department, Standards</b>	
Signed: 			Signed: 	
Date: 2020-06-16			Date: 2020-06-16	

 <b>Kenya Power</b>	<b>TITLE:</b> <b>LOW VOLTAGE MINIATURE  CIRCUIT BREAKERS (MCB) -  SPECIFICATION</b>	<b>Doc. No.</b>	<b>KP1/6C/4/1/TSP/11/010</b>
		<b>Issue No.</b>	<b>1</b>
		<b>Revision No.</b>	<b>1</b>
		<b>Date of Issue</b>	<b>2020-06-16</b>
		<b>Page 5 of 18</b>	

**FOREWORD**

This standard specification has been prepared by the Standards Department of Kenya Power and lays down the specification for Low Voltage Miniature Circuit Breakers (MCBs). The MCBs are meant for use in low voltage protection and metering networks. It is intended for use by KPLC in purchasing of low voltage miniature circuit breakers.



It shall be the responsibility of the supplier to ensure adequacy of the design and good engineering practice in the manufacture of the low voltage miniature circuit breakers for KPLC. The manufacturer shall exhibit good workmanship and good engineering practice in the manufacture of the low voltage miniature circuit breakers for KPLC.


The supplier shall submit information which confirms the manufacturer's satisfactory service experience with products which fall within the scope of this specification.

Users of this KPLC specification are responsible for their correct interpretation and application.

The following are members of the team that developed this specification:

<b>Name</b>	<b>Department</b>
Eng. Stephen Nguli	Standards
Eng. Raphael Ndolo	Standards
Rotich Benard	Standards

<b>Issued by: Head of Section, Standards Development</b>	<b>Authorized by: Head of Department, Standards</b>
Signed: 	Signed: 
Date: 2020-06-16	Date: 2020-06-16

 Kenya Power	<b>TITLE:</b> <b>LOW VOLTAGE MINIATURE  CIRCUIT BREAKERS (MCB) -  SPECIFICATION</b>	<b>Doc. No.</b>	<b>KP1/6C/4/1/TSP/11/010</b>
		<b>Issue No.</b>	<b>1</b>
		<b>Revision No.</b>	<b>1</b>
		<b>Date of Issue</b>	<b>2020-06-16</b>
		<b>Page 6 of 18</b>	

**1. SCOPE**

This specification covers both moulded case and industrial class low voltage circuit breakers of the moulded case type, particularly intended for general application in the protection of low voltage a.c. reticulation networks and systems, including, but not restricted to meter boards and distribution kiosks. The circuit breakers covered by this specification are rated at and intended for application on 50Hz reticulation systems having rated voltages up to and including 230 volts single-phase and 230/400 volts three-phase four-wire.

This specification is for temperature-stable, low voltage miniature circuit breakers of tripping characteristics **Type B, C or D** intended for use as protection devices in standard applications in the residential and non-residential sector. It covers the following categories of miniature circuit breakers:

- Two-wire 230V single phase with neutral model
- Three or Four-wire 400V three-phase with neutral model

This specification stipulates the minimum requirements for the low voltage miniature circuit breakers acceptable for use in the company and it shall be the responsibility of the supplier and manufacturer to ensure that the offered design is of the highest quality and guarantees excellent service to KPLC.

**2. NORMATIVE REFERENCES**



The following standards contain provisions which through reference in this text constitute provisions of this specification. For dated editions, the cited edition shall apply; for undated editions, the latest edition of the referenced document shall apply.

For this specification, the definitions and abbreviations given in the reference standards shall apply.


IEC/EN 60898-1: MCBs for building installations and similar purposes AC Systems  
IEC/EN 60898-2: MCBs for building installations and similar purposes for AC and DC systems  
IEC 60947-2: Low-Voltage Switchgear – Circuit Breakers  
IEC 60529: Degrees of protection provide by enclosures (IP code)  
IEC 60947-1: Low-voltage switchgear and controlgear - Part 1: General rules

**3. DEFINITIONS**

For the purpose of this specification, the terms and definitions given in the reference standards shall apply.

<b>Issued by: Head of Section, Standards Development</b>	<b>Authorized by: Head of Department, Standards</b>
Signed: 	Signed: 
Date: 2020-06-16	Date: 2020-06-16



 Kenya Power	TITLE:	Doc. No.	KP1/6C/4/1/TSP/11/010
	LOW VOLTAGE MINIATURE CIRCUIT BREAKERS (MCB) - SPECIFICATION	Issue No.	1
		Revision No.	1
		Date of Issue	2020-06-16
		Page 7 of 18	

**4. REQUIREMENTS**

**4.1. Service conditions**


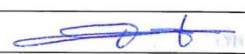
The low voltage miniature circuit breakers shall be suitable for continuous outdoor operation in tropical areas and harsh climatic conditions including areas exposed to:


- Altitudes of up to 2200m above sea level
- Humidity of up to 95%
- Average ambient temperature of +30°C with a minimum of -1°C and a maximum of +40°C, in direct sunlight,
- Isokeraunic* levels of up to 180 thunderstorm days per year.
- Pollution (IEC 60947-1)-Very Heavy: class IV

**4.2. GENERAL REQUIREMENTS**

**4.2.1. Design and construction**

- 4.2.1.1. The MCB shall be designed and constructed in compliance with requirements of IEC 60898-1 and IEC 60947-2 standards.
- 4.2.1.2. The MCB shall be maintenance-free, manufactured for control and protection against overloads and short circuits of electrical wiring for domestic /residential installations and similar premises designed for use by uninstructed persons.
- 4.2.1.3. The MCB shall be so designed and constructed that, in normal use their performance is reliable and without danger to the user and the surroundings.
- 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. The Neutral conductor has multiple earthing. The Neutral is also solidly earthed at the source Distribution Transformer.
- 4.2.1.5. The MCB shall have provision for manual operation by hand to the closed position and to the open position.
- 4.2.1.6. The MCB manual operating means shall have an “up-down” movement, when the circuit breaker is mounted as in normal use. The circuit breaker contacts shall be closed by the up movement.
- 4.2.1.7. The Open position of the circuit breaker shall be indicated by the symbol “O-OFF” and the closed position by the symbol “I-ON”. The Operating means shall be used to indicate the

Issued by: Head of Section, Standards Development	Authorized by: Head of Department, Standards
Signed: 	Signed: 
Date: 2020-06-16	Date: 2020-06-16

 Kenya Power	<b>TITLE:</b> <b>LOW VOLTAGE MINIATURE          CIRCUIT BREAKERS (MCB) -          SPECIFICATION</b>	<b>Doc. No.</b>	<b>KP1/6C/4/1/TSP/11/010</b>		
		<b>Issue No.</b>	<b>1</b>		
		<b>Revision No.</b>	<b>1</b>		
		<b>Date of Issue</b>	<b>2020-06-16</b>		
		<b>Page 8 of 18</b>			

position of the circuit breaker contacts. In addition to the marking, red identification shall be used for switch position ON and green identification for switch position OFF.

4.2.1.8. The MCB shall be so constructed that the moving contacts can come to rest only in the Closed Position or in the Open position, even when the actuator(handle) is released in an intermediate position.

4.2.1.9. The Supply and the Load terminals shall be marked appropriately in accordance with IEC 60898 standard.

4.2.1.10. Connections whether electrical or mechanical shall withstand the mechanical stresses occurring in normal use.



4.2.1.11. The maximum temperature rise shall not exceed the values stated in IEC 60898, when the circuit breaker is carrying its rated current in the conditions specified in the standard.




4.2.1.12. The MCB shall be equipped with an overcurrent release as well as an overload release.


4.2.1.13. Technical parameters of the MCB shall be as per table 1 below:

**Table 1: Technical Parameters of MCB**

Parameter Description	Unit	Value		
Rated Voltage	V	230/400		
Rated current	A	6, 10, 16, 20, 32, 40, 63		
Power frequency withstand Voltage	kVrms	4		
Impulse withstand Voltage	kVpk	6		
No. of poles		230V (1- Ph)		400V (3-Ph)
		1P+N		3P+N
Tripping Characteristic type		<b>Type B</b>	<b>Type C</b>	<b>Type D</b>
Instantaneous Tripping range according to IEC/EN 60898-1		3-5x I <sub>n</sub>	5-10x I <sub>n</sub>	10-20xI <sub>n</sub> In
Rated breaking capacity	kA	6	6	10
Energy Limitation Class		3	3	3
Mounting		DIN rail (DIN EN50052)		
Mechanical Endurance	cycles	20,000		
Electrical Endurance	cycles	10,000		
Conductor Size	mm <sup>2</sup>	Up to 25		
Degree of protection	IP	55		

<b>Issued by: Head of Section, Standards Development</b>	<b>Authorized by: Head of Department, Standards</b>
Signed: 	Signed: 
Date: 2020-06-16	Date: 2020-06-16

 <p>Kenya Power</p>	<b>TITLE:</b> <b>LOW VOLTAGE MINIATURE  CIRCUIT BREAKERS (MCB) -  SPECIFICATION</b>	<b>Doc. No.</b>	<b>KP1/6C/4/1/TSP/11/010</b>
		<b>Issue No.</b>	<b>1</b>
		<b>Revision No.</b>	<b>1</b>
		<b>Date of Issue</b>	<b>2020-06-16</b>
		<b>Page 9 of 18</b>	
<p>4.2.1.14. The MCB shall have the following overload tripping characteristics:</p> <p>(i) Non-tripping current, <math>I_{nt} = 1.13I_n</math></p> <p>(ii) Tripping current, <math>I_t = 1.45I_n</math></p> <p><b>4.2.2. Power System parameters</b></p> <p>4.2.2.1. The MCB shall have a voltage rating of 230V, 50 Hz single-phase single-wire or two-wire and 400V, 50 HZ three-phase 3-wire/ 4-wire with a tolerance of <math>\pm 10\%</math>, fed from 11 kV or 33 kV step-down distribution transformers with earthed neutral points.</p> <p>4.2.2.2. The MCB shall be suitable for operation at 230V and 400V, the current rating being chosen from the ranges indicated in the schedule of requirements.</p> <p><b>4.2.3. Mounting</b></p> <p>4.2.3.1. The MCB is intended to be used individually and shall be presented for surface mounting.</p> <p>4.2.3.2. Suitable screws shall be supplied with the MCB. In separate cases, MCBs that are mountable on DIN rail may be requested and in such cases the supplier shall provide DIN compliant MCB's.</p> <p><b>4.2.4. Housing</b></p> <p>4.2.4.1. The insulating casing shall be of moulded insulating material possessing high thermal stability and good mechanical strength. This shall be UV protected and fire retardant.</p> <p>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. The insulating material shall be pigmented grey (RAL7035) and the operating handle shall be red.</p> <p><b>4.2.5. Dimensions</b></p> <p>Generally compact design is called for to save on space, but the device shall be sturdy.</p> <p><b>4.2.6. Terminals</b></p> <p>4.2.6.1. The Connection terminals shall be screw terminals (captive screws) with washer or clamping plate or anti-spread device and shall be large enough to accommodate power supply cables as specified in table 1.</p> <p>4.2.6.2. The terminals shall be designed to clamp solid conductors as well as rigid stranded conductors.</p>			
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>	
Signed: 		Signed: 	
Date: 2020-06-16		Date: 2020-06-16	

	TITLE:	Doc. No.	KP1/6C/4/1/TSP/11/010
	LOW VOLTAGE MINIATURE CIRCUIT BREAKERS (MCB) - SPECIFICATION	Issue No.	1
		Revision No.	1
		Date of Issue	2020-06-16
		Page 10 of 18	

4.2.6.3. The terminals shall be corrosion free under the climatic conditions stated in this specification.

4.2.6.4. Current carrying parts and connections including parts intended for protective conductors, if any shall be of either copper or an alloy containing at least 50% copper for parts worked cold or at least 50% copper for other parts or other metal or suitable coated metal with no less resistance to corrosion than copper and having mechanical properties no less suitable.

4.2.6.5. Terminals for external conductors shall be such that the conductors may be connected so as to ensure that necessary contact pressure is maintained permanently.

4.2.6.6. Terminals shall be so designed that they clamp the conductor without undue damage to the conductor.

4.2.6.7. Terminals shall be so designed that they clamp the conductor reliably between the surfaces. Once the conductor has been tightened the screw shall not become loose on its own.

4.2.6.8. The MCB shall be supplied complete with terminal connection screws.



**4.2.7. Markings**


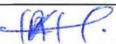
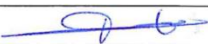
The MCB shall have the following markings embossed, indented, or otherwise indelibly marked on it in the factory; the electrical rating markings shall remain visible when the circuit breaker is in its normal operating position:


- Name and registered trade mark of the manufacturer
- Country of origin
- Year of manufacture
- Voltage rating (which shall be 230V or 400V)
- Current rating (which shall be within the range given in table 1)
- Terminal identifications for both supply side and load side
- The words "PROPERTY OF KPLC", at least 4 mm high
- Type / Tripping characteristics B, C or D as appropriate

**4.2.8. Tamper Evidence**

4.2.8.1. The terminals shall be concealed to discourage any attempts of tampering, and to reveal acts of bypassing of the device through external wiring.

Issued by: Head of Section, Standards Development	Authorized by: Head of Department, Standards
Signed: 	Signed: 
Date: 2020-06-16	Date: 2020-06-16

	<b>TITLE:</b> <b>LOW VOLTAGE MINIATURE  CIRCUIT BREAKERS (MCB) -  SPECIFICATION</b>	<b>Doc. No.</b>	<b>KP1/6C/4/1/TSP/11/010</b>
		<b>Issue No.</b>	<b>1</b>
		<b>Revision No.</b>	<b>1</b>
		<b>Date of Issue</b>	<b>2020-06-16</b>
		<b>Page 11 of 18</b>	
<p>4.2.8.2. 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.</p> <p><b>4.2.9. Neutral Link</b></p> <p>4.2.9.1. In these applications which conform to multiple protective earthing (PME), the star point of the distribution transformer is earthed and the neutral conductor of the distributor is also earthed at regular intervals.</p> <p>4.2.9.2. The neutral conductor of the service cable is bonded at the meter board to the system earth-conductor. Where applicable, the neutral in the MCB shall therefore be a solid link rated slightly higher than the phase circuit.</p> <p>4.2.9.3. The neutral link shall have two pinch screws at either end otherwise a proven cable connection design (with low probability of failure) must be demonstrated.</p> <p><b>4.2.10. Motor Starting</b></p> <p>4.2.10.1. The MCB shall be capable of passing a starting in-rush current of at least five times the full load current of a typical squirrel cage induction motor with the same rating as the circuit breaker. (A time-current plot of the two devices on the same scale shall be attached in evidence.)</p> <p><b>4.2.11. Tripping Mechanism</b></p> <p>4.2.11.1. The MCB shall have a trip-free mechanism and be capable of breaking the rated fault current and at the rated voltage without contact welding or weakening.</p> <p>4.2.11.2. The MCB shall have an inbuilt Inrush delay to allow for motor/compressor start up and hence prevent false trips.</p> <p>4.2.11.3. The MCB shall be of Type B, C or D according to the tender schedule requirement.</p> <p>4.2.11.4. The speed at which they trip shall depend upon the level of overload and determined by the thermal device within the MCB. The MCB shall use a magnetic fault protection system, which trips the MCB within one tenth of a second when the overload reaches a set level.</p>			
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>	
Signed: 		Signed: 	
Date: 2020-06-16		Date: 2020-06-16	

 Kenya Power	TITLE:	Doc. No.	KP1/6C/4/1/TSP/11/010
	LOW VOLTAGE MINIATURE CIRCUIT BREAKERS (MCB) - SPECIFICATION	Issue No.	1
		Revision No.	1
		Date of Issue	2020-06-16
		Page 12 of 18	

**APPENDICES**

**APPENDIX A: Tests and Inspection (Normative)**

A.1. The MCBs shall be manufactured and tested in accordance with IEC/EN 60898-1 and the requirements of this specification. It shall be the responsibility of the manufacturer to perform or to have performed all the relevant tests. Routine tests shall be carried out on every MCB



A.2. The test certificates shall be from an accredited reputable independent testing laboratory, acceptable to the purchaser. Proof of accreditation by a national/international authority shall be forwarded with the offer. Test reports shall be complete including all the pages as issued by the testing authority. Submission of only Parts of test reports shall not be acceptable.


A.3. Copies of previous type test reports by the relevant International or National Testing/Standards Authority of the country of manufacture (or ISO/IEC 17025 or ILAC accredited independent laboratory) shall be submitted with the tender for evaluation (all in English Language). A copy of accreditation certificate for the laboratory shall also be submitted.

**A.4. Routine Tests:** The copies of Type Test Reports to be submitted with the tender shall include the following tests in accordance with IEC 60898-1:

- Indelibility of Marking
- Reliability of Screws, Current carrying parts and connections
- Reliability of terminals for external conductors
- Protection against electric shock
- Dielectric Properties
- Temperature rise
- Tripping Characteristic
- Mechanical and Electrical endurance
- Short-Circuit
- Resistance to Mechanical shock and Impact
- Resistance to heat
- Resistance to abnormal heat and to fire
- Resistance to rusting.

A.5 **Routine test** reports for the MCB shall be submitted to KPLC for approval before shipment/delivery of the goods. Two (2) KPLC Engineers shall witness acceptance tests at the factory before shipment.

Issued by: Head of Section, Standards Development	Authorized by: Head of Department, Standards
Signed: 	Signed: 
Date: 2020-06-16	Date: 2020-06-16

	<b>TITLE:</b> <b>LOW VOLTAGE MINIATURE  CIRCUIT BREAKERS (MCB) -  SPECIFICATION</b>	<b>Doc. No.</b>	<b>KP1/6C/4/1/TSP/11/010</b>
		<b>Issue No.</b>	<b>1</b>
		<b>Revision No.</b>	<b>1</b>
		<b>Date of Issue</b>	<b>2020-06-16</b>
		<b>Page 13 of 18</b>	

**APPENDIX B: Inspection at Delivery Point**

B.1. On receipt of the equipment, KPLC will inspect the MCB for acceptance at stores and may perform or have tests performed to verify compliance of the equipment with this specification.

B.2. The supplier shall replace/rectify without charge to KPLC, any equipment which upon examination, test or use, fail to meet any or all the requirements in this specification.

**APPENDIX C: Warranty**

C.1. The supplier/manufacturer warrants the purchaser that all goods supplied under this contract shall have no defect arising from design, materials or workmanship.

C.2. A warranty of 24 months from the date of delivery of the units to Kenya Power store shall be offered by the manufacturer for the MCB.

**APPENDIX D: Qualification of the Manufacturer (Normative)**



D.1. The manufacturer whom shall be considered for tender award shall among other requirements outlined in the bidding fulfil the following requirements:


D.2. **Quality Assurance:** The manufacturer shall possess a valid ISO 9001:2015 or later quality assurance certification for manufacture of MCBs and for the factory where the MCBs are to be manufactured. This shall cover the duration of manufacture and delivery of the MCBs. The bidder shall furnish a copy of the ISO certificate certified as a true copy of the original together with the tender bid.

D.3. **Manufacturing Experience:** The manufacturer of the MCBs shall have minimum of 15 years' experience in the manufacture of the MCBs and the manufacturer must have sold at least 100,000 units to overseas customers in the last 5 years. Records of overseas sales with purchaser's name, year and quantity shall be furnished with the bid, as well as the email contact and day telephone number of the purchasers.

The manufacturer shall be required to submit evidence with relevant references of design, supply, installation, testing, training, and commissioning of similar MCBs.

D.4. **Letters of Customer Satisfaction:**  
Letters of satisfaction from four (4) overseas customers for the particular MCBS offered in this tender shall be furnished with the bid. The letters of satisfaction shall bear the rubber stamp of the purchasing utilities and the name and signature of the author of the letter.

<b>Issued by: Head of Section, Standards Development</b>	<b>Authorized by: Head of Department, Standards</b>
Signed: 	Signed: 
Date: 2020-06-16	Date: 2020-06-16

 Kenya Power	<b>TITLE:</b> <b>LOW VOLTAGE MINIATURE  CIRCUIT BREAKERS (MCB) -  SPECIFICATION</b>	<b>Doc. No.</b>	<b>KP1/6C/4/1/TSP/11/010</b>
		<b>Issue No.</b>	<b>1</b>
		<b>Revision No.</b>	<b>1</b>
		<b>Date of Issue</b>	<b>2020-06-16</b>
		<b>Page 14 of 18</b>	

**APPENDIX E: Documentation (Normative)**



E.1. The bidder shall submit its tender complete with technical documents required by Appendix F (Guaranteed Technical Particulars) for tender evaluation. The technical documents to be submitted (all in English language) for tender evaluation shall include the following:

- (i) Guaranteed Technical Particulars signed by the manufacturer;
- (ii) Copies of the Manufacturer's catalogues, brochures, and technical data sheets (including ratings) for MCBS, the complete assembled unit and layout drawings. Mechanical drawings on the design and construction of the MCBs shall also be submitted;
- (iii) Sales records for the last five years and at least four customer reference letters;
- (iv) Details of manufacturing capacity and the manufacturer's experience;
- (v) Copies of required type test reports by a third-party testing laboratory accredited to ISO/IEC 17025;
- (vi) Copy of accreditation certificate to ISO/IEC 17025 for the third-party testing laboratory;
- (vii) Manufacturers letter of authorization, ISO 9001:2015 certificate and other technical documents required in the tender.




E.2. The successful bidder (supplier) shall submit the following documents/details to The Kenya Power & Lighting Company for approval before manufacture:


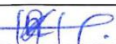

- (i) Fully filled clause by clause Guaranteed Technical Particulars (GTP) signed by the manufacturer;
- (ii) Design drawings and technical details;
- (iii) Quality assurance plan (QAP) that will be used to ensure that the design, material; workmanship, tests, service capability, maintenance and documentation will fulfil the requirements stated in the contract documents, standards, specifications and regulations. The QAP shall be based on and include relevant parts to fulfil the requirements of ISO 9001:2015;
- (iv) Detailed test program to be used during factory testing;
- (v) Marking details;
- (vi) Packaging details (including packaging materials and marking and identification of batches). The MCBs shall be packaged for indoor storage in tropical conditions.
- (vii) Manufacturer's undertaking to ensure adequacy of the design, good engineering practice in the manufacture of the MCBs for KPLC.




E.3. The supplier shall submit recommendations for use, care, storage and routine inspection/testing procedures, all in the English Language, during delivery of the MCB to KPLC stores.


<b>Issued by: Head of Section, Standards Development</b>	<b>Authorized by: Head of Department, Standards</b>
Signed: 	Signed: 
Date: 2020-06-16	Date: 2020-06-16



 <b>Kenya Power</b>	<b>TITLE:</b> <b>LOW VOLTAGE MINIATURE  CIRCUIT BREAKERS (MCB) -  SPECIFICATION</b>	<b>Doc. No.</b>	<b>KP1/6C/4/1/TSP/11/010</b>	
		<b>Issue No.</b>	<b>1</b>	
		<b>Revision No.</b>	<b>1</b>	
		<b>Date of Issue</b>	<b>2020-06-16</b>	
		<b>Page 15 of 18</b>		
<b>APPENDIX F: Guaranteed Technical Particulars (Normative)</b>				
<b>Clause</b>	<b>Description</b>	<b>KPLC Requirement</b>	<b>Supplier's Details/ Response</b>	<b>Comment</b>
	Manufacturer's name	state		
	Manufacturer's letter of Authorization.	Provide a copy		
	Type or designation number of MCB offered and applicable standard.	state		
2	Scope:			
3	Reference standards	state		
4.1	Service conditions	specify		
<b>4.2</b>	<b>General Requirements</b>			
4.2.1.1	Design and construction standard	state		
4.2.1.2	MCBs design nature and purpose of use	specify		
4.2.1.3	Reliability and performance criteria	specify		
4.2.1.4	Network configuration at point of use	state		
4.2.1.5	Provision for manual operation	specify		
4.2.1.6- 4.2.1.8	Mechanical indication for operation status of the MCB	Specify		
4.2.1.9	Labeling of source and load directions of the MCB	specify		
4.2.4.11	Provision of overload release facility	specify		
4.2.1.12	Rated voltage and tolerance	state		
	Rated current	State		
	Rated short circuit current	state		
	Power frequency withstand voltage	specify		
	Impulse withstand Voltage			
	No of poles	state		
	Characteristic type offered	state		
	Mechanical Endurance	state		
	Electrical Endurance	state		
	Degree of protection	state		
4.2.1.13	Rated tripping current (provide T-I curves)	specify		
4.2.2.1	Network configuration at point of use.	specify		
4.2.3.2	Mounting facility and mounting screws	specify		
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>		
Signed: 		Signed: 		
Date: 2020-06-16		Date: 2020-06-16		

 <b>Kenya Power</b>	<b>TITLE:</b> <b>LOW VOLTAGE MINIATURE  CIRCUIT BREAKERS (MCB) -  SPECIFICATION</b>		<b>Doc. No.</b> <b>KP1/6C/4/1/TSP/11/010</b>
			<b>Issue No.</b> <b>1</b>
			<b>Revision No.</b> <b>1</b>
			<b>Date of Issue</b> <b>2020-06-16</b>
			<b>Page 16 of 18</b>
4.2.4.2	Material of housing and IP	specify	
4.2.5	Provide dimensions of the MCB	provide	
4.2.6.1	Type of connection terminal	specify	
4.2.6.3-	Material for terminal, and composition of elements	specify	
4.2.6.4			
4.2.6.5-	Applicable conductors for use with MCB and contact pressure applied	specify	
4.2.6.8			
4.2.6.10	Maximum operating temperature of the MCBs as per IEC 60898-1	state	
4.2.7	Specify the markings and method of marking on the MCB	Specify	
4.2.8.1-	Provision for external sealing of the MCB	specify	
4.2.8.2			
4.2.9.1-	Provision of neutral link (if applicable)	state	
4.2.9.3			
4.2.10	Capacity to pass starting in rush currents for motors/compressors	specify	
4.2.11.1	Trip mechanism for breaking rated current	specify	
4.2.11.3	Type of MCB	state	
4.2.11.4	Type of tripping mechanism as per clause 4.2.11.3 above		
<b>Appendices</b>			
<b>A</b>	<b>TESTS AND INSPECTION (NORMATIVE)</b>	State	
A.1	Test standards	List	
A.2	Type test certificates submitted with tender for evaluation	List	
A.3	Test certificates submitted	List	
A.4	Copies of previous type test and routine test reports by the relevant independent /international testing laboratory submitted State/List	List	
A.5	Routine test to be witnessed at the factory by KPLC engineers	List	
<b>Factory Acceptance Tests</b>			
	FAT to be conducted in the factory	State compliance	
	Sample size and sampling procedure	specify	
<b>Issued by: Head of Section, Standards Development</b>		<b>Authorized by: Head of Department, Standards</b>	
Signed: 		Signed: 	
Date: 2020-06-16		Date: 2020-06-16	


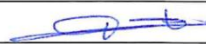
 Kenya Power	TITLE:		Doc. No.	KP1/6C/4/1/TSP/11/010
	LOW VOLTAGE MINIATURE CIRCUIT BREAKERS (MCB) - SPECIFICATION		Issue No.	1
			Revision No.	1
			Date of Issue	2020-06-16
			Page 17 of 18	
<b>B</b>	<b>Inspection at Delivery Point</b>			
B1	Inspection of good at KPLC stores	State compliance		
B2	The supplier shall replace/rectify without charge to KPLC, any defective equipment	State compliance		
<b>C</b>	<b>Warranty</b>			
C1	Warranty that goods are new and without defects	provide		
C2	Warranty for MCBs	provide		
<b>D</b>	<b>Quality Management System</b>			
D1	QAP and ISO 9001:2008	provide		
D2	Copies of quality management certifications attached	State		
D3	Delivery time, Production capacity & experience of the manufacturer	State		
D4	Customer reference letters	List		
<b>E</b>	<b>Technical documents to be submitted with tender documents</b>			
E1	a) Fully-filled clause by clause Guaranteed Technical Particulars (GTPs)- Appendix D - stamped and signed by the manufacturer.	state		
	b) Copies of the Manufacturer's catalogues, brochures, drawings and technical data for the equipment;	state		
	c) Details of the manufacturer's experience; Sales records for the last five years and at least four customer reference letters.	state		
	d) Copies of previous test certificates and test reports.	state		
	e) Marking & Packaging details (including packaging materials).	State		
E2	Documents to be submitted Kenya Power for approval before manufacture/supply			
Issued by: Head of Section, Standards Development			Authorized by: Head of Department, Standards	
Signed: 			Signed: 	
Date: 2020-06-16			Date: 2020-06-16	

 Kenya Power	TITLE:		Doc. No.	KP1/6C/4/1/TSP/11/010	
	LOW VOLTAGE MINIATURE CIRCUIT BREAKERS (MCB) - SPECIFICATION		Issue No.	1	
			Revision No.	1	
			Date of Issue	2020-06-16	
			Page 18 of 18		

(i)	Fully filled clause by clause Guaranteed Technical Particulars (GTPs) stamped and signed by the manufacturer (these are not the ones submitted with the tender);	State		
(ii)	Technical details and drawings with details of MCBs to be manufactured for KPLC.	State		
(iii)	Quality assurance plan (QAP	State		
iv)	Manufactures undertaking for good engineering practice	provide		
vi)	Each package is supplied with detailed user's installation guide printed in English language	Specify		

\* Words like 'agreed', 'confirmed', 'As per KPLC specifications', etc. shall not be accepted and shall be considered non-responsive.

.....  
**Manufacturer's Name, Signature, Stamp and Date**

Issued by: Head of Section, Standards Development	Authorized by: Head of Department, Standards
Signed: 	Signed: 
Date: 2020-06-16	Date: 2020-06-16