



**TENDER NO: KP1/9A.2/OT/40/ADM/17-18 FOR PROPOSED
DESIGN, INSTALLATION & COMMISSIONING OF NEW
LV SWITCHBOARD AND ASSOCIATED CIVIL WORKS
FOR ELECTRICITY HOUSE NAIROBI**

DATE OF TENDER DOCUMENT: FEBRUARY, 2018

**ALL TENDERERS ARE ADVISED TO READ CAREFULLY THIS TENDER DOCUMENT
IN ITS ENTIRETY BEFORE MAKING ANY BID**

TENDER DOCUMENT FOR SERVICES

THE KENYA POWER & LIGHTING COMPANY LIMITED
CENTRAL OFFICE, STIMA PLAZA,
KOLOBOT ROAD, PARKLANDS,
P.O. BOX 30099-00100,
NAIROBI,
KENYA.

Telephones: +254-20-3201000; 3644000 Pilot Lines
Telephones: +254-720-600070/1-5; 733-755001/2-3 Cellular
Facsimile: +254-20-3514485; 3750240
Telegrams: "ELECTRIC"
E-mail: Dmuga@kplc.co.ke

JMuchangi@kplc.co.ke

MGikandi@kplc.co.ke

cmwogi@kplc.co.ke

Website: www.kplc.co.ke

*TENDER DOCUMENT FOR DESIGN, INSTALLATION & COMMISSIONING OF NEW LV SWITCHBOARD
AND ASSOCIATED CIVIL WORKS
FOR ELECTRICITY HOUSE NAIROBI*

TABLE OF CONTENTS

Section	Contents	Page No.
SECTION I – INVITATION TO TENDER		3
SECTION II – TENDER SUBMISSION CHECKLIST		4
SECTION III – INSTRUCTIONS TO TENDERERS (ITT)		8
SECTION IV – SCHEDULE OF REQUIREMENTS		28
SECTION V – PRICE SCHEDULE FOR GOOD AND SERVICES		29
SECTION VI - EVALUATION CRITERIA		39
SECTION VII – GENERAL CONDITIONS OF CONTRACT		48
SECTION VIII – SPECIAL CONDITIONS OF CONTRACT		59
SECTION IX - TENDER FORM		60
SECTION X - CONFIDENTIAL BUSINESS QUESTIONNAIRE FORM.....		62
SECTION XI A - TENDER SECURITY FORM – (BANK GUARANTEE).....		65
SECTION XI B - TENDER SECURITY FORM (SACCO SOCIETY, DEPOSIT TAKING MICRO FINANCE INSTITUTIONS, WOMEN ENTERPRISE FUND & YOUTH ENTERPRISE FUND).....		68
SECTION XI C - TENDER SECURITY – (LETTERS OF CREDIT)		71
SECTION XII - MANUFACTURER’S/ PRINCIPAL’S AUTHORIZATION FORM		73
SECTION XIII - DECLARATION FORM.....		74
SECTION XIV – DRAFT LETTER OF NOTIFICATION OF AWARD		75
SECTION XV – DRAFT LETTER OF NOTIFICATION OF REGRET.....		76
SECTION XVI - CONTRACT AGREEMENT FORM.....		77
SECTION XVII A - PERFORMANCE SECURITY FORM (BANK GUARANTEE)		82
SECTION XVII B - PERFORMANCE SECURITY (LC).....		84
SECTION XVIII - SUPPLIER EVALUATION FORM		86
SECTION XIX - PRE-BID MEETING ATTENDANCE FORM.....		89
SECTION XX - THE TECHNICAL SPECIFICATIONS		91

SECTION I – INVITATION TO TENDER

FEBRUARY 2018

TENDER NO. KP1/9A.2/OT/40/ADM/17-18 PROPOSED DESIGN, INSTALLATION & COMMISSIONING OF NEW LV SWITCHBOARD AND ASSOCIATED CIVIL WORKS FOR ELECTRICITY HOUSE NAIROBI

1.1 The Kenya Power & Lighting Company Limited hereinafter referred to KPLC invites bids from eligible Tenderers **PROPOSED DESIGN, INSTALLATION & COMMISSIONING OF NEW LV SWITCHBOARD AND ASSOCIATED CIVIL WORKS FOR ELECTRICITY HOUSE NAIROBI**. Interested eligible Tenderers may obtain further information from the General Manager- Supply Chain, The Kenya Power & Lighting Company Ltd at Stima Plaza, 3rd Floor, Kolobot Road, P.O. Box 30099 – 00100 Nairobi, Kenya.

1.2 Obtaining tender documents.

1.2.1 Tender documents detailing the requirements may be viewed at KPLC E-Procurement Web Portal found on the KPLC website (www.kplc.co.ke) beginning on **7th February, 2018**

1.3 Submission of Tender documents

Completed Tenders are to **be saved as PDF** documents marked **TENDER NO. KP1/9A.2/OT/40/ADM/17-18 PROPOSED DESIGN, INSTALLATION & COMMISSIONING OF NEW LV SWITCHBOARD AND ASSOCIATED CIVIL WORKS FOR ELECTRICITY HOUSE NAIROBI** and submitted through the KPLC E-Procurement Web Portal found on the KPLC website (www.kplc.co.ke) so as to be received on or before **7th March 2018** at 10:00 A.M

1.4 Prices

Prices quoted should be inclusive of all taxes and delivery costs to the required site (where applicable) and must be in Kenya Shillings or a freely convertible currency shall remain valid for one hundred and twenty (120) days from the closing date of the tender.

1.5 Opening of submitted Tenders

Tenders will be opened promptly thereafter in the presence of the Tenderer's or their representatives who choose to attend in KPLC Auditorium at Stima Plaza, Kolobot Road, Parklands, Nairobi.

SECTION II – TENDER SUBMISSION CHECKLIST

A. Tender Submission Format

This order and arrangement shall be considered as the Tender Submission Format. Tenderers shall tick against each item indicating that they have provided it.

No.	Item	Tick Where Provided
1	Tender Security – Bank Guarantee or Letters of Credit (issued by Banks Licensed by the Central Bank of Kenya), Guarantee by a deposit taking Microfinance Institution, Sacco Society, the Youth Enterprise Development Fund or the Women Enterprise Fund.	
2	Declaration Form	
3	Duly completed Tender Form	
4	Certificate of Confirmation of Directors and Shareholding (C.R.12) for registered companies and if not a registered company a business name for those trading as a sole proprietor or a partnership registered under the Kenyan law or equivalent certification for foreign tenderers	
5*	Copy of PIN Certificate	
6*	Copy of Valid Tax Compliance Certificate	
7	Confidential Business Questionnaire (CBQ)	
8*	Certificate of Confirmation of Directors and Shareholding (C.R. 12) or equivalent (for foreign tenderers)	
9	Type Test Certificates and their Reports and or Test Certificates and their Reports	
10	Valid and current ISO 9001 Certificates or for locally manufactured or produced goods, valid Mark of Quality Certificate or Standardization Mark Certificates from the Kenya Bureau of Standards (KEBS).	
11	Catalogues and or Manufacturer’s drawings where applicable.	
12	Duly completed Schedule of Guaranteed Technical Particulars	
13	Principals Authorisation and warranty where applicable	
14	Names with full contact as well as physical addresses of previous customers of similar goods and reference letters from at least four (4) previous customers	
15	Statement on Deviations	
16	Price Schedule(s)	

17	Schedule of requirements duly filled indicating services offered	
18	Audited Financial Statements. The audited financial statements required must be those that are reported within eighteen (18) calendar months of the date of the tender document. (For companies or firms that are registered or incorporated within the last one calendar year of the Date of the Tender Document, they should submit certified copies of bank statements covering a period of at least six months prior to the date of the tender document. The copies should be certified by the Bank issuing the statements. The certification should be original).	
19	Any other document or item required by the Tender Document. (The Tenderer shall specify such other documents or items it has submitted)	

***NOTES TO TENDERERS**

1. Valid Tax Compliance Certificate shall be one issued by the relevant tax authorities and valid for at least up to the tender closing date. All Kenyan registered Tenderers must provide a valid Tax Compliance Certificate.
2. All Kenyan registered Tenderers must provide the Personal Identification Number Certificate (PIN Certificate).
3. Foreign Tenderers must provide equivalent documents from their country of origin as regards Tax Compliance and PIN certificates OR statements certifying that the equivalent documentation is not issued in the Tenderer's country of origin. The Statement(s) that equivalent documentation is not issued by the Tenderer's country should be original and issued by the Tax authorities in the Tenderer's country of origin.

TABLE OF PARAGRAPHS ON INSTRUCTIONS TO TENDERERS

Paragraph No.	Headings	Page No.
3.1	Definitions	8
3.2	Eligible Tenderers.....	9
3.3	Eligible Goods	9
3.4	Joint Venture	10
3.5	Cost of Tendering	10
3.6	Contents of the Tender Document	10
3.7	Clarification of Documents.....	11
3.8	Amendment of Documents	11
3.9	Language of Tender.....	12
3.10	Documents Comprising the Tender	12
3.11	Tender Form	12
3.12	Tender Prices	13
3.13	Tender Currencies.....	13
3.14	Tenderer’s Eligibility and Qualifications.....	13
3.15	Conformity of Services to Tender Documents.....	14
3.16	Demonstration(s), Inspection(s) and Test(s)	15
3.17	Warranty	15
3.18	Tender Security.....	16
3.19	Validity of Tenders	17
3.20	Alternative Offers	17
3.21	Number of Sets of and Tender Format.....	18
3.22	Preparation and Signing of the Tender	18
3.23	Sealing and Outer Marking of Tenders.....	18
3.24	Deadline for Submission of Tenders.....	19
3.25	Modification and Withdrawal of Tenders	19
3.26	Opening of Tenders	19
3.27	Process to be Confidential	20
3.28	Clarification of Tenders and Contacting KPLC.....	20
3.29	Preliminary Evaluation and Responsiveness	20
3.30	Minor Deviations, Errors or Oversights.....	21
3.31	Technical Evaluation and Comparison of Tenders	21
3.32	Financial Evaluation of Tenders	21
3.33	Preferences	22
3.34	Debarment of a Tenderer	22
3.35	Confirmation of Qualification for Award	22
3.36	Award of Contract	22
3.37	Termination of Procurement Proceedings.....	23

3.38	Notification of Award.....	23
3.39	Signing of Contract.....	23
3.40	Performance Security.....	24
3.41	Corrupt or Fraudulent Practices	24

SECTION III – INSTRUCTIONS TO TENDERERS (ITT)

3.1 Definitions

In this tender, unless the context or express provision otherwise requires: -

- a) *Any reference to any Act shall include any statutory extension, amendment, modification, re-amendment or replacement of such Act and any rule, regulation or order made there-under.*
- b) *“Date of Tender Document” shall begin with the first day and end on the last day of the month appearing on the cover page of the Tender Document.*
- c) *“Day” means calendar day and “month” means calendar month.*
- d) *“KEBS” wherever appearing means the Kenya Bureau of Standards or its successor(s) and assign(s) where the context so admits.*
- e) *“PPOA” wherever appearing means The Public Procurement Oversight Authority or its successor(s) and assign(s) where the context so admits.*
- f) *Reference to “the tender” or the “Tender Document” includes its appendices and documents mentioned hereunder and any reference to this tender or to any other document includes a reference to the other document as varied supplemented and/or replaced in any manner from time to time.*
- g) *“The Procuring Entity” means The Kenya Power and Lighting Company Limited or its successor(s) and assign(s) where the context so admits (hereinafter abbreviated as KPLC).*
- h) *“The Tenderer” means the person(s) submitting its Tender for the provision of services in response to the Invitation to Tender.*
- i) *Where there are two or more persons included in the expression the “Tenderer”, any act or default or omission by the Tenderer shall be deemed to be an act, default or omission by any one or more of such persons.*
- j) *Words importing the masculine gender only, include the feminine gender or (as the case may be) the neutral gender.*
- k) *words importing the singular number only include the plural number and vice-versa and where there are two or more persons included in the expression the “Tenderer” the covenants, agreements and obligations expressed to be made or performed by the Tenderer shall be deemed to be made or performed by such persons jointly and severally.*
- l) *Citizen contractors-a firm shall be qualified as a citizen contractor if its owners and shareholders are Kenyan citizens*
- m) *Local contractors- a firm shall be qualified as a local contractor if it is registered in Kenya.*

3.2 Eligible Tenderers

- 3.2.1 This Invitation to Tender is open to all Tenderers eligible as described in the Appendix to Instructions to Tenderers. Successful Tenderers shall provide the services in accordance with this tender and the ensuing contract. Agreements between undertaking to directly or indirectly fix purchase or selling prices or any other trading conditions. Where this is discovered, the undertakings involved will not be eligible for award and all undertakings involved shall be disqualified.
- 3.2.2 Notwithstanding any other provisions of this tender, the following are not eligible to participate in the tender:-
- a) KPLC's employees, its Board or any of its committee members.
 - b) Any Minister or Assistant Minister of the Government of the Republic of Kenya (GoK)
 - c) Any public servant of GoK.
 - d) Any member of a Board or Committee or any department of GoK.
 - e) Any person appointed to any position by the President of Kenya.
 - f) Any person appointed to any position by any Minister of GoK.
- 3.2.3 For the purposes of this paragraph, any relative i.e. spouse(s) and child(ren) of any person mentioned in sub-paragraph 3.2.2 is also ineligible to participate in the tender. In addition, a Minister shall include the President, Vice-President or the Attorney General of GoK.
- 3.2.4 Tenderers shall provide the qualification information statement that the Tenderer (*including all members of a joint venture and subcontractors*) is not associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by KPLC to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the services under this Invitation to Tender.
- 3.2.5 Tenderers shall not be under declarations of ineligibility for corrupt, fraudulent practices and are not amongst persons mentioned in sub-paragraphs 3.2.2 and 3.2.3 above.
- 3.2.6 Tenderers who are not under these declarations shall complete the Declaration Form strictly in the form and content as prescribed at Section XIII.
- 3.2.7 Those that are under the Declaration for corrupt and fraudulent practices whether currently or in the past shall not complete the Form. They will submit a suitable Form giving details, the nature and present status of their circumstances.

3.3 Eligible Goods

- 3.3.1 All goods to be supplied under the contract shall have their origin in eligible source countries. These countries are as described in the Appendix to Instructions to Tenderers.
- 3.3.2 For purposes of this clause, "origin" means the place where the goods are mined, grown, or produced. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.

3.3.3 The origin of goods is distinct from the nationality of the Tenderer.

3.4 Joint Venture

3.4.1 Tenders submitted by a joint venture of two or more firms, as partners shall comply with the following requirements: -

- a) The Tender Form and in case of a successful tender, the Contract Agreement Form, shall be signed so as to be legally binding on all partners of the joint venture.
- b) One of the partners shall be nominated as being lead contractor, and this authorization shall be evidenced by submitting a Power of Attorney signed by legally authorized signatories of all the partners.
- c) The Power of Attorney which shall accompany the tender, shall be granted by the authorized signatories of all the partners as follows:-
 - (i.) for local bidders, before a Commissioner of Oaths or a Notary Public or Magistrate of the Kenyan Judiciary.
 - (ii.) for a foreign bidder, before a Notary Public, or the equivalent of a Notary Public, and in this regard the bidder shall provide satisfactory proof of such equivalence.
- d) The lead contractor shall be authorized to incur liability and receive instructions for and on behalf of any and all the partners of the joint venture and the entire execution of the contract including payment shall be done exclusively with the lead contractor.

3.4.2 All partners of the joint venture shall be liable jointly and severally for the execution of the contract in accordance with the contract terms, and a relevant statement to this effect shall be included in the authorization mentioned in paragraph 3.3.1 (b) above as well as in the Form of Tender and the Contract Agreement Form (in case of the accepted tender).

3.4.3 A copy of the agreement entered into by the joint venture partners shall be submitted with the tender.

3.5 Cost of Tendering

3.5.1 The Tenderer shall bear all costs associated with the preparation and submission of its Tender. KPLC will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the tendering process.

3.5.2 The price to be charged for the Tender Document shall be as indicated in the Invitation to Tender but in any case not exceeding Ksh 1,000/=.

3.6 Contents of the Tender Document

3.6.1 The Tender Document comprises the documents listed below and Addendum (where applicable) issued in accordance with paragraph 3.7 of these Instructions to Tenderers: -

- a) *Invitation to Tender*
- b) *Tender Submission Checklist*
- c) *Instructions to Tenderers*

- d) *Appendix to Instructions to Tenderers*
- e) *Schedule of Requirements*
- f) *Price Schedule for Services*
- g) *Evaluation Criteria*
- h) *General Conditions of Contract*
- i) *Special Conditions of Contract*
- j) *Tender Form*
- k) *Confidential Business Questionnaire Form*
- l) *Tender Security Forms*
- m) *Principal or Manufacturer's Authorization Form*
- n) *Declaration Form*
- o) *Contract Form*
- p) *Performance Security Forms*
- q) *Details of Service*
 - (i.) *General Requirements*
 - (ii.) *Specific Details of Services*

- 3.6.2 The Tenderer is expected to examine all instructions, forms, provisions, terms and specifications in the Tender Document. Failure to furnish all information required by the Tender Document or to submit a tender not substantially responsive to the Tender Document in every respect will be at the Tenderer's risk and may result in the rejection of its Tender.
- 3.6.3 All recipients of the documents for the proposed Contract for the purpose of submitting a tender (whether they submit a tender or not) shall treat the details of the documents as "Private and Confidential".

3.7 Clarification of Documents

A prospective Tenderer requiring any clarification of the Tender Document may notify the Procurement Manager in writing or by post at KPLC's address indicated in the Invitation to Tender. KPLC will respond in writing to any request for clarification of the Tender documents, which it receives not later than seven (7) days prior to the deadline for the submission of Tenders, prescribed by KPLC. Written copies of KPLC's response (*including an explanation of the query but without identifying the source of inquiry*) will be sent to all prospective Tenderers that have duly received the Tender Document.

3.8 Amendment of Documents

- 3.8.1 At any time prior to the deadline for submission of Tenders, KPLC, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Tenderer, may modify the tender documents by amendment.

- 3.8.2 All prospective Tenderers that have received the tender documents will be notified of the amendment(s) (*hereinafter referred to or otherwise known as addendum*) in writing and will be binding on them.
- 3.8.3 In order to allow prospective Tenderers reasonable time in which to take the amendment into account in preparing their Tenders, KPLC, at its discretion, may extend the deadline for the submission of Tenders.

3.9 Language of Tender

The Tender prepared by the Tenderer, as well as all correspondence and documents relating to the tender, exchanged between the Tenderer and KPLC, shall be written in English language, provided that any printed literature furnished by the Tenderer may be written in another language provided that they are accompanied by an accurate English translation of the relevant passages in which case, for purposes of interpretation of the Tender, the English translation shall govern. The English translation shall be on the Tenderer's letterhead and shall be signed by the duly authorized signatory signing the Tender and stamped with the Tenderer's stamp.

3.10 Documents Comprising the Tender

The Tender prepared and submitted by the Tenderers shall include but not be limited to all the following components: -

- a) *Declaration Form, Tender Form and a Price Schedule completed in compliance with paragraphs 3.2, 3.11, 3.12 and 3.13.*
- b) *Documentary evidence established in accordance with paragraph 3.15 that the Tenderer is eligible to tender and is qualified to perform the contract if its tender is accepted.*
- c) *Documentary evidence established in accordance with paragraph 3.15 that the services and any ancillary thereto to be provided by the Tenderer conform to the tender documents, and,*
- d) *Tender Security furnished in accordance with paragraph 3.18*
- e) *A detailed list of previous customers as prescribed for similar services on tender and their contact addresses shall be submitted with the Tender for the purpose of reference, or for evaluation where the Details of Service so dictate.*

3.11 Tender Form

The Tenderer shall complete and sign the Tender Form and all other documents furnished in the Tender Document, indicating the services to be performed, a brief description of the services, quantity (where applicable), and prices amongst other information required.

3.12 Tender Prices

- 3.12.1 The Tenderer shall indicate on the appropriate Price Schedule, the unit prices (where applicable) and total tender price of the services it proposes to provide under the contract.
- 3.12.2 Prices indicated on the Price Schedule shall be of all costs for the services including insurances, duties, Value Added Tax (V.A.T) and other taxes payable. No other basis shall be accepted for evaluation, award or otherwise.
- 3.12.3 Tender prices to be submitted (quoted) by the Tenderer shall remain fixed for the contract duration.
- 3.12.4 A price that is derived by a disclosed incorporation or usage of an international accepted standard formula shall be acceptable within the meaning of this paragraph.

3.13 Tender Currencies

- 3.13.1 For services that the Tenderer will provide from within or outside Kenya, the prices shall be quoted in Kenya Shillings, or in another freely convertible currency in Kenya. The currency quoted must be indicated clearly on the Price Schedule of Services.
- 3.13.2 The exchange rate to be used for currency conversion shall be the Central Bank of Kenya selling rate ruling on the Tender closing date. *(Please visit the Central Bank of Kenya website).*

3.14 Tenderer's Eligibility and Qualifications

- 3.14.1 Pursuant to paragraph 3.2, the Tenderer shall furnish, as part of its Tender, documents establishing the Tenderer's eligibility to tender and its qualifications to perform the contract if its Tender is accepted.
- 3.14.2 The documentary evidence of the Tenderer's qualifications to perform the contract if its Tender is accepted shall be established to KPLC's satisfaction –
- a) *That, in the case of a Tenderer offering to perform the services under the contract which the Tenderer is not the Principal, the Tenderer has been duly authorized by the Manufacturer, Principal or Producer to provide the services. The authorization shall strictly be in the form and content as prescribed in the Manufacturer's or Principal's Authorization Form in the Tender Document*
 - b) *That the Tenderer has the financial capability necessary to perform the contract. The Tenderer shall be required to provide the documents as specified in the Appendix to Instructions to Tenderers including a current Tax Compliance Certificate issued by the relevant tax authorities.*
 - c) *That the Tenderer has the technical and production capability necessary to perform the contract.*
 - d) *that, in the case of a Tenderer not doing business within Kenya, the Tenderer is or will be (if awarded the contract) represented by an agent in Kenya equipped, and able to carry out the Tenderer's maintenance, repair, spare parts and stocking obligations prescribed in the Conditions of Contract and or in the Details of Service.*

e) *That the Tenderer is duly registered and is a current member of a recognized body or institution accredited and or pertaining to that service.*

3.14.3 The Tenderer will furnish KPLC with a copy of the accreditation or recognition certificate as applicable. KPLC reserves the right to subject the certificate to authentication.

3.14.4 Tenderers with a record of unsatisfactory or default in performance obligations in any contract shall not be considered for evaluation or award. For the avoidance of doubt, this shall include any Tenderer with unresolved case(s) in its obligations for more than two (2) months in any contract.

3.15 Conformity of Services to Tender Documents

3.15.1 The Tenderer shall furnish, as part of its tender, documents establishing the conformity to the Tender Document of all services that the Tenderer proposes to perform under the contract.

3.15.2 The documentary evidence of the eligibility of the goods shall consist of a statement in the Price Schedule of the country of origin of the goods and services offered which shall be confirmed by a certificate of origin issued at the time of shipment.

3.15.3 The documentary evidence of conformity of the goods to the Tender Document may be in the form of literature, drawings and data, and shall consist of: -

- a) *A detailed description of the essential technical and performance characteristics of the goods whether in brochures, catalogues, drawings or otherwise,*
- b) *A list giving full particulars, including available source and current prices of spare parts, special tools and other incidental apparatus necessary for the proper and continuing functioning of the goods for a minimum period of two (2) years, following commencement of the use of the goods by Kenya Power, and,*
- c) *Duly completed Schedule of Guaranteed Technical Particulars (GTP) as per Tender Specifications demonstrating substantial responsiveness of the goods and service to those specifications and, if any, a statement of deviations and exceptions to the provisions of the Technical Specifications.*

For (a), (b) and (c) above, the literature, drawings and data shall be those from the Manufacturer.

3.15.4 For goods from outside Kenya, the Tenderer shall be required to demonstrate that the goods or products conform to required standards by evidence of:

- a) A Type Test Certificate and its Reports issued by:-
 - i) *An International Testing or Standards Body or*
 - ii) *The National Testing or Standards Authority of the country of manufacture or production or*
 - iii) *An International Standards Organization or International Electro-technical Commission (ISO/IEC) 17025 accredited independent testing laboratory or*

- b) Where (a) above is not required in the tender specifications, a Test Certificate and its Reports issued by the National Testing or Standards Authority of the country of manufacture or production.
- 3.15.5 For goods manufactured or produced in Kenya, the Tenderer shall be required to demonstrate that the goods conform to required standards and specifications by evidence of:–
- a) A Type Test Certificate and its Reports issued by KEBS.
 - b) Where (a) above is not required in the tender specifications, a Test Certificate and its Reports issued by KEBS or any Testing Authority approved by KEBS.
- 3.15.6 For paragraphs 3.14.4 and 3.14.5, the Tenderer shall submit with its Tender a copy of the accreditation or recognition or approval certificate, as applicable, for the testing authority. Kenya Power reserves the right to subject the certificate to authentication.
- 3.15.7 Additional evidence of conformity of the goods to the Tender Document shall include sample(s) where required.
- 3.15.8 For purposes of the documentary and other evidence to be furnished pursuant to subparagraphs 3.14.3, 3.14.4 and 3.14.5 above, the Tenderer shall note that standards for workmanship, material, and equipment, as well as references to brand names or catalogue numbers designated by Kenya Power in its Technical Specifications, are intended to be descriptive only and not restrictive. The Tenderer may adopt higher standards, brand names, and or catalogue numbers in its Tender, provided that it demonstrates to Kenya Power's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.

3.16 Demonstration(s), Inspection(s) and Test(s)

- 3.16.1 Where required in the tender, all Tenderers shall demonstrate ability of performance of the required service in conformity with the Details of Services.
- 3.16.2 KPLC or its representative(s) shall have the right to inspect/ test the Tenderer's capacity, equipment, premises, and to confirm their conformity to the tender requirements. This shall include the quality management system. KPLC's representative(s) retained for these purposes shall provide appropriate identification at the time of such inspection/ test.
- 3.16.3 KPLC shall meet its own costs of the inspection/ test. Where conducted on the premises of the Tenderer(s), all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to KPLC.
- 3.16.4 Demonstration, Inspection/ Test Report(s) shall be completed upon conclusion of the inspection/ tests. This Report will be considered at time of evaluation and or award.

3.17 Warranty

- 3.17.1 Where required in the Tender, all Tenderers must also provide a Warranty that warrants that the services to be provided under the contract are new, unused and or are of the most recent or current specification and incorporate all recent improvements in design and materials

unless provided otherwise in the Tender. The Warranty shall also warrant that the services 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 or application of the services under the conditions obtaining in Kenya.

3.17.2 The Warranty will remain valid for **one (1) year** after the services, or any part thereof as the case may be, have been used or provided or performed as indicated in the contract.

3.18 Tender Security

3.18.1 The Tenderer shall furnish, as part of its Tender, a tender security for the amount specified in the Appendix to Instructions to Tenderers.

3.18.2 The tender security shall be either one or a combination of the following:-

- a) an original Bank Guarantee that is strictly in the form and content as prescribed in the Tender Security Form (Bank Guarantee) in the Tender Document.
- b) For Local bidders, Standby Letters of Credit (LC). All costs, expenses and charges levied by all banks party to the LC shall be prepaid by the Tenderer. The LC must contain all the mandatory conditions of payment to KPLC as prescribed in the Tender Security (Letters of Credit) provided in the Tender Document.
- c) For Foreign bidders, Standby Letters of Credit (LC) confirmed by a bank in Kenya. All costs, expenses and charges levied by all banks party to the LC including confirmation charges shall be prepaid by the Tenderer. The LC must contain all the mandatory conditions of payment to KPLC as prescribed in the Tender Security (Letters of Credit) provided in the Tender Document.
- d) An original Guarantee by a deposit taking Microfinance Institution, Sacco Society, Youth Enterprise Development Fund or the Women Enterprise Fund, that is strictly in the form and content as prescribed in the Tender Security Form

3.18.3 The tender security is required to protect KPLC against the risk of the Tenderer's conduct which would warrant the security's forfeiture pursuant to paragraph 3.18.1.

3.18.4 The Tender Security shall be denominated in Kenya Shillings or in another freely convertible currency, and shall be issued by a commercial bank located in Kenya and licensed by the Central Bank of Kenya or a deposit taking Microfinance Institution, Sacco Society, Youth Enterprise Development Fund or the Women Enterprise Fund. The bank or institution must be located in Kenya.

3.18.5 The Tender Security shall be valid for **thirty (30) days** beyond the validity of the tender.

3.18.6 KPLC shall seek authentication of the Tender Security from the issuing bank or insurance company. It is the responsibility of the Tenderer to sensitize its issuing bank or insurance company on the need to respond directly and expeditiously to queries from KPLC. The period for response shall not exceed **three (3) days** from the date of KPLC's query. Should there be

no conclusive response by the bank/institution within this period, such Tenderer's Tender Security may be deemed as invalid and the bid rejected.

- 3.18.7 Any Tender not secured in accordance with this paragraph will be rejected by KPLC as non-responsive, pursuant to paragraph 3.29.
- 3.18.8 The unsuccessful Tenderer's Tender Security will be released as promptly as possible, in any of the following circumstances: -
- a) *The procurement proceedings are terminated*
 - b) *KPLC determines that none of the submitted Tenders is responsive*
 - c) *A contract for the procurement is entered into*
 - d) *The Tenderer does not qualify for Financial Evaluation in accordance with paragraph 3.32.*
- 3.18.9 The successful Tenderer's Tender Security will be released upon the successful Tenderer's signing the contract, pursuant to paragraph 3.39 and furnishing an authentic Performance Security, pursuant to paragraph 3.40.
- 3.18.10 The Tender Security shall be forfeited –
- a) *if the Tenderer withdraws its Tender after the deadline for submitting Tenders but before the expiry of the period during which the Tenders must remain valid*
 - b) *if the Tenderer rejects a correction of an arithmetic error*
 - c) *if the Tenderer fails to enter into a written contract in accordance with paragraph 3.39*
 - d) *if the successful Tenderer fails to furnish the performance security in accordance with paragraph 3.40*
 - e) *if the Tenderer fails to extend the validity of the tender security where KPLC has extended the tender validity period in accordance with paragraph 3.19.*

3.19 Validity of Tenders

- 3.19.1 Tenders shall remain valid for **one hundred and twenty (120) days** after the date of tender opening as specified in the Invitation to Tender or as otherwise may be prescribed by KPLC, pursuant to paragraph 3.23. A Tender that is valid for a shorter period shall be rejected by KPLC as non-responsive.
- 3.19.2 In exceptional circumstances, KPLC may extend the Tender validity period. The extension shall be made in writing. The tender security provided under paragraph 3.18 shall also be extended. A Tenderer shall not be required nor permitted to modify its tender during the extended period.

3.20 Alternative Offers

Only main offers shall be considered, as alternative offers are not acceptable.

3.21 Number of Sets of and Tender Format

- 3.21.1 The Tenderer shall prepare three complete sets of its Tender, identifying and clearly marking the “ORIGINAL TENDER”, “COPY 1 OF TENDER”, and “COPY 2 OF TENDER” as appropriate. Each set shall be properly bound. The copies shall be a replica of the Original. Each copy will be deemed to contain the same information as the Original.
- 3.21.2 The Tender shall be bound and divided clearly in descending order as listed in the Tender Submission Checklist. The divisions are for clear identification and marking of the respective documents or information that are serially numbered in the Checklist.
- 3.21.3 The order and arrangement as indicated in the Tender Submission Checklist will be considered as the Tender Formats.
- 3.21.4 Any Tender not prepared and signed in accordance with this paragraph, in particular subparagraphs 3.21.1, 3.21.2 and 3.21.3 shall be rejected by KPLC as non-responsive, pursuant to paragraph 3.29.

3.22 Preparation and Signing of the Tender

- 3.22.1 The Original and all copies of the Tender shall be typed or written in indelible ink. They shall be signed by the Tenderer or a person or persons duly authorized to bind the Tenderer to the contract.
- 3.22.2 The authorization shall be indicated by a written Power of Attorney granted by the Tenderer to the authorized person before any of the following persons:-
- a) *For local Tenderers, a Commissioner of Oaths or a Notary Public or a Magistrate of the Kenyan Judiciary.*
 - b) *For foreign Tenderers, a Notary Public in the country of the Tenderer.*
- In either case above, the Power of Attorney shall accompany the Tender.
- 3.22.3 All pages of the Tender, including un-amended printed literature, shall be initialed by the person or persons signing the Tender and serially numbered.
- 3.22.4 The Tender shall have no interlineations, erasures, or overwriting except as necessary to correct errors made by the Tenderer, in which case such corrections shall be initialed by the person or persons signing the Tender.
- 3.22.5 KPLC will assume no responsibility whatsoever for the Tenderer’s failure to comply with or observe the entire contents of this paragraph.
- 3.22.6 Any Tender not prepared and signed in accordance with this paragraph may be rejected by KPLC as non-responsive, pursuant to paragraph 3.29.

3.23 Sealing and Outer Marking of Tenders

- 3.23.1 The Tenderer shall seal the Original and each Copy of the Tender in separate envelopes or packages, duly marking the envelopes or packages as “ORIGINAL”, “COPY 1 OF TENDER” and “COPY 2 OF TENDER”. The envelopes or packages shall then be sealed in outer envelopes or packages.
- 3.23.2 The inner and outer envelopes or packages shall -

- a) *be addressed to KPLC at the address given in the Invitation to Tender,*
- b) *bear the tender number and name as per the Invitation to Tender and the words, “DO NOT OPEN BEFOREas specified in the Invitation to Tender.*

3.23.3 All inner envelopes or packages shall also indicate the name and full physical, telephone, e-mail, facsimile and postal contacts of the Tenderer to enable the Tender to be returned unopened in circumstances necessitating such return including where Tenders are received late, procurement proceedings are terminated before tenders are opened.

3.23.4 If the envelopes or packages are not sealed and marked as required by this paragraph, KPLC will assume no responsibility whatsoever for the Tender’s misplacement or premature opening. A tender opened prematurely for this cause will be rejected by KPLC and promptly returned to the Tenderer.

3.24 Deadline for Submission of Tenders

3.24.1 Tenders must be received by KPLC by the time and at the place specified in the Invitation to Tender.

3.24.2 KPLC may, at its discretion, extend this deadline for submission of Tenders by amending the tender documents in accordance with paragraph 3.8, in which case all rights and obligations of KPLC and the Tenderer previously subject to the initial deadline, will therefore be subject to the deadline as extended.

3.25 Modification and Withdrawal of Tenders

3.25.1 The Tenderer may modify or withdraw its Tender after it has submitted it, provided that written notice of the modification, including substitution or withdrawal of the Tender is received by KPLC prior to the deadline prescribed for submission of tenders.

3.25.2 The Tenderer’s modification or withdrawal notice shall be prepared, sealed, marked, and dispatched in accordance with the provisions of paragraphs 3.21, 3.22 and 3.23. A withdrawal notice may also be sent by facsimile, electronic mail, cable or telex but followed by an original signed confirmation copy, postmarked not later than the deadline for submission of Tenders.

3.25.3 No Tender may be modified after the deadline for submission of Tenders.

3.25.4 No Tender may be withdrawn in the interval between the deadline for submission of tenders and the expiration of the period during which the Tender must remain valid. Any withdrawal of a Tender during this interval shall result in forfeiture of the Tenderer’s Tender Security.

3.26 Opening of Tenders

3.26.1 KPLC shall open all Tenders promptly after the tender closing date and time, at the location specified in the Invitation to Tender or as may otherwise be indicated.

3.26.2 The Tenderer’s names, tender modifications or withdrawals, the presence or absence of requisite Tender Security, the number of sets of tender documents duly received and such

other details as KPLC, at its discretion, may consider appropriate, will be announced at the opening.

3.26.3 At the Tender opening, tender prices, discounts, and such other details as KPLC, at its discretion, may consider appropriate will be read out.

3.26.4 The Tenderers or their representatives may attend the opening and those present shall sign a register evidencing their attendance.

3.27 Process to be Confidential

6.3.2 After the opening of tenders, information relating to the examination, clarification, evaluation and comparisons of tenders and recommendations arising there-from shall not be disclosed to a Tenderer or other person(s) not officially concerned with such process until conclusion of that process.

3.27.2 Any effort by a Tenderer to influence KPLC or any of its staff members in the process of examination, evaluation and comparison of tenders and information or decisions concerning award of Contract may result in the rejection of the Tenderer's tender.

3.28 Clarification of Tenders and Contacting KPLC

3.28.1 To assist in the examination, evaluation and comparison of Tenders KPLC may, at its discretion, ask the Tenderer for a clarification of its Tender. The request for clarification and the response shall be in writing, and no change in the prices or substance of the Tender shall be sought, offered, or permitted.

3.28.2 The Tenderer is required to provide timely clarification or substantiation of the information that is essential for effective evaluation of its qualifications. It is the responsibility of the Tenderer to provide in writing the clarification or substantiation which should reach KPLC within **five (5) days** from the date of KPLC's query. Such writing may include by electronic mail, facsimile or postal mail. Should there be no conclusive response within this period, it shall result in the Tenderer's disqualification.

3.28.3 Save as is provided in this paragraph and paragraph 3.26 above, no Tenderer shall contact KPLC on any matter related to its Tender, from the time of the tender openings to the time the contract is awarded.

3.28.4 Any effort by a Tenderer to influence KPLC in its decisions on tender evaluation, tender comparison, tender recommendation(s) or contract award may result in the rejection of the Tenderer's Tender.

3.29 Preliminary Evaluation and Responsiveness

3.29.1 Prior to the detailed Technical and Financial evaluation, KPLC will determine the substantial responsiveness of each Tender. For purposes of this tender, a substantially responsive Tender is one that conforms to the requirements of Preliminary Evaluation. KPLC's determination of

a Tender's responsiveness is to be based on the contents of the Tender itself without recourse to extrinsic evidence.

- 3.29.2 KPLC will examine the Tenders to determine whether they conform to the Preliminary Evaluation Criteria set out in Section VI Evaluation Criteria.
- 3.29.3 Notwithstanding the contents of the foregoing sub-paragraphs, if a Tender is not substantially responsive, it will be rejected at the earliest stage of evaluation by KPLC and cannot subsequently be made responsive by the Tenderer by correction of any non-conformity.

3.30 Minor Deviations, Errors or Oversights

- 3.30.1 KPLC may waive any minor deviation in a Tender that does not materially depart from the requirements of the goods and or services set out in the Tender Document.
- 3.30.2 Such minor deviation –
- 3.30.2.1 *Shall be quantified to the extent possible,*
- 3.30.2.2 *Shall be taken into account in the evaluation process, and,*
- 3.30.2.3 *Shall be applied uniformly and consistently to all qualified Tenders duly received by KPLC.*
- 3.30.3 KPLC may waive errors and oversights that can be corrected without affecting the substance of the Tender.

3.31 Technical Evaluation and Comparison of Tenders

- 3.31.1 KPLC will further evaluate and compare the Tenders that have been determined to be substantially responsive, in compliance to the Details of Services set out in the Tender Document and as per the prescribed Evaluation Criteria.
- 3.31.2 The Operational Plan is a critical aspect of the Tender. KPLC requires that the Services shall be performed at the time specified in the Schedule of Requirements. KPLC's evaluation of a tender will also take into account the Operational Plan proposed in the Tender. Tenderers offering to perform longer than KPLC's required delivery time will be treated as non-responsive and rejected.

3.32 Financial Evaluation of Tenders

- 3.32.1 The financial evaluation and comparison shall be as set out in the Summary of Evaluation Process. The comparison shall be
- a) of the price including all costs as well as duties and taxes payable on all the materials to be used in the provision of the Services.
 - b) deviations in Payment Schedule from that specified in the Special Conditions of Contract
- 3.32.2 Where other currencies are used, KPLC will convert those currencies to the same currency using the selling exchange rate ruling on the date of tender closing provided by the Central Bank of Kenya.

- 3.32.3 Arithmetical errors will be rectified on the following basis – if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail.
- 3.32.4 The Tenderer will be notified of the correction of the arithmetical error(s). If the Tenderer does not accept the correction of the error(s), its Tender will be rejected, and its Tender Security forfeited.

3.33 Preferences

In the evaluation of tenders, exclusive preference shall be given to citizen contractors where the amount of the tender as evaluated is below **KShs. 50 Million** in respect of services.

- 6.3.2 For purposes of this paragraph the Tenderer shall submit with its Tender, a valid copy of certificate of Confirmation of Directorships and Shareholding issued **and signed** by either the Registrar of Companies or Registrar of Business Names. This certificate must not be more than three (3) months old from the Date of the Tender Document. Kenya Power reserves the right to subject the certificate to authentication.

3.34 Debarment of a Tenderer

A Tenderer who gives false information in the Tender about its qualification or who refuses to enter into a contract after notification of contract award shall be considered for debarment from participating in future public procurement.

3.35 Confirmation of Qualification for Award

- 3.35.1 KPLC may confirm to its satisfaction whether the Tenderer that is selected as having submitted the lowest evaluated responsive tender is qualified to perform the contract satisfactorily.
- 3.35.2 The confirmation will take into account the Tenderer's financial, technical, and performance capabilities. It will be based upon an examination of the documentary evidence of the Tenderer's qualifications submitted by the Tenderer, pursuant to paragraph 3.13 as well as confirmation of such other information as KPLC deems necessary and appropriate. This may include factory, office and other facilities inspection and audits.
- 3.35.3 An affirmative confirmation will be a prerequisite for award of the contract to the Tenderer. A negative confirmation will result in rejection of the Tenderer's Tender, in which event KPLC will proceed to the next lowest evaluated responsive tender to make a similar confirmation of that Tenderer's capabilities to perform satisfactorily.

3.36 Award of Contract

- 3.36.1 KPLC will award the contract to the successful Tenderer whose Tender has been determined to be substantially responsive, compliant with the evaluation criteria and has been determined

to be the lowest evaluated tender, and further, where deemed necessary, that the Tenderer is confirmed to be qualified to perform the contract satisfactorily.

3.36.2 Award will be done as indicated in the Appendix to Instructions to Tenderers.

3.37 Termination of Procurement Proceedings

3.37.1 KPLC may at any time terminate procurement proceedings before contract award and shall not be liable to any person for the termination.

3.37.2 KPLC shall give prompt notice of the termination to the Tenderers, and, on request from any Tenderer, give its reasons for termination within fourteen (14) days of such request.

3.38 Notification of Award

3.38.1 Prior to the expiration of the period of tender validity, KPLC shall notify the successful Tenderer in writing that its Tender has been accepted.

3.38.2 The notification of award shall not constitute the formation of the contract until one is finally signed by both parties.

3.38.3 Simultaneously, and without prejudice to the contents of paragraph 3.27, on issuance of Notification of Award to the successful Tenderer, KPLC shall notify each unsuccessful Tenderer.

3.38.4 A notification of the tender outcome does not reduce the validity period for any tender security whether the Tenderer is successful or not, except where such tender security is officially released to the Bank and/or the Tenderer and such Bank discharged of all its obligations by KPLC prior to the expiry of its stated validity period.

3.39 Signing of Contract

3.39.1 At the same time as KPLC notifies the successful Tenderer that its Tender has been accepted, KPLC will send the Tenderer the Contract Agreement provided in the Tender Document together with any other necessary documents incorporating all agreements between the Parties.

3.39.2 Within **seven (7) days** of the date of notification of award, the successful Tenderer shall only sign the Contract Form and all the documents specified in that Form and return them to KPLC within that period of seven (7) days.

3.39.3 KPLC shall sign and date the Contract in the period between not earlier than seven (7) days from the date of notification of contract award and not later than thirty (30) days after expiry of tender validity. Further, KPLC shall not sign the contract until and unless the authentic performance security is received in accordance with paragraph 3.40.

3.39.4 Failure of the successful Tenderer to sign the Contract, the award shall be annulled and its tender security forfeited in which event KPLC shall notify the next lowest evaluated Tenderer that its Tender has been accepted.

3.39.5 Paragraph 3.38 together with the provisions of this paragraph 3.39 will apply with necessary modifications with respect to the Tenderer notified under sub-paragraph 3.39.4.

3.40 Performance Security

- 3.40.1 Within **fourteen (14) days** of the date of notification of award from KPLC, the successful Tenderer shall furnish KPLC with a Performance Security which shall be either one or a combination of the following:
- a) an original Bank Guarantee that is strictly in the form and content as prescribed in the Performance Security Form (Bank Guarantee) in the Tender Document.
 - b) For Local bidders, Standby Letters of Credit (LC). All costs, expenses and charges levied by all banks party to the LC shall be prepaid by the Tenderer. The LC must contain all the mandatory conditions of payment to KPLC as prescribed in the Tender Security (Letters of Credit) provided in the Tender Document.
 - c) For Foreign bidders, Standby Letters of Credit (LC) confirmed by a bank in Kenya. All costs, expenses and charges levied by all banks party to the LC including confirmation charges shall be prepaid by the Tenderer. The LC must contain all the mandatory conditions of payment to KPLC as prescribed in the Tender Security (Letters of Credit) provided in the Tender Document.
- 3.40.2 The Performance Security shall be issued by a commercial bank licensed by the Central Bank of Kenya. The bank must be located in Kenya.
- 3.40.3 The successful Tenderer shall furnish a Performance Security being the sum of **ten percent (10%)** of the contract price.
- 3.40.4 KPLC shall seek authentication of the Performance Security from the issuing bank. It is the responsibility of the successful Tenderer to sensitize its issuing bank on the need to respond directly and expeditiously to queries from KPLC. The period for response shall **not exceed three (3) days** from the date of KPLC's query. Should there be no conclusive response by the Bank within this period, such successful Tenderer's Performance Security may be deemed as invalid.
- 3.40.5 Failure of the successful Tenderer to furnish an authentic Performance Security, the award shall be annulled and the Tender Security forfeited, in which event KPLC may notify the next lowest evaluated Tenderer that its Tender has been accepted.
- 3.40.6 Paragraph 3.38, 3.39 together with the provisions of this paragraph 3.40 will apply with necessary modifications, and as far as circumstances permit, with respect to the Tenderer notified under sub-paragraph 3.40.4.

3.41 Corrupt or Fraudulent Practices

- 3.41.1 KPLC requires that Tenderers observe the highest standard of ethics during the procurement process and execution of contracts. When used in the present Regulations, the following terms are defined as follows: -
- a) *“Corrupt practice” means the offering, giving, receiving or soliciting of any thing of value to influence the action of public official in the procurement process or in contract execution;*

b) *“Fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of KPLC, and includes collusive practice among Tenderers (prior to or after Tender submission) designed to establish tender prices at artificial non-competitive levels and to deprive KPLC of the benefits of free and open competition.*

3.41.2 KPLC will reject a proposal for award if it determines that the Tenderer recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question.

3.41.3 Further, a Tenderer who is found to have indulged in corrupt or fraudulent practices risks being debarred from participating in public procurement in Kenya.

APPENDIX TO INSTRUCTIONS TO TENDERERS

The following information regarding the particulars of the tender shall complement and or amend the provisions of the Instructions to Tenderers *hereinafter abbreviated as ITT*. Wherever there is a conflict between the provisions of the ITT and the Appendix, the provisions of the Appendix herein shall prevail over those of the ITT.

No.	ITT Reference Clause	Particulars of Appendix
1	3.2.1 Eligible Tenderers	<i>Eligible bidders</i>
2	3.3.1 Origin of Eligible goods	<i>Any country is eligible</i>
3	3.6 Time for Completion of Works	<i>6 months</i>
4	3.10.3 Site Visit and Pre-Bid Meeting	<i>Pre-bid meeting and site visit shall be held on 13/02/2018 at 10.00am at Electricity House Nairobi</i>
5	3.10.6 Attendance of pre-bid meeting or site visit	<i>a) the pre-bid meeting is mandatory b) the site visits are mandatory</i>
6	3.10 Documents Comprising the Tender – List of Previous Customers	<i>The Tenderer shall submit at least four (4) names with full contact as well as physical addresses of previous customers of similar services and letters from the previous customers confirming completion of the contracts on schedule.</i>
7	3.13 Tender Currency	<i>For avoidance of doubt, the currency of the tender must be in Kenya Shillings for local bidders (for foreign bidders the convertible currency at the tender opening exchange rate)</i>
8	3.14.2 (a) Manufacturer's / Principal's Authorization	<i>A form of the minimum standard requirements is attached in the detailed technical requirements</i>
9	3.14.2 (b) Documentary evidence of financial capability	<i>The audited financial statements required must be those that are reported within eighteen (18) calendar months of the date of the tender document.</i>
10	3.14.2 (c) and (d) Documents of evidence of eligibility	<i>As indicated in 3.14.4 and 3.14.5</i>
11	3.14.2 (e) Tenderer's membership of a recognized or accredited institution.	<i>Provide all Membership and Accreditation</i>
12	3.15.2 (a) Catalogues, Brochures, Manufacturer's/ Principal's Drawings	<i>All technical documents and specifications pertaining to the product MUST be provided</i>

13	3.17.2 Warranty	<i>Warranty of one (1) year or manufacturer's guarantee (whichever is longer.</i>
14	3.18.1 Tender Security	<i>Ksh 150,000.00. However, the original tender security shall be dropped in the tender box situated at third floor Stima Plaza</i>
15	3.21 Number of sets of and Tender Format	<i>There will be only one document submitted on the e-document portal.</i>
16	3.22 Preparation and signing of the tender	<i>There will be only one document submitted on the e-procurement portal. Bidders shall ensure they upload all the required documents into the portal.</i>
17	3.23 Sealing and Outer Marking of Tenders.	<i>For the purposes of this tender, this is not applicable as the tender is being submitted electronically. However, the original tender security in a clearly labelled envelope shall be deposited in the tender security box on 3rd floor supply chain reception on or before the opening date</i>
18	3.25 Opening of Tenders	<i>The tender shall be opened electrically at Stima Plaza auditorium on 07.03.2018 at 10:00 a.m. and bidders are encouraged to participate.</i>
19	3.36.2 Mode of Award of Contract	<i>The bid with the highest Evaluated Bid Score</i>
20	3.40 Performance Security	<i>Performance bond shall be. 10 % of the Total Contract value.</i>

SECTION IV – SCHEDULE OF REQUIREMENTS

4.1 Scope of Work

The Scope of Work covers the design, supply, deliver, installation, fixing, connection, testing, labeling, commissioning of works, cleaning, complete and working to every detail as described below and in the related specifications and /or on the drawings to the satisfaction of the Consulting Engineers (KPLC).

The Contractor shall carry out all the necessary works for successful installation of the electrical services as described and set out in this section of the Technical Specification, Bills of Quantities, other sections of the electrical documents and accompanying Drawings in accordance with the General Electrical Specification herewith.

The Works, the major elements of which are scheduled below, includes the supply of all labour, material, equipment, plant and components necessary for complete installation and setting out work in respect of the entire electrical services requirements within the proposed development and rendering it in complete working condition in respect of but not limited to the following installations:

New Installations: Supply, Installation, testing and commissioning of the following installations:

- Incoming electricity supply intake and metering;
- Individual tenant metering;
- Low Voltage Switchboards for common services;
- Sub mains and distribution;
- Standby generator power distribution;
- Electrical power distribution;
- Trunking and cable trays;
- Earthing and grounding systems.

In general, the installations shall be concealed in heavy gauge PVC conduits except in areas where surface installation is necessary. In such cases, installation will be carried out in trunking, galvanized steel conduit or cable tray as indicated on the Drawings.

SECTION V – PRICE SCHEDULE FOR GOOD AND SERVICES

DESIGN, SUPPLY & INSTALLATION OF NEW LV BOARD

ITEM	DESCRIPTION	UNIT	QTY	DELIVERY/ COMPLIANCE / MODEL	UNIT PRICE DDP VAT INCLUSIVE	TOTAL PRICE DDP VAT INCLUSIVE	TOTAL PRICE DDP VAT INCLUSIVE
A	GENERAL ITEMS						
A/1	Allow for the inspection of the existing LV and meter boards, decommissioning, disconnection of the existing boards and services and handing over to the client with signed delivery note, modifications and replacement of any accessories such as cable glands and lugs etc.	Lot	1				
A/2	Allow for the preparation of all "As Built" drawings after testing and commissioning	Set	3				
A/3	Allow for contingent works, the quantities of which are not detailed, to be executed if and when instructed by the Engineer (KPLC). (PROVISIONAL SUM)	Lot	1				
A/4	The Tenderer is to describe hereunder inserting any relevant clause number, any other works, obligations or items that may be referred to in the Conditions of Contract, Specification, Drawings or Data Schedule in respect of the works for which he desires to enter a separate charge (this charge is to be entered in the Amount column). If no charge is entered hereunder, rates and amounts elsewhere in the schedule of prices shall be deemed to cover all expenses for such works, obligations or items.	Lot	1				

	SUB-TOTAL						
B	ELECTRICAL DISTRIBUTION						
	Supply, install, test, commission and set to work the following:-						
B/1	Free-standing purpose made front access Main LV Switchboard (Fully Type-Tested Assemblies – TTA), Form 4bi, modular, metal clad, dustproof cubicle type suitable for floor mounting, IP 54, manufactured in 12 SWG galvanised mild steel sheet and finished in cream (or appropriate colour) powder coating as shown on the schematic. The Low Voltage Switchboard should consist of a PLC section, allowing for priority switching.	Lot	1				
	The switchboard complete with the following:-						
B/1.1	2No x 1600 A TPN ACB main incomer (for the existing 2 x 630KVA transformers) type NS 1600N with adjustable over current settings and having a short-circuit breaking capacity of 50KA at 415Vac, 50Hz, with shunt trip coil for fireman’s switch. The ACB to be adjustable in 800-1600A range, <u>set at 1000A</u> . The ACBs to be motorized with both electrical and mechanical inter-lock with the Tie breaker/Coupler, with an automatic control system. Allow for manual override and remote monitored, Modbus TCP/IP, Ethernet enabled.						
B/1.2	1No x 1600 A TPN Tie Breaker						

B/1.3	1No x 1600 A TPN ACB genset incomer (for the existing Genset) type NS 1600N with adjustable over current settings and having a short-circuit breaking capacity of 50KA at 415Vac, 50Hz. The ACB to be adjustable in 800-1600A range, <u>set at 1000A</u> . The ACBs to be motorized with both electrical and mechanical inter-lock. Power meter be remote monitored, Modbus TCP/IP, Ethernet enabled. , GSM module incorporated to send SMS alerts.						
B/1.4	3No x 1600Amp TPN insulated copper bus bars (2No TX and genset)						
B/1.5	3No x 1200Amp MCCB outgoing, type NS 1200N with adjustable over current settings and having a short-circuit breaking capacity of 50KA at 415Vac, 50Hz. The MCCB to be adjustable in 600-1200A range, <u>set at 800A</u> . The MCCBs to be motorized.						
B/1.6	1No x 630A TPN MCB (adjustable)						
B/1.7	1No. x 400A TPN MCCB, (adjustable, PFC bank connection)						
B/1.8	3No. x 250A TPN MCCB, (adjustable) with space for 2No. KPLC TPN Meters						
B/1.9	1No. x 250A TPN MCCB, (spare way)						
B/1.10	Set of neon phase presence indicator lamps - All indicators						
B/1.11	1No. CT Chambers						
B/1.12	Space for 1No. KPLC TPN cut-out						
B/1.13	Space for 1No. KPLC TPN Meters						
B/1.14	Space for 1No. Generator check meter						
B/1.15	The spaces to be provided with punched studs for installing Kenya Power's seals.						
B/1.16	415V three-phase surge diverter as Furse ESP 415, wired as shown, complete with enclosure with viewing window.						

B/1.17	Sufficient cable ways and 20% spare space for any future additions						
B/2	1No x 1600A TPN Automatic Change Over switch, motorized with both electrical and mechanical inter-lock with mains and generator, allow for manual by-pass and incorporated in the main switchboard assembly, LED phase indicator lamps, 3 - phase 415 volts, 50 Hz. Be remote monitored, Ethernet enabled.						
B/3	Take delivery, insure, store, install, test and commission above LV board including all fixing, termination and connection of all circuits.						
B/4	Carry out comprehensive labelling of all the bus bars, circuit breakers etc. of the board above, indicating the areas served, outgoing cable sizes etc.						
B/5	Supply and install of 300 kVAR power factor correction capacitor bank in LV Switchboard.	No	1				
B/5.1	4 x 50 KVAR's 415 V,50Hz, 3-Phase						
B/5.2	2 x 25 KVAR's 415 V,50Hz, 3-Phase						
B/5.3	2 x 20 KVAR's 415 V,50Hz, 3-Phase						
B/5.4	1 x 10 KVAR's 415 V,50Hz, 3-Phase						
B/5.5	12 x Special contactors for capacitor switching						
B/5.6	12 x Fuse bases and fuses for each capacitor protection						
B/5.7	12 x Step indicator lamps						
B/5.8	1 x Control circuit protection fuse/fuse holder						
B/5.9	1 x 12-Step automatic control regulator for maintaining power factor at the set level and regulating the switching of capacitor steps						
B/5.10	1 x 1500/5A Current transformer (to be mounted after the mains incoming circuit breaker)						
B/5.11	The bank to be made from low-loss bio-degradable capacitive units, complete with earthed enclosure.						

B/6	Supply, install, test and commission 4mm ² PVCSWAPVC 12 core copper cable between the LV switchboard and the generator control panels.	LM	60				
B/7	Supply and install Fireman's switch	No	1				
B/8	Supply CT three phase digital check meter installed in the meter board.	No	7				
B/8.1	Digital multimeter type PM820/METSEPM5320 with CTs and fuse protection capable of measuring voltage in the range 0 – 1000V, 3-phase, current in the range 0-2000A, 3-phase, and all power system parameters (KW, KVA, KWHr, KVARs, Frequency, P.F., harmonics and all the parameters). The multimeter to have an accessible terminal for connecting an external printer, and should be complete with selector switches for viewing / displaying the various parameters.						
B/8.2	Digital multimeter should be Ethernet enable, with Modbus TCP/IP port						
B/8.3	Take delivery, insure, store, install, test and commission above CT three phase digital check meters including all fixing, cabling, termination and connection of all circuits.	Lot	1				
B/9	Supply and install Automatic Voltage Regulator with an integral by-pass system. The following characteristics have to be factored: -	No	1				
B/9.1	Rating: 630KVA - 1000KVA						
B/9.2	Audible Noise : <60dB						
B/9.3	High Reliability : >100,000 MTBF						
B/9.4	Input operating voltages : 3 Phase, 415V/240V						

B/9.5	Input Voltage Tolerance : 20% i.e. from 365-505V 3 Phase, from 192-288V 1 Phase;						
B/9.6	Frequency 50/60Hz + 5%						
B/9.7	Output Voltage Adjustment Range : from 210V- 255V (L-N) from 360V - 440V (L-L)						
B/9.8	Admitted load variations: 300% for 2 mins – 150% for 10 mins						
B/9.9	Input Power Factor at full linear load : >0.9						
B/9.10	Operation: Independent correction for each Phase						
B/9.11	Total Harmonic Distortion THD under linear load : < 5%						
B/9.12	Coupling : Star connection						
B/9.13	Input & output multimeter						
B/9.14	Cooling : Natural air ventilation (Aided with fans > 45oC)						
B/9.15	Ambient temperature : -20 +45C°						
B/9.16	Communication : Modbus TCP/IP, ethernet enable						
B/9.17	IP21 rating						
B/9.18	Product life span : 20 years						
B/9.19	Warranty: Not less than 2 Years						
B/9.20	State Dimensions/Weight of the AVR (WxDxH)						
B/9.21	State Protection degree of the AVR.						
B/9.22	State Make, country of origin and model of the AVR.						
B/10	2No. x 1200 A TPN ACB (for the two load sets; Uchumi wing & Harambee wing) type NS 1200N with adjustable over current, time delay settings and having a short-circuit breaking capacity of 50KA at 415Vac, 50Hz. The ACB to be adjustable in 600-1200A range, set at 800A. The ACBs to be motorized. Be remote monitored, Modbus TCP/IP, ethernet enabled. Enclosed in the Main switchboard Assembly	Set		2			
B/10.1	2No x 1200Amp TPN insulated copper bus bars						
B/10.2	2 x 630A TPN MCCB, (adjustable in 400 – 630A range)						
B/10.3	2 x 400A TPN MCCB, (adjustable in 250 – 400A range)						

B/10.4	6 x 250A TPN MCCB, (adjustable in 150 – 250A range)						
B/10.5	4 x 150A TPN MCCB, (adjustable in 125 – 150A range)						
B/10.6	3 x 125A TPN MCCB, (adjustable in 80 – 125A range)						
B/10.7	4 x 63A TPN MCCB, (adjustable in 40 – 63A range)						
B/10.8	2 x 250A TPN MCCB spare way						
B/10.9	2 x 100A TPN MCCB spare way						
B/11	Allow for the following (provisional) lengths of cable (4C PVC/SWA/PVC) to be used for terminating existing circuits onto the new main switchboard.						
B/11.1	300 mm ²	LM	80				
B/11.2	240 mm ²	LM	40				
B/11.3	185 mm ²	LM	40				
B/11.4	150 mm ²	LM	40				
B/11.5	120 mm ²	LM	40				
B/11.6	95 mm ²	LM	40				
B/11.7	70 mm ²	LM	40				
B/11.8	50 mm ²	LM	40				
B/11.9	35 mm ²	LM	60				
B/11.10	16 mm ²	LM	40				
B/11.11	Supply and install cable glands and lugs for the above cables	Set	10				
B/12	Supply and install complete all earthing requirements for the above boards including, inspection pits, rods, tapes etc. all as per the requirements of the technical specifications	Lot	1				

B/12.1	Comprehensive protective multiple earthing of the above board in 1200mm long 12mm diameter pure electrolytic copper earth rod deep driven to permanent moisture level, copper clamp. 50mm ² green earth lead complete with all accessories. (Note: Use parallel rods if effective earthing cannot be achieved with 1).						
B/13	Allow for the transfer of all existing circuits to the new main Switchboard. Please study the existing arrangement first before pricing this item	Lot	1				
B/14	Supply and install communication set-up involving Cisco Switch 3850, GPRS modem to enable remote monitoring of all incomers, AVR and data centre MCCBs, Enclosed in a appropriate communication cabinet	Lot	1				
	<u>SUB-TOTAL</u>						
C	Civil Works	Lot	1				
C/1	Civil works to ensure good ventilation in both the LV Switchroom and transformer room						
C/2	Replace Existing doors with appropriate fire rated doors to ensure good aeration, enough natural light						
C/3	Supply and install Evacuations fans/units 2 in each room, with screens in LV Switchroom, transformer room and Synchroniser Room, Units auto control with temperature sensors i.e. temp >30°C						
C/4	All cables to be secure on appropriate cable trays						
C/5	Supply and install Light units						
C/6	Paint the whole area with fire rated paints and ensure no dust						
C/7	Label of rooms with KPLC logo's						

	SUB-TOTAL						
D	Risers Distribution Boards refurbishment	Lot	1				
D/1	Replacement of existing Distribution boards, Fuses and tidying the risers, Painting						
D/2	Tracing of line and ensuring retouch of existing circuits						
D/3	Making good all electrical wiring and electrical fittings, Labelling of all circuits						
D/4	Supply and installation of DBs						
D/4.1	Uchumi Wing						
D/4.1.1	1-8th Floor :- 16 way TPN DBs 160A 4P Isolators at 415Vac, 50Hz; each comprising of:	Qty	8				
	6No. - 20A 3P AC-1 Contactors						
	Lot - 32A 1P MCBs						
	Lot - 10A 1P MCBs						
D/4.1.2	8 way TPN DBs 160A 4P Isolators at 415Vac, 50Hz; each comprising of:	Qty	8				
	Lot - 32A 1P MCBs						
D/4.1.3	Ground Floor :- 12 way TPN DBs 160A 4P Isolators at 415Vac, 50Hz; each comprising of:	Qty	1				
	6No. - 20A 3P AC-1 Contactors						
	1No. - Timer						
	10A 1P MCBs	Lot					
D/4.1.4	8 way TPN DBs 160A 4P Isolators at 415Vac, 50Hz; each comprising of:	Qty	1				
	32A 1P MCBs	Lot					
D/4.2	Harambee Wing						
D/4.2.1	2-14th Floor :- 8 way TPN DBs 160A 4P Isolators at 415Vac, 50Hz; each comprising of:	Qty	13				
	5No. – 20A 3P AC-1 Contactors						

	Lot - 32A 1P MCBs						
	Lot - 10A 1P MCBs						
D/4.2.2	8 way TPN DBs 160A 4P Isolators at 415Vac, 50Hz; each comprising of:	Qty	13				
	Lot - 32A 1P MCBs						
D/4.2.3	First Floor :- 16 way TPN DBs each comprising of: 1no. 160A 4P Isolators at 415Vac, 50Hz;	Qty	1				
	7No. – 20A 3P AC-1 Contactors						
	Lot - 10A 1P MCBs						
D/4.2.4	6 way TPN DBs each comprising of: 1no. 160A 4P Isolators at 415Vac, 50Hz	Qty	2				
	Lot - 32A 1P MCBs						
	Lot - 10A 1P MCBs						
D/4.2.5	Basement Floor :- 8 way TPN DBs each comprising of: 1no. 160A 4P Isolators at 415Vac, 50Hz;	Qty	2				
	Lot - 32A 1P MCBs						
	Lot - 10A 1P MCBs						
D/5	Allow for (provisional) 2.5mm sq cable (single core PVC/SWA/PVC) to be used on the risers.	LM	300				
	<u>SUB-TOTAL</u>						
	<u>TOTAL</u>						

- Notes:**
1. Switchboard working drawings to be prepared with full site understanding as to how the existing cables will be terminated into the proposed positions of the various outgoing circuit breakers)
 2. All ACBs for incomers and AVRs to be remotely monitored
 3. When generator kicks in a SMS alert is sent
 4. All ACBs and MCCB should have adjustable over current settings, selectivity observed
 5. Monitoring software to be supplied.
 6. Bidders .

SECTION VI - EVALUATION CRITERIA

Evaluation of duly submitted tenders will be conducted along the following stages: -

6.1 Part 1 - Preliminary Evaluation Criteria Under Paragraph 3.28 of the ITT. These are mandatory requirements. This shall include confirmation of the following: -

6.1.1 *Submission of Tender Security- Checking its validity, whether it is Original; whether it is issued by a local bank; whether it is strictly in the format required in accordance with the sample Tender Security Form(s).*

6.1.2 *Submission of Declaration Form(s) duly completed and signed.*

6.1.3 *Submission and considering Tender Form duly completed and signed.*

6.1.4 *Submission and considering the following:-*

6.1.4.1 *For Local Tenderers;-*

- a) *Company or Firm's Registration Certificate*
- b) *PIN Certificate.*
- c) *Valid Tax Compliance Certificate.*
- d) *Names with full contact as well as physical addresses of previous customers of similar goods and reference letters from at least four (4) previous customers.*

6.1.4.2 *For Foreign Tenderers;-*

- a) *Company or Firm's Registration Certificate*
- b) *PIN Certificate or its equivalent in the country of bidder or a statement from the tax authorities in the Tenderer's country of origin indicating that such certificate or its equivalent is not issued.*
- c) *Valid Tax Compliance Certificate or its equivalent in the country of bidder or a statement from the tax authorities in the Tenderer's country of origin indicating that such certificate or its equivalent is not issued.*
- d) *Names with full contact as well as physical addresses of previous customers of similar goods and reference letters from at least four (4) previous customers.*

6.1.5 *That the Tender is valid for the period required.*

6.1.6 *The tenderer must be registered with National Construction Authority (NCA 2 and above) class.*

6.1.7 *Class of Licenses with the relevant statutory bodies, Class A registration as an electrical contractor with the Energy Regulatory Commission/ Ministry of Energy.*

- 6.1.8 *Site/survey visit signed and stamped form by authorized staff for all the sites.*
- 6.1.9 *Submission and considering the Confidential Business Questionnaire:-*
- a) *Is fully filled.*
 - b) *That details correspond to the related information in the bid.*
 - c) *That the Tenderer is not ineligible as per paragraph 3.2 of the ITT.*
- 6.1.10 *Submission of Copies of relevant Type Test Certificates and their Reports or Test Certificate and their Reports from the designated bodies.*
- 6.1.11 *Submission of a copy of accreditation certificate for the testing body to ISO/ IEC 17025.*
- 6.1.12 *Submission of a copy of:-*
- a) *the Manufacturer's valid quality management system certification i.e. ISO 9001- 2008 for goods from outside Kenya.*
 - b) *valid KEBS Diamond Mark of Quality Certificate or KEBS Standardisation Mark Certificate for goods manufactured in Kenya.*
- 6.1.13 *If required in the Tender Document, submission of the following-*
- a) *Samples*
 - b) *Catalogues and/or Brochures and/or Manufacturer's Drawings*
 - c) *Schedule of Guaranteed Technical Particulars as per tender specifications.*
- 6.1.14 *Record of unsatisfactory or default in performance obligations in any contract shall be considered. This shall include any Tenderer with unresolved case(s) in its performance obligations for more than two (2) months in any contract.*
- 6.1.15 *Notwithstanding the above, considering any outstanding orders where applicable and the production capacity indicated by the Tenderer.*

Tenders will proceed to the Technical Stage only if they qualify in compliance with Part 1 above, Preliminary Evaluation under Paragraph 3.28.

6.2 Part II - Technical Evaluation Criteria Under Paragraph 3.30 of the ITT.

The detailed technical evaluation consists of the following:

Parts II (a) – These are mandatory requirements

6.2.1 Evaluation of the following technical information against Tender Requirements and Specifications: -

6.2.1.1 *For goods manufactured outside Kenya, applicable relevant valid ISO 900-2008 certification*

6.2.1.2 *For goods manufactured in Kenya - valid KEBS Diamond Mark of Quality Certificate or KEBS Standardization Mark Certificate*

6.2.1.3 *Type Test Certificates and their Reports or Test Certificates and their Reports from the designated bodies for full compliance with Tender Specifications*

6.2.1.4 *The accreditation certificate for the testing body to ISO/ IEC 17025.*

6.2.1.5 *Manufacturer's Authorization*

6.2.1.6 *As contained in the following documents –*

a) *Manufacturer's Warranty*

b) *Catalogues and or Brochures and or Manufacturer's drawings*

c) *Schedule of Guaranteed Technical Particulars as per Technical Specifications.*

6.2.1.7 *Submission of drawings, catalogues and brochures*

Tenderers will proceed to the next evaluation stage if they qualify in compliance with Parts II (a) above.

Part II (b) - Technical Evaluation under clause 3.20 of the ITT.

It will include the following stages: The following will be scored.

6.2.2 Detailed Technical Evaluation

NO.	EVALUATION CRITERIA	Maximum Marks			PG
6.2.2.1	<p><i>Previous experience: Details of similar Contracts undertaken successfully within the last 5 years and evidenced by letters of reference from clients, completion certificates for the respective projects up to maximum 5 No. Projects.</i></p> <p><i>Project with value of over KShs. 50 million - Score 3</i></p> <p><i>Project with value of over KShs. 30 million - Score 2</i></p> <p><i>Project with value of over KShs. 10 million - Score 1</i></p>	15			
6.2.2.2	<p><i>Ongoing Contracts maximum 2 No. (Attach Evidence of award letters)</i></p> <p><i>Project with value of over KShs. 50 million – (Score 5)</i></p> <p><i>Project with value of less than KShs. 50 million – (Score 2)</i></p>	10			
6.2.2.3	<p><i>Number of years in the business of design, supply and installation of LV switchboards</i></p>	10	>15yrs	10	
			10yrs	5	
			<5yr	2	
6.2.2.4	<p><i>Qualified Key personnel as required under clause 3.20.2 in the tender relevant to the works who will actively be involved in the proposed contract.</i></p> <p><i>With minimum 5 qualified Engineers/technicians specialized in design, supply and installation of LV switchboards (Provide evidence, Telephone contacts must be provided)</i></p>	20			
		4 scores for each Engineer/technicians up to 5 or more.			
6.2.2.5	<p><i>i. LV Switchboard (state make and country of origin)</i></p>	35			

	<p>(10 score)</p> <p>a. Free-standing purpose made front access Main LV Switchboard (Fully Type-Tested Assemblies – TTA), Form 4bi, modular, IP 54, manufactured in 12 SWG galvanized mild steel sheet and finished in cream powder coating. PLC section, allowing for priority switching.</p> <p>b. 1600A TPN automatic change-over system, with electrical and mechanical interlock. Allowing for manual override and remote monitoring, Modbus TCP/IP, Ethernet enabled.</p> <p>c. Digital multimeter with CTs and fuse protection capable of measuring voltage in the range 0 – 1000V, 3-phase, current in the range 0-2000A, 3-phase, and all power system parameters (KW, KVA, KWHr, KVARs, Frequency, P.F., harmonics and all the parameters). Ethernet enable</p> <p>d. 5No. TPN insulated copper bus bars</p> <p>ii. ACBs/MCCBs to be supplied as Merlin Gerlin, Schneider, Crabtree make or reputable equivalents of similar or higher standards (5 score)</p> <p>iii. 300kVAR power factor correction capacitor bank in LV Switchboard (state make and country of origin) (5 score)</p> <p>iv. Automatic Voltage Regulator with an integral bypass system (state make and country of origin) (5 score)</p> <p>v. Product catalogues and or manuals attached. Relevant Manufacturer Brochures for items in the technical schedule with equipment to be supplied highlighted and meets specification (5 score)</p>		
--	--	--	--

	<i>vi. Completely filled Technical Schedule indicating Brand, Model/ Country of origin as per specification in the tender (5 score)</i>				
6.2.2.6	<i>Equipment. Give a list and type of relevant equipment owned by the company evidenced by ownership documents. Where not owned by the company, provide documentary evidence of leased equipment as required under clause 3.20.2</i>	5	Owned	5	
			Leased	2	
6.2.2.7	Electrical Contractor <i>i) Registration with NCA for the respective Category/Class</i> <i>ii) Certificate of Registration under Company's Act</i> <i>iii) Valid Tax Compliant Certificate</i>	3			
6.2.2.8	<i>Proof of local presence</i>	2			
	TOTAL	100			

Note:

Tenderers will proceed to Financial Evaluation stage only if they score a minimum score of 75% in Parts II (b) above.

6.3 Part III – Financial Evaluation Criteria under Paragraph 3.31 of the ITT.

These are mandatory requirements.

NO.	EVALUATION CRITERIA
6.3.1	a) Confirmation of the authenticity and sufficiency of the submitted Tender Security
	b) Confirmation of and considering schedule of rates and prices and/or priced Bill of Quantities duly completed and signed.
	c) Checking that the Tenderer has quoted prices based on all costs including insurances, duties, levies, Value Added Tax (V.A.T), Withholding Tax and other taxes payable and delivery to the premises of KPLC or designated site(s)
	d) Where applicable, Conducting a financial comparison, including conversion of tender currencies into one common currency
	e) Correction of arithmetical errors
	f) Taking into account the cost of any deviation(s) from the tender requirements
6.3.2	<p>Ascertaining the financial capability through Last Financial Year's audited financial statements issued within the last 18 months which Statements should conform to International Accounting Standards One (IAS 1) which includes the following: -</p> <p>a) Turnover in the Last Financial Year i.e. twelve months of at least 40% of the total tendered value.</p> <p>b) Checking and considering that the Tenderer's solvency ratios are acceptable to KPLC and meet the threshold of: -</p> <p>(i) Solvency ratio of Debt to Assets Ratio which should be at least 1:1</p> <p>Or</p> <p>(ii) for companies or firms that are registered or incorporated within the last one calendar year of the Date of the Tender Document, a spot cash balance of a minimum of 20% of the Tender Price. The same should be as evidenced in the certified copies of bank statements at least in <u>ALL</u> days of the month of the Date of the Tender Document.</p>
6.3.3	Provide documentary evidence of liquid assets and/or credit facilities, net of other contractual commitments and exclusive of any advance payments which may be made under the contract.
6.3.4	<p>Considering information submitted in the Confidential Business Questionnaire against</p> <p>other information in the bid including: -</p> <p>a) Declared maximum value of business</p>

- 6.4 The bid evaluation will take into account technical factors in addition to cost factors. The weight for price is 30% while the weight for technical specifications is 70%. Bidders must conform to the specific Technical Requirements in Section XX.

$$B = \frac{C_{LOW}}{C} X + \frac{T}{T_{HIGH}} (1 - X)$$

Where :

C = Evaluated Bid Price

C_{LOW} = the lowest of all Evaluated Bid Prices among responsive bids

T = Technical Score awarded to the bid

T_{HIGH} = the highest of all Evaluated Technical Score among responsive bids

X = weight for the Price as specified in the BDS

The bid with the highest Evaluated Bid Score (B) among responsive bids shall be termed the **Lowest Evaluated Bid** and is eligible for Contract award.

***NOTES: -**

1. For purposes of evaluation, the exchange rate to be used for currency conversion shall be the selling exchange rate ruling on the date of tender closing provided by the Central Bank of Kenya. (Visit the Central Bank of Kenya website).
2. Total tender value means the Tenderer's total tender price inclusive of Value Added Tax (V.A.T) for the goods and services it offers to supply.
3. For companies or firms that are registered or incorporated within the last one calendar year of the Date of the Tender Document, they should submit certified copies of bank statements covering a period of at least six months prior to the date of the tender document. The copies should be certified by the Bank issuing the statements. The certification should be original.
4. The spot balance of 20% required will be that which is seen in the certified bank statements at least in any day of the month of the Date of the Tender Document.

TABLE OF CLAUSES ON GENERAL CONDITIONS OF CONTRACT

Clause No.	Headings	Page No.
7.1	Definitions	48
7.2	Application	48
7.3	Country of Origin	48
7.4	Standards	49
7.5	Use of Contract Documents and Information	49
7.6	Patent Rights.....	49
7.7	Performance Security.....	49
7.8	Approval before Manufacture.....	50
7.9	Inspection and Tests	50
7.10	Pre-Shipment Verification of Conformity (PVoC)	51
7.11	Packaging and Labelling.....	51
7.12	Delivery and Documents for Foreign Goods	52
7.13	Delivery and Documents for Domestic Goods	52
7.14	Transportation.....	53
7.15	Insurance	53
7.16	Payment	53
7.17	Interest	54
7.18	Prices	54
7.19	Variation of Contract	54
7.20	Assignment	55
7.21	Subcontracts	55
7.22	Project Manager.....	55
7.23	Defects	55
7.24	Completion and taking over.....	56
7.25	Retention/Defects Liability.....	56
7.26	Termination of Contract	56
7.27	Liquidated Damages	57
7.28	Warranty.....	57
7.29	Resolution of Disputes.....	57
7.30	Language and Law.....	57
7.31	Waiver	58
7.32	Force Majeure.....	58

SECTION VII – GENERAL CONDITIONS OF CONTRACT

The General Conditions of Contract *hereinafter referred abbreviated as the GCC* shall form part of the Conditions of Contract in accordance with the law and KPLC’s guidelines, practices, procedures and working circumstances. The provisions in the GCC will apply unless an alternative solution or amendment is made under other parts of the Contract including the Special Conditions of Contract.

7.1 Definitions

In this contract, the following terms shall be interpreted as follows: -

- a) *“Day” means calendar day and “month” means calendar month.*
- b) *“The Contract” means the agreements entered into between KPLC and the Contractor, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.*
- c) *“The Contract Price” means the price payable to the Contractor under the contract for the full and proper performance of its contractual obligations.*
- d) *“The Services” means services or art thereof to be provided by the Contractor and includes all of the materials and incidentals, which the Contractor is required to perform and provide to KPLC under the contract.*
- e) *“The Procuring Entity” means The Kenya Power and Lighting Company Limited or its successor(s) and assign(s) where the context so admits (hereinafter abbreviated as KPLC).*
- f) *“The Contractor” means the individual or firm providing the services under this contract or his/ her/ its permitted heir(s), personal representative(s), successor(s) or permitted assign(s) where the context so admits. For the avoidance of doubt this shall mean the successful Tenderer(s) pursuant to the tender.*
- g) *Wherever used in the contract, “performance” shall be complete or be deemed to be complete, unless the circumstances indicate otherwise, when the services have been performed in accordance with the Contract and where KPLC does not signify its approval to the Contractor, but without giving notice of dissatisfaction, on the expiration of thirty (30) days from date of documented completion of performance of the service.*

7.2 Application

These General Conditions shall apply to the extent that provisions of other parts of the contract do not supersede them.

7.3 Country of Origin

7.3.1 For purposes of this clause, “Origin” means the place where the goods were mined, grown, or produced.

7.3.2 The origin of Goods and Services is distinct from the nationality of the Supplier.

7.4 Standards

The Services supplied under this contract shall conform to the standards mentioned in the Details of Service.

7.5 Use of Contract Documents and Information

- 7.5.1 The Contractor shall not, without KPLC's prior written consent, disclose the contract, or any provision thereof or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of KPLC in connection therewith, to any person other than a person employed by the Contractor in the performance of the contract.
- 7.5.2 The Contractor shall not, without KPLC's prior written consent, make use of any document or information enumerated in clause 7.5.1 above.
- 7.5.3 Any document, other than the contract itself, enumerated in clause 7.5.1 shall remain the property of KPLC and shall be returned (including all copies) to KPLC on completion of the Contractor's performance under the contract if so required by KPLC.

7.6 Patent Rights

The Contractor shall indemnify KPLC against all third party claims of infringement of patent, trademark, or industrial design rights arising from provision of the services or any part thereof.

7.7 Performance Security

- 7.7.1 Within fourteen (14) days of the date of the notification of contract award, the Contractor shall furnish to KPLC the Performance Security which shall be either one or a combination of the following:-
- a) an original Bank Guarantee that is strictly in the form and content as prescribed in the Performance Security Form (Bank Guarantee) in the Tender Document.
 - b) Confirmed Standby Letters of Credit (LC). All costs, expenses and charges levied by all banks party to the LC including confirmation charges shall be prepaid by the successful Tenderer. Certain mandatory conditions of the LC shall be as prescribed in the Performance Security Form (LC) in the Tender Document.
- 7.7.2 The Performance Security shall be issued by a commercial bank licensed by the Central Bank of Kenya. The bank must be located in Kenya.
- 7.7.3 The Performance Security shall be the sum of ten percent (10%) of the contract price. It shall be in the currency of the contract price.
- 7.7.4 Failure of the Contractor to furnish the Performance Security, the award shall be annulled and the Tender Security forfeited, in which event KPLC may notify the next lowest evaluated Tenderer that its Tender has been accepted.
- 7.7.5 The proceeds of the Performance Security shall be payable to KPLC as compensation for any loss resulting from the Contractor's failure to comply with its obligations in accordance with the contract without KPLC being required to demonstrate the loss it has suffered.

- 7.7.6 The Performance Security shall be valid for a minimum of sixty (60) days after satisfactory delivery for both Foreign and Local Contractors.
- 7.7.7 KPLC shall seek authentication of the Performance Security from the issuing bank. It is the responsibility of the Contractor to sensitize its issuing bank on the need to respond directly and expeditiously to queries from KPLC. The period for response shall not exceed three (3) days from the date of KPLC's query. Should there be no conclusive response by the Bank within this period, such Contractor's Performance Security may be deemed as invalid and the Contract nullified, unless information to the contrary is received by KPLC two (2) days before the expiry of the Contractor's Tender Security.
- 7.7.8 Subject to the provisions of this contract, the Performance Security will be discharged by KPLC and returned to the Contractor not earlier than thirty (30) days following the date of completion of the Contractor's obligations under the contract, including any warranty obligations, under the contract.

7.8 Approval before Manufacture

- 7.8.1 All technical details and design drawings for the items to be supplied shall be submitted by the Supplier to Kenya Power for approval before manufacture.
- 7.8.2 Should the Supplier fail to observe this condition of approval before manufacture, Kenya Power may decline to accept the goods, or the Supplier shall either replace them or make alterations necessary, but in any case, Kenya Power shall incur no liability howsoever.

7.9 Inspection and Tests

- 7.9.1 KPLC or its representative(s) shall have the right to inspect and/or to test the services to confirm their conformity to the contract specifications. KPLC shall notify the Contractor in writing in a timely manner, of the identity of any representative(s) retained for these purposes. Such visit and or inspection/ test shall in no way prejudice KPLC's rights and privileges.
- 7.9.2 In appropriate circumstances, Inspection/ Test Report(s) shall be completed upon conclusion of the inspection/ tests.
- 7.9.3 The inspections and tests may be conducted in the premises of the Contractor or its subcontractor(s). If conducted on the premises of the Contractor or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to KPLC.
- 7.9.4 Should any inspected or tested services fail to conform to the specifications, KPLC may reject the Service(s), and the Contractor shall either replace or remedy the rejected services or make alterations necessary to meet specification requirements free of cost to KPLC.
- 7.9.5 KPLC's right to inspect, test and where necessary, reject the services after provision shall in no way be limited or waived by reason of the services having previously been inspected, tested and passed by KPLC or its representative(s) prior to the services performance / delivery.

- 7.9.6 For the avoidance of doubt, any acknowledgement by KPLC on the Contractor’s or sub-contractor’s document shall not be conclusive proof or evidence of satisfactory performance without duly authorized approval by KPLC.
- 7.9.7 Nothing in this clause 7.7 shall in any way release the Contractor from any warranty or other obligations under this Contract.

7.10 Pre-Shipment Verification of Conformity (PVoC)

- 7.10.1 All Suppliers of imported goods and or products must obtain a Certificate of Conformity issued by an authorized KEBS appointed partner prior to shipment.
- 7.10.2 The Certificate is a mandatory customs clearance document in Kenya. KEBS has appointed Global Inspections South Africa (Pty) Ltd, (GSIA), China Certification and Inspection (Group) Company Ltd (CCIC), Agency Societe Generale de Surveillance S.A. (SGS) and INTERTEK, to perform the PVoC program on their behalf depending on the country of supply origin. The cost of pre-shipment verification shall be borne by the Supplier.

7.11 Packaging and Labelling

- 7.11.1 The Supplier shall provide such packaging of the goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the contract.
- 7.11.2 The method of packaging, labeling and marking shall comply strictly with such special requirements as shall be specified and attached to the Tender and particular Order.
- 7.11.3 The labeling, marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the contract.
- 7.11.4 The goods shall be packed in good condition suitable for sea/air/road/rail dispatch. Hazard in transit to the final destination shall include rough handling and storage in tropical conditions.
- 7.11.5 The Supplier shall enclose a packing list in each package and all documents relating to the Order shall show the Stores Code Number detailed against the items.
- 7.11.6 The Supplier shall ensure that all cases or packages shall be marked (painted) with bright pink bands five (5) inches in width so as to form a diagonal cross on every face. All bundles and pieces must bear a conspicuous bright pink colour mark to ensure identification in any position in which they may appear on un-loading.
- 7.11.7 The Supplier shall ensure that all lettering shall be no less than seven decimal five centimeters (7.5cm) or three inches (3”) high and each package shall be marked with the shipping mark exactly as shown below: -

*Kenya Power Company Limited,
Order No.....,
Care of the Procurement Manager,
Nairobi via Mombasa, Kenya (or other port of entry if not Mombasa)*

7.12 Delivery and Documents for Foreign Goods

7.12.1 Delivery and or shipment of the goods shall be made by the Supplier to the place and in accordance with the terms specified by Kenya Power in its Schedule of Requirements.

7.12.2 For imported goods, upon shipment, the Supplier shall notify Kenya Power and the insurance company, by paper mail or facsimile the full details of the shipment including Order number, description of goods, quantity, the vessel, the airway bill number and the date, port of discharge. The Supplier shall courier, one copy to Kenya Power and another to the insurance company, a set of the following documents: -

- a) *The Supplier's invoice showing the goods description, quantity, unit price, total amount*
- b) *Non-negotiable airway bill or bill of lading*
- c) *Packing list identifying contents of each package*
- d) *Insurance certificate, where applicable*
- e) *Manufacturer's and or Supplier's credit number, Type Test and or Test Reports and their respective Certificates and KPLC's Official Order number shall be quoted on the shipping documents*
- f) *Approved drawings, brochures, catalogues and technical details*
- g) *Inspection Certificate issued by the nominated inspection agency, as per Clause 7.10 PVoC, and the Supplier's inspection report*
- h) *Summary of Acceptance Test reports signed and approved by KPLC for the items offered, and,*
- i) *Certificate of Origin of the goods.*

7.12.3 It is the responsibility of the Supplier to ensure shipping documents are received by Kenya Power at least one (1) week before the vessel docks or lands.

7.12.4 Any goods or products supplied without timely delivery or submission of the above mentioned shipping documents will not be released to importers until their quality is determined and will be held at the Supplier's expense.

7.12.5 Any late submission of shipping documents shall be treated as part of non-performance on the part of the Supplier and the Procurement Entity shall be entitled to call up the Performance Security. In addition Kenya Power shall upon demand, be entitled to receive any other amounts in excess including demurrage costs.

7.13 Delivery and Documents for Domestic Goods

7.13.1 Delivery of the goods shall be made by the Supplier to the place and in accordance with the terms specified by Kenya Power in its Schedule of Requirements.

7.13.2 The Supplier shall notify Kenya Power of the full details of the delivered goods by delivering together with the goods a full set of the following documents:-

- a) *Copies of the Supplier's invoice showing the goods description, quantity, unit price and total price*

- b) *Delivery note*
- c) *Manufacturer's and or Supplier's warranty certificate*
- d) *Packing list identifying contents of each package*

- 7.13.3 It is the responsibility of the Supplier to ensure that the delivery documents are received by Kenya Power at the designated delivery point at the time of delivery.
- 7.13.4 Any late or non-submission of the delivery documents shall be treated as part of non-performance on the part of the Supplier and Kenya Power shall be entitled to call up the Performance Security.

7.14 Transportation

- 7.14.1 Where the Supplier is required under the contract to deliver the goods FOB, transport of the goods, up to and including the point of putting the goods on board the vessel at the specified port of loading shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the contract price.
- 7.14.2 Where the Supplier is required under the contract to deliver the goods CFR to Kenya, transport of the goods to the port of discharge or such other point in Kenya as shall be specified in the contract shall be arranged and paid for by the supplier and the cost thereof shall be included in the contract price.
- 7.14.3 Where the Supplier is required under the contract to deliver the goods CFR, no further restriction shall be placed on the choice of the shipping line and or airline.
- 7.14.4 Where the Supplier is required to effect the delivery under any other terms, for example by post or to another address in the source country, the Supplier shall be required to meet all transport expenses until delivery.
- 7.14.5 In all the above cases, transportation of the goods after delivery shall be the responsibility of Kenya Power.

7.15 Insurance

- 7.15.1 The Contractor shall be responsible for and keep in force current appropriate insurance covers for its property and persons engaged in the performance and or provision of the Services under the contract.
- 7.15.2 The Contractor shall (except in respect to losses, injuries or damage resulting from any act or neglect of KPLC) indemnify and keep indemnified KPLC against all losses and claims for injuries or damage to any person or property whatsoever which may arise out of or in consequence of the contract and against all claims, demands, proceedings, damages, costs, charges, and expenses whatsoever in respect thereof or in relation thereto.

7.16 Payment

- 7.16.1 Payments shall be made promptly by KPLC and shall not be less than thirty (30) days from completion of satisfactory performance and submission of invoice together with other required and related documents or as otherwise prescribed in the contract.

- 7.16.2 Payment shall primarily be through KPLC's cheque or Real Time Gross Settlement (*RTGS*) or telegraphic transfer. Where applicable, a copy of a valid Performance Security, stamped, certified as authentic by KPLC, shall form part of the documents to be presented to KPLC before any payment is made.
- 7.16.3 A Contractor who requests for a Letter of Credit (*hereinafter abbreviated as LC*)–
- a) *Shall meet the LC bank charges levied by its bank while KPLC shall meet the LC bank charges levied by its bank.*
 - b) *Any extension and or amendment charges and any other costs that may result from the Contractor's delays, requests, mistakes or occasioned howsoever by the Contractor shall be to the Beneficiary's account.*
 - c) *The maximum number of extensions and amendments shall be limited to two (2).*
 - d) *Notwithstanding sub-clause 7.11.3 (a), should the Contractor require a confirmed LC, then all confirmation and any other related charges levied by both the Contractor's and KPLC's bank shall be to the Beneficiary's account.*
 - e) *The LC shall be opened only for the specific Order within the validity period of the contract.*
 - f) *LCs shall be partial for partial performance or full for whole performance as per the contract.*
 - g) *The Contractor shall be required to submit a proforma invoice for each lot for use in the placement of order and opening of the LC. The proforma invoice shall be on total all-inclusive costs basis.*
 - h) *A copy of the Performance Security, stamped and certified as authentic by KPLC, whose expiry date should not be less than sixty (60) days from the LC expiry date, shall form part of the documents to be presented to the Bank before any payment is effected.*
- 7.16.4 KPLC shall have the sole discretion to accept or decline any Contractor's payment request through Letters of Credit without giving any reason for any decline.

7.17 Interest

Interest payment by KPLC is inapplicable in the contract.

7.18 Prices

- 7.18.1 Subject to clause 7.14 herein below, prices charged by the Contractor for services performed under the contract shall be fixed for the period of the contract with no variations.
- 7.13.2 A price that is derived by a pre-disclosed incorporation or usage of an internationally accepted standard formula shall not be deemed to be a price variation within the meaning of this clause.

7.19 Variation of Contract

KPLC and the Contractor may vary the contract only in accordance with the following: -

- a) *the quantity variation for goods and services shall not exceed ten percent (10%) of the original contract quantity.*
- b) *the quantity variation must be executed within the period of the contract.*

7.20 Assignment

The Contractor shall not assign in whole or in part its obligations to perform under this contract, except with KPLC's prior written consent.

7.21 Subcontracts

- 7.21.1 The Contractor shall notify KPLC in writing of all subcontracts awards under this contract if not already specified in the tender. Such notification, in the original tender or obligation under the Contract shall not relieve the Contractor from any liability or obligation under the Contract.
- 7.21.2 In the event that an award is given and the contract is sub-contracted, the responsibility and onus over the contract shall rest on the Contractor who was awarded.

7.22 Project Manager

- 7.22.1 KPLC shall appoint a Project Manager who shall be an employee of KPLC and who will be responsible for supervising the execution of the Works. The names and contacts of the person appointed as the Project Manager shall be communicated to the Contractor once such appointment is made.
- 7.22.2 Except where otherwise specifically stated, the Project Manager will decide contractual matters between KPLC and the Contractor.
- 7.22.3 The Project Manager may delegate any of his duties and responsibilities to another KPLC employee and thereafter notify the Contractor of the person to whom such duties are delegated.

7.23 Defects

- 7.23.1 The Project Manager shall inspect the Contractor's work and notify the Contractor of any defects that are found. Such inspection shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a defect and to uncover and test any Works that the Project Manager considers may have a defect. Should the defect be found, the cost of uncovering and making good shall be borne by the Contractor.
- 7.23.2 The Project Manager shall give notice to the Contractor of any defects before the end of the Defects Liability Period which begins after issuance of the Certificate of Acceptance by KPLC to the Contractor. The Defects Liability Period shall be extended for as long as defects remain to be corrected.
- 7.23.3 When notice of a defect is given; the Contractor shall correct the notified defect within the length of time specified by the Project Manager's notice. If the Contractor has not corrected

a defect within the time specified in the Project Manager's notice, the Project Manager will assess the cost of having the defect corrected by other parties and such cost shall be treated as a variation and be deducted from the Contract Price.

7.23.4 The Project Manager shall issue the Contractor with a Defects Liability Certificate after the defects are corrected.

7.24 Completion and taking over

7.24.1 Upon assessment by the Project Manager that the Works are complete, KPLC shall issue the Contractor with a Certificate of Acceptance.

7.25 Retention/Defects Liability

7.25.1 KPLC shall retain 10% of the Contract Price for the duration of the Defects Liability Period after issuing the Certificate of Acceptance for the whole of the Works.

7.26 Termination of Contract

7.26.1 KPLC may, without prejudice to any other remedy for breach of contract, by written notice sent to the Contractor, terminate this contract in whole or in part due to any of the following:

-

- a) *if the Contractor fails to perform any or all of the services within the period(s) specified in the contract, or within any extension thereof granted by KPLC.*
- b) *if the Contractor fails to perform any other obligation(s) under the contract.*
- c) *if the Contractor, in the judgment of KPLC has engaged in corrupt or fraudulent practices in competing for or in executing the contract.*
- d) *by an act of force majeure.*
- e) *if the Contractor becomes insolvent or bankrupt*
- f) *if the Contractor has a receiving order issued against it, compounds with its creditors, or an order is made for its winding up (except for the purposes of its amalgamation or reconstruction), or a receiver is appointed over its or any part of its undertaking or assets, or if the Contractor suffers any other analogous action in consequence of debt.*
- g) *if the Contractor abandons or repudiates the Contract.*

7.26.2 In the event that KPLC terminates the contract in whole or in part, it may procure, upon such terms and in such manner as it deems appropriate, services similar to those undelivered or not rendered, and the Contractor shall be liable to KPLC for any excess costs for such similar services and or any other loss PROVIDED that the Contractor shall not be so liable where the termination is for convenience of KPLC.

7.26.3 The Parties may terminate the Contract by reason of an act of force majeure as provided for in the contract.

7.26.4 The Contract may automatically terminate by reason of an act of force majeure as provided for in the Contract.

7.27 Liquidated Damages

Notwithstanding and without prejudice to any other provisions of the contract, if the Contractor fails to perform any or all of the services within the period specified in the contract, KPLC shall, without prejudice to its other remedies under the contract, deduct from the contract prices, liquidated damages sum equivalent to 0.5% of the performance price per day of delay of the delayed due services up to a maximum of ten percent (10%) of the performance price of the delayed due services.

7.28 Warranty

- 7.28.1 Where applicable, the Contractor warrants that the Services provided under the contract are of the highest quality or current specification and incorporate all recent improvements unless provided otherwise in the contract. The Contractor further warrants that any materials/ equipment provided under this contract shall have no defect arising from manufacture, materials or workmanship or from any act or omission of the Contractor that may develop under normal use of the materials/ equipment provided under the conditions obtaining in Kenya.
- 7.28.2 This Warranty will remain valid for one (1) year after the services, or any part thereof as the case may be, have been performed as indicated in the contract.
- 7.28.3 KPLC shall promptly notify the Contractor in writing of any claims arising under this Warranty.
- 7.28.4 Upon receipt of such a notice, the Contractor shall, with all reasonable speed, remedy the defective services without cost to KPLC.
- 7.28.5 If the Contractor having been notified, fails to remedy the defect(s) within a reasonable period, KPLC may proceed to take such remedial action as may be necessary, at the Contractor's risk and expense and without prejudice to any other rights which KPLC may have against the Contractor under the contract.

7.29 Resolution of Disputes

- 7.29.1 KPLC and the Contractor may make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the contract.
- 7.29.2 If, after thirty (30) days from the commencement of such informal negotiations both parties have been unable to resolve amicably a contract dispute, either party may resort to resolution before a recognized local forum for the resolution of disputes.

7.30 Language and Law

The language of the contract and the law governing the contract shall be the English language and the laws of Kenya respectively unless otherwise stated.

7.31 Waiver

Any omission or failure by KPLC to exercise any of its rights or enforce any of the penalties arising from the obligations imposed on the Contractor shall in no way, manner or otherwise howsoever, alter, amend, prejudice, vary, waive or be deemed to alter, amend, prejudice, vary, waive or otherwise whatsoever any of KPLC's powers and rights as expressly provided in and as regards this contract.

7.32 Force Majeure

7.32.1 Force majeure means any circumstances beyond the control of the parties, including but not limited to:

- a) *war and other hostilities (whether war be declared or not), invasion, act of foreign enemies, mobilization, requisition or embargo;*
- b) *ionizing radiation or contamination by radio-activity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuel, radioactive toxic explosives or other hazardous properties of any explosive nuclear assembly or nuclear components thereof;*
- c) *rebellion, revolution, insurrection, military or usurped power & civil war;*
- d) *riot, commotion or disorder except where solely restricted to employees servants or agents of the parties;*
- e) *un-navigable storm or tempest at sea.*

7.32.2 Notwithstanding the provisions of the contract, neither party shall be considered to be in default or in breach of its obligations under the Contract to the extent that performance of such obligations is prevented by any circumstances of *force majeure* which arise after the contract is entered into by the parties.

7.32.3 If either party considers that any circumstances of *force majeure* are occurring or have occurred which may affect performance of its obligations it shall promptly notify the other party and provide reasonable proof of such circumstances.

7.32.4 Upon the occurrence of any circumstances of *force majeure*, the Contractor shall endeavour to continue to perform its obligations under the contract so far as is reasonably practicable. The Contractor shall notify KPLC of the steps it proposes to take including any reasonable alternative means for performance, which is not prevented by *force majeure*. The Contractor shall not take any such steps unless directed so to do by KPLC.

7.32.5 If the Contractor incurs additional costs in complying with KPLC's directions under sub clause 7.23.4, then notwithstanding the provisions of the contract, the amount thereof shall be agreed upon with KPLC and added to the contract price.

7.32.6 If circumstances of *force majeure* have occurred and shall continue for a period of twenty one (21) days then, notwithstanding that the Contractor may by reason thereof have been granted an extension of time for performance of the contract, either party shall be entitled to serve upon the other seven (7) days' notice to terminate the contract. If at the expiry of the period of twenty-eight (28) days, *force majeure* shall still continue, the contract shall terminate.

SECTION VIII – SPECIAL CONDITIONS OF CONTRACT

The Special Conditions of Contract *hereinafter abbreviated as SCC* shall form part of the Conditions of Contract. They are made in accordance with the law and KPLC's guidelines, practices, procedures and working circumstances. They shall amend, add to and vary the GCC. The clauses in this section need not therefore, be completed but must be completed by KPLC if any changes to the GCC provisions are deemed necessary. Whenever there is a conflict between the GCC and SCC, the provisions of the SCC shall prevail over those in the GCC.

No.	GCC Reference Clause	Particulars of SCC
1.	Terms of Payment	The company will pay the supplier within 30 days from submission of invoice.
2.	The minimum insurance covers shall be; <ol style="list-style-type: none"> 1. The minimum cover for insurance of the Works, Plant and Materials in respect of the Contractor's faulty design 2. The minimum cover for loss or damage to Equipment 3. The minimum cover for other property 4. The minimum cover for personal injury or death insurance <ul style="list-style-type: none"> • For the Contractor's employees • And for other people 	Five Hundred Thousand (KES. 500,000.00) AS PER WORK INJURY BENEFITS AS PER TENDER Five Hundred Thousand (KES. 500,000.00)
3.	Project Manager	The Project Manager appointed by KPLC: Name: Christopher Mwogi Address: P.O Box 30099,00100, Nairobi, Kenya Email: cmwogi@kplc.co.ke Phone +254711 0311256
4.	Defects Liability Period	2 year for replacement parts or software patches
5.	Completion Period for the works (in weeks)	TO BE INSERTED BY THE TENDERER

Signature of Tenderer.....

Date.....

SECTION IX - TENDER FORM

Date:

Tender No.

To:

The Kenya Power & Lighting Company Limited,
 Stima Plaza,
 Kolobot Road, Parklands,
 P.O Box 30099 – 00100,
Nairobi, Kenya.

Ladies and Gentlemen,

1. Having read, examined and understood the Tender Document **TENDER NO. KP1/9A.2/OT/40/ADM/17-18 PROPOSED DESIGN, INSTALLATION & COMMISSIONING OF NEW LV SWITCHBOARD FOR ELECTRICITY HOUSE NAIROBI** including all Addenda, the receipt of which is hereby duly acknowledged, we, the undersigned Tenderer, offer to support and maintenance services in accordance and conformity with the said tender document and in particular the Schedule of Prices that are made part of this Tender.
2. We undertake, if our Tender is accepted, to perform and provide the services in accordance with the Schedule of Requirements.
3. If our Tender is accepted, we will obtain the guarantee of a bank in a sum of equivalent to ten percent (10%) of the contract price for the due performance of the contract, in the form(s) prescribed by The Kenya Power & Lighting Company Limited.
4. We agree to abide by this Tender for a period of.....days (**Tenderer please indicate validity of your Tender**) from the date fixed for tender opening as per the Tender Document, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
5. This Tender, together with your written acceptance thereof and your notification of award, shall not constitute a contract, between us. The contract shall be formed between us when both parties duly sign the written contract.
6. We understand that you are not bound to accept any Tender you may receive.

Yours sincerely,

Name of Tenderer

Signature of duly authorised person signing the Tender

Name and Capacity of duly authorised person signing the Tender

Stamp or Seal of Tenderer

***NOTES:**

1. KPLC requires a validity period of at least one hundred and twenty (120) days.
2. This form must be duly signed, stamped and/or sealed.

SECTION X - CONFIDENTIAL BUSINESS QUESTIONNAIRE FORM

All Tenderers are requested to give the particulars indicated in Part 1 and either Part 2 (a), 2 (b) or 2 (c), whichever applies to your type of business. You are advised that it is a serious offence to give false information on this form.

<p>Part 1 – General</p> <p>Business Name.....</p> <p>Location of business premises.....</p> <p>Plot No.Street/ Road</p> <p>Postal Address Postal Code</p> <p>Tel No.....</p> <p>Facsimile.....</p> <p>Mobile and/ or CDMA No.....</p> <p>E-mail:</p> <p>Nature of your business</p> <p>Registration Certificate No.....</p> <p>Maximum value of business which you can handle at any time KSh.....</p> <p>Name of your BankersBranch... ..</p> <p>*Names of Tenderer’s contact person(s)</p> <p>Designation/ capacity of the Tenderer’s contact person(s)</p> <p>Address, Tel, Fax and E-mail of the Tenderer’s contact person(s)</p> <p>.....</p> <p>.....</p>

Part 2 (a) Sole Proprietor

Your name in full

NationalityCountry of origin

*Citizenship details.....

Part 2 (b) Partnership

Give details of partners as follows: -

Names	Nationality	*Citizenship Details	Shares
1.....			
2.....			
3.....			
4.....			
5.....			

Part 2 (c) Registered Company

Private or Public

State the nominal and issued capital of company-

Nominal KSh.....

Issued KSh.....

Give details of all directors as follows

Name	Nationality	*Citizenship Details	Shares
1.....			
2.....			
3.....			
4.....			
5.....			

Name of duly authorized person to sign for and on behalf of the Tenderer

.....

Capacity of the duly authorized person.....

Signature of the duly authorized person.....

NOTES TO THE TENDERERS ON THE QUESTIONNAIRE

1. *The address and contact person of the Tenderer provided above shall at all times be used for purposes of this tender.*
2. *If a Kenyan citizen, please indicate under “Citizenship Details” whether by birth, naturalization or registration.*
3. *The details on this Form are essential and compulsory for all Tenderers. **Failure to provide all the information requested shall lead to the Tenderer’s disqualification.***
4. *For foreign Tenderers please give the details of nominal and issued share capital in the currency of the country of origin of the Tenderer.*

SECTION XI A - TENDER SECURITY FORM – (BANK GUARANTEE)

(To Be Submitted On Bank’s Letterhead)

Date:

To:

The Kenya Power & Lighting Company Limited,
Stima Plaza,
Kolobot Road, Parklands,
P.O Box 30099 – 00100,
Nairobi, Kenya.

WHEREAS (name of the Tenderer) (hereinafter called “the Tenderer”) has submitted its Tender dated **TENDER NO. KP1/9A.2/OT/40/ADM/17-18 PROPOSED DESIGN, INSTALLATION & COMMISSIONING OF NEW LV SWITCHBOARD FOR ELECTRICITY HOUSE NAIROBI** (hereinafter called “the Tender”);

KNOW ALL PEOPLE by these presents that **WE**.....ofhaving our registered office at.....(hereinafter called “the Bank”), are bound unto The Kenya Power and Lighting Company Limited (hereinafter called “KPLC” which expression shall where the context so admits include its successors-in-title and assigns) in the sum of for which payment well and truly to be made to the said KPLC, the Bank binds itself, its successors, and assignees by these presents.

We undertake to pay you, upon your first written demand declaring the Tenderer to be in breach of the tender requirements and without cavil or argument, the entire sum of this guarantee being (amount of guarantee) as aforesaid, without you needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This tender guarantee will remain in force up to and including thirty (30) days after the period of tender validity, and any demand in respect thereof should reach the Bank not later than the date below.

This guarantee is valid until theday of.....20.....

EITHER

SEALED with the)
COMMON SEAL)

of the said **BANK**) _____
 thisday) **BANK SEAL**
 of20....)
)
 in the presence of :-)
)
 _____)
)
 and in the presence of:-)
)
 _____)

OR

SIGNED by the **DULY AUTHORISED**
REPRESENTATIVE(S)/ ATTORNEY(S) of
 the **BANK**

 Name(s) and Capacity (ies) of duly authorised representative(s)/ attorney(s) of the Bank

 Signature(s) of the duly authorised person(s)

NOTES TO TENDERERS AND BANKS

1. *Please note that no material additions, deletions or alterations regarding the contents of this Form shall be made to the Tender Security to be furnished by the Tenderer. If any are made, the Tender Security shall not be accepted and shall be rejected by KPLC. For the avoidance of doubt, such rejection will be treated as non-submission of the Tender Security where such Security is required in the tender.*

2. *It is the responsibility of the Tenderer to sensitize its issuing bank on the need to respond directly and expeditiously to queries from KPLC. The period for response shall not exceed three (3) days from the date of KPLC’s query. Should there be no conclusive response by the Bank within this period, such Tenderer’s Tender Security shall be deemed as invalid and the bid rejected.*

3. ***The issuing bank should address its response or communication regarding the bond to KPLC at the following e-mail address – “guarantees@kplc.co.ke”***

4. *The Tender validity period is one hundred and twenty (120) days as set out in the Invitation to Tender (at Section I of the Tender document) or as otherwise may be extended by KPLC. Therefore the Tender Security must at all times be valid for at least 30 days beyond the tender validity period.*

SECTION XI B - TENDER SECURITY FORM (SACCO SOCIETY, DEPOSIT TAKING MICRO FINANCE INSTITUTIONS, WOMEN ENTERPRISE FUND & YOUTH ENTERPRISE FUND)

(To Be Submitted On Institutions Letterhead)

Date:

To:

The Kenya Power & Lighting Company Limited,
Stima Plaza,
Kolobot Road, Parklands,
P.O Box 30099 – 00100,
Nairobi, Kenya.

WHEREAS.....(hereinafter called “the Contractor”) has undertaken, in pursuance of your **TENDER NO. KP1/9A.2/OT/40/ADM/17-18 PROPOSED DESIGN, INSTALLATION & COMMISSIONING OF NEW LV SWITCHBOARD FOR ELECTRICITY HOUSE NAIROBI** (hereinafter called “the Contract);

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with an Institution’s guarantee by an acceptable Institution for the sum specified therein as security for compliance of the Contractor’s performance obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor a Guarantee;

THEREFORE WE HEREBY AFFIRM that we are Guarantors and responsible to you, on behalf of the Contractor, up to a total of..... (*amount of the guarantee in words and figures*) and we undertake to pay you, upon your first written demand declaring the Contractor to be in default under the Contract and without cavil or argument, any sum or sums within the limits of

(*amount of guarantee*) as aforesaid, without you needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until theday of.....20....

EITHER

SEALED with the)
COMMON SEAL)
of the said **INSTITUTION**)

)

thisday) _____
)
 of20....) INSTITUTION SEAL
 in the presence of :-)
)
 _____)
)
 and in the presence of:-)
)
 _____)

OR

SIGNED by the **DULY AUTHORISED**
REPRESENTATIVE(S)/ ATTORNEY(S) of
 the **INSTITUTION**

 Name(s) and Capacity(ies) of duly authorised representative(s)/ attorney(s) of the **Institution**.

 Signature(s) of the duly authorised person(s)

NOTES TO SUPPLIERS AND INSTITUTIONS

1. *Please note that no material additions, deletions or alterations regarding the contents of this Form shall be made to the Tender Security to be furnished by the Tenderer. If any are made, the Tender Security shall not be accepted and shall be rejected by KPLC. For the avoidance of doubt, such rejection will be treated as non-submission of the Tender Security where such Security is required in the tender.*

2. *It is the responsibility of the Tenderer to sensitize its issuing institution on the need to respond directly and expeditiously to queries from KPLC. The period for response shall not exceed three (3) days from the date of KPLC’s query. Should there be no conclusive response by the institution within this period, such Tenderer’s Tender Security shall be deemed as invalid and the bid rejected.*

3. *The issuing institution should address its response or communication regarding the Tender Security to KPLC at the following e-mail address – “guarantees@kplc.co.ke”*

4. *The Tender validity period is one hundred and twenty (120) days as set out in the Invitation to Tender (at Section I of the Tender document) or as otherwise may be extended by KPLC. Therefore the Tender Security must at all times be valid for at least 30 days beyond the tender validity period.*

SECTION XI C - TENDER SECURITY – (LETTERS OF CREDIT)

The Mandatory Conditions to be included in the Letters are in two parts, A and B.

Part A

Form of Documentary credit - “Irrevocable Standby”

Applicable rules - “Must be UCP Latest Version” i.e. UCP 600 (2007 REVISION) ICC Publication No. 600.

Place of expiry - At the counters of the advising bank.

The SBLC should be available – “By Payment”

Drafts should be payable at - “SIGHT”

Documents required -

1. Beneficiary’s signed and dated statement demanding for payment under the letter of credit no..... (*Insert LC No.*) as.....(*Name of applicant*) (hereinafter called the “Tenderer”) indicating that the “Tenderer” has defaulted in the obligations of the Tenderer as stated by the Beneficiary.
2. The Original Letter of Credit and all amendments, if any.

Additional Conditions -

1. All charges levied by any bank that is party to this documentary credit are for the account of the applicant.
2. There should be no conditions requiring compliance with the specific regulations or a particular country’s Law and regulations.

Charges - All bank charges are for the account of the applicant.

*Confirmation instructions – (See notes below)

Part B

The proceeds of these Letters are payable to KPLC -

- a) if the Tenderer withdraws its Tender after the deadline for submitting Tenders but before the expiry of the period during which the Tenders must remain valid.

- b) if the Tenderer rejects a correction of an arithmetic error
- c) if the Tenderer fails to enter into a written contract in accordance with the Tender Document
- d) if the successful Tenderer fails to furnish the performance security in accordance with the Tender Document.
- e) if the Tenderer fails to extend the validity of the tender security where KPLC has extended the tender validity period in accordance with the Tender Document.

NOTES TO TENDERERS AND BANKS.

1. *Please note that should the Tender Security (LC) omit any of the above conditions the LC shall not be accepted and shall be rejected by KPLC. For the avoidance of doubt, such rejection will be treated as non-submission of the LC where such LC is required in the Tender.*
2. *It is the responsibility of the Tenderer to sensitize its issuing bank on the need to respond directly and expeditiously to any queries from KPLC. The period for response shall not three (3) days from the date of KPLC's query. Should there be no conclusive response by the Bank within this period, such Tenderer's Tender Security shall be deemed as invalid and the bid rejected.*
3. ***The issuing bank should address its response or communication regarding the bond to KPLC at the following e-mail address – "guarantees@kplc.co.ke"***
4. *The Tender validity period is one hundred and twenty (120) days as set out in the Invitation to Tender (at Section I of the Tender document) or as otherwise may be extended by KPLC. Therefore the Tender Security must at all times be valid for at least 30 days beyond the tender validity period.*
5. *All Guarantees issued by foreign banks must be confirmed by a local bank in Kenya.*

SECTION XII - MANUFACTURER’S/ PRINCIPAL’S AUTHORIZATION FORM

(To Be Submitted On Manufacturer’s/ Principal’s/ Producer’s Letterhead)

To:

The Kenya Power & Lighting Company Limited,
Stima Plaza,
Kolobot Road, Parklands,
P.O Box 30099 – 00100,
Nairobi, Kenya.

WHEREAS WE (*name of the manufacturer/ principal*) who are established and reputable manufacturers/ principal of (*name and description of the services*) having offices or factories at (*full address and physical location of offices or factory(ies)*) do hereby confirm that (*name and address of Supplier*) is authorized by us to transact in the services required against your Tender No **KP1/9A.2/OT/40/ADM/17-18** in respect of the above good and services.

WE HEREBY extend our full guarantee and warranty as per the Conditions of Contract for the services offered for provision by the above firm against the Invitation to Tender.

DATED THIS..... DAY OF.....20.....

Signature of duly authorised person for and on behalf of the Manufacturer/ Principal.

Name and Capacity of duly authorised person signing on behalf of the Manufacturer/ Principal.

NOTES TO TENDERERS & MANUFACTURERS/ PRINCIPALS/ PRODUCERS

Only a competent person in the service of the Manufacturer/ Principal should sign this letter of authority.

SECTION XIII - DECLARATION FORM

Date _____

To:

The Kenya Power & Lighting Company Limited,
 P.O Box 30099 – 00100,
 Stima Plaza, Kolobot Road, Parklands,
 Nairobi,
KENYA.

Ladies and Gentlemen,

The Tenderer i.e. (full name and complete physical and postal address) _____
 _____ declare the following: -

- a) That I/ We have not been debarred from participating in public procurement by anybody, institution or person.
- b) That I/ We have not been involved in and will not be involved in corrupt and fraudulent practices regarding public procurement anywhere.
- c) That I/We or any director of the firm or company is not a person within the meaning of paragraph 3.2 of ITT (Eligible Tenderers) of the Instruction to Tenderers.
- d) That I/ We are not insolvent, in receivership, bankrupt or in the process of being wound up and is not the subject of legal proceedings relating to the foregoing.
- e) That I/ We are **not** associated with any other Tenderer participating in this Tender.
- f) That I/We do hereby confirm that all the information given in this tender is accurate, factual and true to the best of our knowledge.

Yours sincerely,

Name of Tenderer_____
Signature of duly authorised person signing the Tender_____
Name and Capacity of duly authorised person signing the Tender_____
Stamp or Seal of Tenderer

SECTION XIV – DRAFT LETTER OF NOTIFICATION OF AWARD

To:

(Name and full address of the Successful Tenderer).....

Dear Sirs/ Madams,

RE: NOTIFICATION OF AWARD OF TENDER NO.

We refer to your Tender dated..... and are pleased to inform you that following evaluation, your Tender has been accepted as follows: -

.....
.....

This notification does not constitute a contract. The formal Contract Agreement, which is enclosed herewith shall be entered into upon expiry of seven (7) days from the date hereof but not later than thirty (30) days after expiry of tender validity pursuant to the provisions of the Public Procurement and Disposal Act, 2005 *(or as may be amended from time to time, or replaced)*.

Kindly sign, and seal the Contract Agreement. Further, initial and stamp on all pages of the documents forming the Contract that are forwarded to you with this letter. Thereafter return the signed and sealed Contract together with the documents to us within seven (7) days of the date hereof for our further action.

We take this opportunity to remind you to again note and strictly comply with the provisions as regards the Tender Security, Signing of Contract and Performance Security as stated in the Instructions to Tenderers.

We look forward to a cordial and mutually beneficial business relationship.

Yours faithfully,

FOR: THE KENYA POWER & LIGHTING COMPANY LIMITED

GENERAL MANAGER, SUPPLY CHAIN

Enclosures

SECTION XV – DRAFT LETTER OF NOTIFICATION OF REGRET

To: (Name and full address of the Unsuccessful Tenderer).....**Date:**

Dear Sirs/ Madams,

RE: NOTIFICATION OF REGRET IN RESPECT OF TENDER NO.

We refer to your Tender dated..... and regret to inform you that following evaluation, your Tender is unsuccessful. It is therefore not accepted. The brief reasons are as follows:-

- 1.
- 2.
- 3. etc...

The successful bidder was _____.

However, this notification does not reduce the validity period of your Tender Security. In this regard, we request you to relook at the provisions regarding the Tender Security, Signing of Contract and Performance Security as stated in the Instructions to Tenderers.

You may collect the tender security from our *Legal Department (Guarantees Section), on the 2nd Floor, Stima Plaza, Kolobot Road, Parklands, Nairobi* only after expiry of eighteen (18) days from the date hereof on Mondays and Wednesdays ONLY between 9.00 a.m to 12.30 pm and 2.00p.m to 4.00p.m.

It is expected that by that time KPLC and the successful bidder will have entered into a contract pursuant to the Public Procurement and Disposal Act, 2005 (*or as may be amended from time to time or replaced*). When collecting the Security, you will be required to produce the original or a certified copy of this letter.

We thank you for the interest shown in participating in this tender and wish you well in all your future endeavours.

Yours faithfully,

FOR: THE KENYA POWER & LIGHTING COMPANY LIMITED

GENERAL MANAGER, SUPPLY CHAIN

SECTION XVI - CONTRACT AGREEMENT FORM

THIS AGREEMENT made this.....day of.....**20.... BETWEEN THE KENYA POWER & LIGHTING COMPANY LIMITED**, a limited liability company duly incorporated under the Companies Act, Chapter 486 of the Laws of Kenya, with its registered office situated at Stima Plaza, Kolobot Road, Parklands, Nairobi in the Republic of Kenya and of Post Office Box Number 30099-00100, Nairobi in the Republic aforesaid (*hereinafter referred to as the “KPLC”*) of the one part,

AND

..... (*Contractor’s full name and principal place of business*) a duly registered entity according to the laws of..... (*state country*) and of Post Office Box Number.....(*full address physical and postal of Contractor*) in the Republic aforesaid, (*hereinafter referred to as the “Contractor”*) of the other part;

WHEREAS KPLC invited tenders for certain goods, that is to say for **PROPOSED DESIGN, INSTALLATION & COMMISSIONING OF NEW LV SWITCHBOARD FOR ELECTRICITY HOUSE NAIROBI** under Tender Number **KP1/9A.2/OT/40/ADM/17-18**.

AND WHEREAS KPLC has accepted the Tender by the Contractor for the services in the sum of (*KPLC specify the total amount in words which should include any payable taxes, duties and insurance where applicable e.g. Value Added Tax*) (*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 Conditions of Contract and the Tender Document.
2. Unless the context or express provision otherwise requires: -
 - a) reference to “this Agreement” includes its recitals, any schedules and documents mentioned hereunder and any reference to this Agreement or to any other document includes a reference to the other document as varied supplemented and or replaced in any manner from time to time.
 - b) any reference to any Act shall include any statutory extension, amendment, modification, re-amendment or replacement of such Act and any rule, regulation or order made thereunder.
 - c) words importing the masculine gender only, include the feminine gender

- or (as the case may be) the neutral gender.
- d) words importing the singular number only include the plural number and vice-versa and where there are two or more persons included in the expression the “*Contractor*” the covenants, agreements obligations expressed to be made or performed by the Contractor shall be deemed to be made or performed by such persons jointly and severally.
 - e) where there are two or more persons included in the expression the “*Contractor*” any act default or omission by the Contractor shall be deemed to be an act default or omission by any one or more of such persons.
3. In consideration of the payment to be made by KPLC to the Contractor as hereinbefore mentioned, the Contractor hereby covenants with KPLC to perform and provide the services and remedy any defects thereon in conformity in all respects with the provisions of the Contract.
 4. KPLC hereby covenants to pay the Contractor in consideration of the proper performance and provision of the 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.
 5. The following documents shall constitute the Contract between KPLC and the Contractor and each shall be read and construed as an integral part of the Contract: -
 - a) this Contract Agreement
 - b) the Special Conditions of Contract as per the Tender Document
 - c) the General Conditions of Contract as per the Tender Document
 - d) the Price Schedules submitted by the Contractor and agreed upon with KPLC.
 - e) the Details of Service as per KPLC’s Tender Document
 - f) the Schedule of Requirements
 - g) KPLC’s Notification of Award dated.....
 - h) the Tender Form signed by the Contractor
 - i) the Declaration Form signed by the Contractor/ successful Tenderer
 - j) the Warranty
 6. In the event of any ambiguity or conflict between the contract documents listed above, the order of precedence shall be the order in which the contract documents are listed in 5 above except where otherwise mutually agreed in writing.
 7. The Commencement Date shall be the working day immediately following the fulfillment of all the following: -
 - a) Execution of this Contract Agreement by KPLC and the Contractor.

- b) Issuance of the Performance Bond by the Contractor and confirmation of its authenticity by KPLC.
 - c) Issuance of the Official Order by KPLC to the Contractor.
 - d) Where applicable, Opening of the Letter of Credit by KPLC.
8. The period of contract validity shall begin from the Commencement date and end on either -
- a) sixty (60) days after the last date of the agreed performance schedule, or,
 - b) where a Letter of Credit is adopted as a method of payment, sixty (60) days after the expiry date of the Letter of Credit or the expiry date of the last of any such opened Letter of Credit whichever is later.
- Provided that the expiry period of the Warranty shall be as prescribed and further provided that the Warranty shall survive the expiry of the contract.
9. It shall be the responsibility of the Contractor to ensure that its Performance Security is valid at all times during the period of contract validity and further is in the full amount as contracted.
10. Any amendment, change, addition, deletion or variation howsoever to this Contract shall only be valid and effective where expressed in writing and signed by both parties.
11. No failure or delay to exercise any power, right or remedy by KPLC shall operate as a waiver of that right, power or remedy and no single or partial exercise of any other right, power or remedy.
12. Notwithstanding proper completion of performance or parts thereof, all the provisions of this Contract shall continue in full force and effect to the extent that any of them remain to be implemented or performed unless otherwise expressly agreed upon by both parties.
13. Any notice required to be given in writing to any Party herein shall be deemed to have been sufficiently served, if where delivered personally, one day after such delivery; notices by electronic mail and facsimile shall be deemed to be served one day after the date of such transmission and delivery respectively, notices sent by post shall be deemed served seven (7) days after posting by registered post (*and proof of posting shall be proof of service*), notices sent by courier shall be deemed served two (2) days after such receipt by the courier service for Local Suppliers and five (5) days for Foreign Suppliers.
14. For the purposes of Notices, the address of KPLC shall be Company Secretary, The Kenya Power & Lighting Company Limited, 7th Floor, Stima Plaza, Kolobot Road, Post Office Box

Number 30099-00100, Nairobi, Kenya, Facsimile + 254-20-3750240/ 3514485. The address for the Contractor shall be the Contractor's address as stated by it in the Confidential Business Questionnaire provided in the Tender Document.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of Kenya the day and year first above written.

SIGNED for and on behalf
of **KPLC**

COMPANY SECRETARY

SEALED with the **COMMON SEAL**
of the **CONTRACTOR**
in the presence of:-

DIRECTOR

Affix Contractor's Seal here

DIRECTOR'S FULL NAMES

and in the presence of:-

DIRECTOR/ COMPANY SECRETARY

DIRECTOR/ COMPANY SECRETARY'S FULL NAMES

DRAWN BY: -

Beatrice Meso,

Advocate,

C/o The Kenya Power & Lighting Company Limited,

7th Floor, Stima Plaza,

Kolobot Road, Parklands,

Post Office Box Number 30099-00100,

NAIROBI, KENYA,

Telephones: + 254-20-3201000/ 731

Facsimile: + 254-20-3514485/ 3750240

SECTION XVII A - PERFORMANCE SECURITY FORM (BANK GUARANTEE)

(To Be Submitted On Bank’s Letterhead)

Date:

To:

The Kenya Power & Lighting Company Limited,
Stima Plaza,
Kolobot Road, Parklands,
P.O Box 30099 – 00100,
Nairobi, Kenya.

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 Contract);

AND WHEREAS it has been stipulated by you in the said Contract that the Supplier shall furnish you with a bank guarantee by an acceptable bank for the sum specified therein as security for compliance of the Supplier’s performance obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Supplier a guarantee;

THEREFORE WE HEREBY AFFIRM that we are Guarantors and responsible to you, on behalf of the Supplier, up to a total of..... (*amount of the guarantee in words and figures*) and we undertake to pay you, upon your first written demand declaring the Supplier to be in default under the Contract and without cavil or argument, any sum or sums within the limits of
(*amount of guarantee*) as aforesaid, without you needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until theday of.....20....

EITHER

SEALED with the)
COMMON SEAL)
of the said **BANK**)
)

thisday) _____
)
 of20....) BANK SEAL
 in the presence of :-)
)
 _____)
)
 and in the presence of:-)
)
 _____)

OR

SIGNED by the **DULY AUTHORISED REPRESENTATIVE(S)/ ATTORNEY(S)** of the **BANK**

 Name(s) and Capacity(ies) of duly authorised representative(s)/ attorney(s) of the Bank

 Signature(s) of the duly authorised person(s)

NOTES TO SUPPLIERS AND BANKS

1. *Please note that no material additions, deletions or alterations regarding the contents of this Form shall be made to the Performance Security Bond (the Bond) to be furnished by the successful Tenderer/ Supplier. If any are made, the Bond may not be accepted and shall be rejected by KPLC. For the avoidance of doubt, such rejection will be treated as non-submission of the Bond where such Bond is required in the tender and Contract.*
2. *KPLC shall seek authentication of the Performance Security from the issuing bank. It is the responsibility of the Supplier to sensitize its issuing bank on the need to respond directly and expeditiously to queries from KPLC. The period for response shall not exceed five (5) days from the date of KPLC’s query. Should there be no conclusive response by the Bank within this period, such Supplier’s Performance Security may be deemed as invalid and the Contract nullified.*
3. *The issuing Bank should address its response or communication regarding the bond to KPLC at the following e-mail address – “guarantees@kplc.co.ke”*

SECTION XVII B - PERFORMANCE SECURITY (LC)

Mandatory Conditions that should appear on the Performance Security (LC).

Form of Documentary credit - “Irrevocable Standby”

Applicable rules - “Must be UCP Latest Version” i.e. UCP 600 (2007 REVISION) ICC Publication No. 600.

Place of expiry - At the counters of the advising bank.

The SBLC should be available – “By Payment”

Drafts should be payable at - “SIGHT”

Documents required -

1. Beneficiary’s signed and dated statement demanding for payment under the letter of credit no..... *(Insert LC No.)* as.....*(Name of Applicant)* (hereinafter called the “Supplier”) indicating that the “Supplier” has defaulted in the performance and adherence to and performance of the contract between the Beneficiary and the Supplier.
2. The Original Letter of Credit and all amendments, if any.

Additional Conditions -

1. All charges levied by any bank that is party to this documentary credit are for the account of the Applicant.
2. (Include) that there should be no conditions requiring compliance with the specific regulations or a particular country’s laws and regulations.

Charges - All bank charges are for the account of the Applicant.

Confirmation instructions – (See notes below)

NOTES TO SUPPLIERS AND BANKS

1. *Please note that should the Performance Security (LC) omit any of the above conditions the LC shall not be accepted and shall be rejected by KPLC. For the avoidance of doubt, such*

rejection will be treated as non-submission of the LC where such LC is required in the tender and Contract.

2. *KPLC may seek authentication of the Performance Security (LC) from the issuing bank. It is the responsibility of the Supplier to sensitize its issuing bank on the need to respond directly and expeditiously to queries from KPLC. The period for*

response shall not exceed five (5) days from the date of KPLC's query. Should there be no conclusive response by the Bank within this period, such Supplier's Performance Security (LC) may be deemed as invalid and the Contract nullified.

3. ***The issuing bank should address its response or communication regarding the bond to KPLC at the following e-mail address – “guarantees@kplc.co.ke”***
4. *All Guarantees issued by foreign banks must be confirmed by a local bank in Kenya.*

SECTION XVIII - SUPPLIER EVALUATION FORM

(This form is for information only and not to be filled in by any bidder. It is for official use by KPLC to evaluate performance of Suppliers during the contract period)

Name of Firm.....Date.....

Category of Product/Service (e.g. Marine Spares)

Period of evaluation.....

Evaluation		Re-Evaluation	
Tick as appropriate			

Parameters for supplier evaluation	Maximum Scores	Remarks	Action Taken
A. CUSTOMER SATISFACTION			
A1. Adherence to requirements(quality)			
• Adherence to Specifications			
• Number of rejections			
• Number of complaints from Users			
B. CUSTOMER CONNECTIVITY			
B1. Adherence to delivery period			
• Number of delays			
• Non delivery/More than 3 delays			
C.COMMUNICATION/RESPONSIVENESS			
Total Score			
Score last period			

PERFORMANCE LEVEL DEFINATION;

≥75% - KP1 GREEN

50% - KP2 AMBER

25% - KP3 YELLOW

≥25% - KP4 RED

RATING	RATING PER YEAR	MAX. SCORE	ACTUAL SCORE
A1. Adherence to requirements			
• Adherence to Specifications	Compliant	5 marks	
	Not compliant	0 marks	
• Number of rejections	None	5 marks	
	1-2 Rejections	3 marks	
	3 or more	0	
• Number of complaints from Users	None	5 marks	
	1-2 User complaints	3 Marks	
	3 or more	0 marks	
B1. Adherence to delivery period			
• No delay	None	5 marks	
• Number of delays	1-2 Delays	3 Marks	
• Non delivery/More than 3 delays	Failure	0 marks	
C. Communication			
• Easily accessible		5 Marks	
• Partially		3 Marks	
• Not accessible		0 Marks	
D. Responsiveness			
• Replacement of faulty goods	within 7 days	5 Marks	
	within 14 days	3 Marks	
	beyond 14 days	0 Marks	
Total score		30 marks	

Score in Percentage %

WORKINGS

$\frac{\text{Actual score}}{30} \times 100\%$	$\dots\dots\dots \times 100\% = \dots\dots\dots$
30	30

RATING: 75% - V Good, 50% - Good, 25% - Fair, Below 25% - Poor

OBSERVATIONS:**RECOMMENDATION**

		Status	Tick as appropriate
1	Grant supplier preferred status	KP1	
2	Work with supplier or develop and improve supplier	KP2 & KP3	
3	Abandon / switch suppliers	KP4	

Name:**Sign:****Date:**

Name:**Sign:****Date:**

Name:**Sign:****Date:**

SECTION XIX - PRE-BID MEETING ATTENDANCE FORM

CONFIRMATION OF PRE-BID MEETING ATTENDANCE

Name of Tenderer.....

Date of Visit.....

Name, position and signature of the Tenderer's staff visiting the site.

Name:.....

Position.....

Qualification

Signature..... Tenderer's Official Stamp.....

Site Visit conducted by Kenya Power Authorised Officer's

Name

Signature.....

TABLE OF PARAGRAPHS ON TECHNICAL SPECIFICATIONS

Paragraph	Headings	Page No.
PART A - GENERAL REQUIREMENTS		91
PART B – DETAILED TECHNICAL SPECIFICATIONS (DTS)		93
20.2.1.	Scope of works	93
20.2.2.	Incoming Electricity Supply	93
20.2.3.	Low Voltage Switchboard	94
20.2.4.	Functional Units	95
20.2.5.	Bus-bar	96
20.2.6.	Under Voltage and Over Voltage Protection	97
20.2.7.	Users Safety	97
20.2.8.	Phase Failure Relays	97
20.2.9.	L.V. Switchboard Wiring	97
20.2.10.	Instruments and Relays	98
20.2.11.	Labels	98
20.2.12.	Interlocks	98
20.2.13.	Switchboard Equipment Rupturing Capacity	99
20.2.14.	Layout of L.V. Switchboard	99
20.2.15.	Automatic Transfer Switches	99
20.2.16.	Automatic Changeover Contactor Unit	99
20.2.17.	Electricity Meter Boards	101
20.2.18.	Electrical Distribution System	101
20.2.19.	Trenching	102
20.2.20.	Laying of Cables in the Ground	103
20.2.21.	Other Cable Installation Methods	103
20.2.22.	Depth and Separation of Cables	104
20.2.23.	Types of Cables, Conditions and Wiring	105
20.2.24.	Terminations of Cables	105
20.2.25.	Voltage Drop	106
20.2.26.	Conduits	106
20.2.27.	Cable Trunking	108
20.2.28.	Cable Tray	109
20.2.29.	Continuity	109
20.2.30.	Load Balancing	109
20.2.31.	Labels	109
20.2.32.	Earthing	109
PART C - LV SWITCHBOARD ONE LINE DIAGRAM		111
PART D - LV SWITCHBOARD ROOM		114

SECTION XX - THE TECHNICAL SPECIFICATIONS

PART A - GENERAL REQUIREMENTS

1. Technical documentation shall be in English language. The specific items on offer shall be marked clearly for the goods they intend to supply.
2. The Tenderer shall submit the Schedule of Guaranteed Technical Particulars (GTP) completed by the Manufacturer. In submitting the GTP, cross-references should be made to the documents submitted.
3. Deviations from the tender specifications, if any, shall be explained in detail in writing, with supporting data including calculation sheets, detailed drawings and certified test reports and submitted together with the Tender. In submitting the deviations, cross-references should be made to the documents submitted. KPLC reserves the right to reject the goods if such deviations shall be found critical to the use and operation of the goods.
4. Detailed contact information including title, e-mail, facsimile, telephone or any other form of acceptable communication of the testing and standards body used shall be provided.
5. Where Type Test Certificates and their Reports and or Test Certificates and their Reports are translated into English, all pages of the translations must be signed and stamped by the testing authority.
6. A Copy of the manufacturer's valid quality management system certification i.e. ISO 9001 shall be submitted for evaluation. For locally manufactured goods this requirement is not mandatory but all Test Reports and Certificates shall be certified by the Kenya Bureau of Standard (KEBS) or its appointed agent(s), in which case a letter of Accreditation must be submitted.
7. In all cases where the level of galvanizing and painting is not specifically stated in the detailed Technical Specifications, the general requirement shall be for a uniform coating of thickness not less than 80 microns.
8. Suppliers are required to provide information on proper representative(s) and or workshop for back-up service and or repair and maintenance including their names, telephone, facsimile, e-mail, physical and postal addresses, along with their offers.

9. The Contractor shall bear full responsibility that he has understood the operation of the system. No deviations shall be made from this specification and standards unless waived or modified in writing by the Employer. The Contractor shall obtain from its sub-contractor a statement as to compliance with this specification without exception and/or if there are any exceptions, these shall be described in detail and included in the Contractor's Tender. The Contractor shall add a statement that no other exceptions are taken to this specification.

10. *Works to be provided by the Contractor*

The Contractor shall provide the Services as described in the scope of the contract

11. *Works to be provided by the Employer*

The Employer shall provide access to all the sites and equipment covered by the contract.

PART B – DETAILED TECHNICAL SPECIFICATIONS (DTS)

20.2.1. Scope of works

The Scope of Work covers the design, supply, deliver, installation, fixing, connection, testing, labeling, commissioning of works, cleaning, complete and working to every detail as described below and in the related specifications and /or on the drawings to the satisfaction of the Consulting Engineers (KPLC).

The Contractor shall carry out all the necessary works for successful installation of the electrical services as described and set out in this section of the Technical Specification, Bills of Quantities, other sections of the electrical documents and accompanying Drawings in accordance with the General Electrical Specification herewith.

The Works, the major elements of which are scheduled below, includes the supply of all labour, material, equipment, plant and components necessary for complete installation and setting out work in respect of the entire electrical services requirements within the proposed development and rendering it in complete working condition in respect of but not limited to the following installations:

New Installations: Supply, Installation, testing and commissioning of the following installations:

- Incoming electricity supply intake and metering;
- Individual tenant metering;
- Low Voltage Switchboards for common services;
- Sub mains and distribution;
- Standby generator power distribution;
- Electrical power distribution;
- Trunking and cable trays;
- Earthing and grounding systems.

In general, the installations shall be concealed in heavy gauge PVC conduits except in areas where surface installation is necessary. In such cases, installation will be carried out in trunking, galvanized steel conduit or cable tray as indicated on the Drawings.

20.2.2. Incoming Electricity Supply

The incoming power supply to the proposed upgrade of LV board for Electricity House, will be from two existing 630kVA transformers and terminated to a proposed free standing LV board 415V, 3 phase, 50Hz located in the basement of the building. There is also a standby generator of 500kVA.

The Contractor shall be responsible for liaising with KPLC for any new supply and liaison with KPLC in respect of organizing for timely supply of electricity to the building and carry out final

connections of the new supply cable to the new switchboard to be installed in the switch room and power supply to individual units.

The contractor shall liaise with KPLC and ensure that all incoming power cable ways are to their approval. Should the proposed cable ways require alterations, the contractor shall bring this to the attention of the engineer in good time to have the drawings revised accordingly.

The contractor shall provide detailed drawings showing the proposed routing of the incoming cable, details of manholes and trenches required and all switch-room details required for the main power intake.

20.2.3. Low Voltage Switchboard

A new main L.V. Switchboard shall be supplied, installed, tested and commissioned by a specialist switchboard manufacturer complete with the automatic change over switches, ACBs, MCCB (moulded case circuit breakers), instruments etc and all relays, metering and items necessary for the complete installation and setting to work.

The main L.V. Switchboard shall be of the industrial/ enclosed cubicle type, constructed and installed as described below.

The main L.V. switchboard, suitable for floor mounting, comprising of a sheet steel cubicle with front access, complete with busbars, incoming switch, ACBs, MCCB's etc. The switchgear shall be heavy duty, cast metal, enclosed type, dust proof, and capable of operating on load at the rated current. Contacts shall be heavy duty silver surfaced type.

The cubicles shall be rigidly constructed and shall be provided with an angle iron or heavy gauge folded steel framework, panelled in zinc anneal or galvanneal of not less than 1.6 mm gauge.

The doors shall be of similar rigid construction free from twists and warps. The hinges and locks or latches shall be brass, and attached by brass screws. The locks shall be spring types, provided with two keys, and unless otherwise specified, all locks on the one installation shall have identical keys.

The exposed unpainted metal shall be chrome plated, and removable panels where used, shall be attached by chrome plated captive milled headed brass screws and felt washers.

The Contractor should ensure that entry of cables, ducts, and conduits shall be neatly made and head boxes provided as required. All entries and openings shall be vermin-proof.

The floor mounted panel shall be erected on a 150 mm raised built-in base treated to be impervious to corrosion by rust.

All mounting brackets and additional items shall be supplied and installed to suitably support the switchboard in the position in which it is to be erected. In general mounting height to the top shall be 2.0 m.

Adequate ventilation shall be provided as necessary, and bronze mesh and suitable trim fitted to prevent entry of insects.

Dust tight enclosures shall have ample volume to dissipate heat, which may be generated in service, and doors shall be provided with a neoprene seal fitted with a channel and closing against a suitable folded edge or ridge. Moulded sealing strips may be submitted as alternative.

All bolts, nuts, screws, hinges, handles, etc. shall be corrosion resistant.

Enclosures shall comply with IEC publication 144 IP 23 for indoor equipment and IP 54 for outdoor equipment and be FORM 4 Fully Type – Tested Assemblies (TTA) or equal but approved by the Engineer and manufactured in accordance with standards ICE 439-1 or BS 5486. The bus-bars and connections shall be completely screened within the switchboard. Technical brochures and sample test certificates from switchboard manufacturers to be submitted the tender.

All cables and piping entries shall be made through glands in a plate covering the base of the cubicle.

Cases shall be rubbed down, undercoat with suitable primer and finished in not less than 2 coats of hard enamel, oven baked where practicable. The internal colour shall be white and external grey unless otherwise specified or approved.

The following standards shall apply to the LV electrical equipment.

- i. IEC61641-v2 Enclosed low voltage switchgear and control gear assemblies Guide for testing under conditions of arcing due to internal fault
- ii. IEC60044-1 Current transformers
- iii. IEC60186 Voltage transformers
- iv. IEC60529 Degrees of protection provided by enclosures
- v. IEC60947-2/3, IEC 61439-1/2 Low voltage switchgear & control gear; Power switchgear and control gear assemblies
- vi. IEC60068 Environmental testing
- vii. IEC61140 Protection against electric shock – Common aspects for installation and equipment – Basic safety publication
- viii. IEC60 947-4-1 Contactors and motor starters

To ensure that all components work in appropriate conditions, the influence of the ambient temperature and switchboard IP must be taken into account in the design of the switchboard. To ensure the reliability, the switchboard manufacturer must be able to provide, when requested, the de-rating table formally originated from the original manufacturer showing the current value allowed for the dedicated components under a certain combination of ambient temperature, IP degree and voltage

20.2.4. Functional Units

The LV Board shall provide diverse functional units according to the different application requirements. Fixed unit (IEC 61439) or full withdrawable functional units (IEC 61439) must be available for electrical distribution to achieve easy operation and maintenance.

On withdrawable version, when drawers are proposed, facility shall be offered to change the drawer status in the shortest time possible (Connected / test/ disconnected). No dedicated tool shall be required to move the mobile part from a position to another one. Operating handle/tool on drawers will be rejected.

There should be clear drawer position, which indicate the connected, test and disconnected positions. The drawer shall provide an effective mechanical latch to prevent incorrect operation to avoid unexpected position changing from one position to another. The drawers shall provide the facility to be locked to prevent unauthorized insertion/withdrawal and OPEN / CLOSE operation of circuit breaker.

In the fixed version the circuit breaker shall be padlocked in open/closed position.

In test position, drawers shall be in a situation that both upstream and downstream power connections are fully isolated from bus bar in order to ensure a maximum of safety to operators. Test position with power connection still in contact with bus bar will be rejected for safety reason.

Functional unit equipped with either air or moulded case circuit breakers (ACB, MCCB) shall provide a trip indication on drawers front face. The facility shall be offered either through the ACB mechanical indication or through the operating handle that shall move to the trip position in case an electrical protection occurs.

In case, two drawers are of the same dimensions, there shall be, as an option, a mechanical mean to prevent unwanted inter-changeability of these drawers. Software-only means will not be accepted for safety reasons.

The size of functional units should be optimised to achieve high stacking density of LV Board and shall be proposed in full or half size. Any drawer whatever its size shall be made of sheet metal material for robustness reason.

In order to allow thermal imaging analysis or device setting (in test position) the front face of all drawers should offer to authorized people the facility to be opened with a tool.

On motor starters functional units, devices association shall ensure a coordination type 2.

20.2.5. Bus-bar

Bus bars shall be made of electrolytic copper (type Cu ETP, ISO1190-1) to ensure correct thermal and electrical conductivity.

To facilitate the connection and cable access, main bus bar shall be located on the top section and shall enable an easy connection to the bus bar in the adjacent vertical section.

The main busbar should be made of copper bars spliced at each column level in order to achieve simplicity and flexibility in transportation, installation and maintenance. Sliding fishplates should be used to make the connection of the copper bars between columns.

Main bus bar design shall allow for front or back cables connection, via the top plates and all these interfacing possibilities should remain available even with no busbar position change. In order to make easy the installation, bars shall not exceed the section width.

Within a section offering a withdrawable solution, the vertical bus bar shall be located so that the withdrawable breakers or drawers can be connected directly on it without need of adapters. When the withdrawable unit is completely removed from its place, the power connection shall be covered with shutters.

To avoid fretting corrosion, tin plated on both bus bar and plugs is not accepted. The bus bars shall be designed for mounting on insulated supports that are sufficient in number to accept the electrodynamic forces resulting from the flow of the peak asymmetric short-circuit current.

This performance shall be proven with a type test certificate.

20.2.6. Under Voltage and Over Voltage Protection

To safeguard against voltage spikes suitable under voltage and over voltage protection relays shall be supplied and installed under this quotation. The relay units shall be of adjustable type and are suitable for operation under all voltage conditions anticipated. The unit shall be housed in the L.V. switchboard in the switch room.

The Contractor shall include for one under-voltage protection relay unit of -15% and over voltage protection relay unit +15%. Details shall be submitted with the tender and are fully discussed and agreed by all parties prior to placing the order.

20.2.7. Users Safety

The switchboard shall be designed to minimize the risks of occurrence of an internal arc, and whenever such an arc occurs it should prevent its effect on operators and material/equipment surrounding the switchboard.

The manufacturer who designed the equipment shall provide certificates showing evidence that the switchboard can withstand an internal arc of 85kA 0,4s. Tests shall be performed on horizontal and vertical bus bar as well as functional units and full fill the 7 criteria of IEC 61641-v2 standard concerning personal protection& assembly protection.

In case an internal arc occurs, the assembly's ingress protection shall be retained so as to avoid any foreign element penetration inside the electrical assembly.

20.2.8. Phase Failure Relays

An alarm system, to indicate when there has been a loss of one or more phases on the incoming supply and the automatic tripping of the main circuit breaker, under these fault conditions shall be supplied and installed under this contract.

20.2.9. L.V. Switchboard Wiring

Ample wiring space shall be provided within the L.V. switchboard.

Internal power connections shall be by means of copper bus bars of ample current rating and not less than 3.0mm thick, and incoming and outgoing cables are attached to terminals by means of approved cable lugs. All live copper parts shall be insulated by PVC tape except at terminals, which may need to be disconnected.

No live metal shall be exposed except by removal of normally fixed panels.

Internal control wiring shall be through PVC insulated stranded conductors not smaller than 10-amp rating. Conductors shall be neatly laid and fixed in cable trays, or bunched to approval. No loose wiring shall be accepted.

All wiring shall be terminated using approved cable lugs. The ends of each wire shall be labelled with engraved numbered or lettered plastic ferrules, matching the identification used in the wiring diagrams.

Colour coding of the separate phases, neutral and earth, shall be provided and maintained throughout the installation. Where necessary, further identification of wiring shall be provided to the extent necessary to permit any conductor to be located and traced. All colour coding of the control and local control wiring shall be provided. Voltages of control system shall clearly stated.

20.2.10. Instruments and Relays

All wiring, space and connections and other items shall be provided for ammeters, voltmeters, selector switches and the like as applicable. Meters shall be supplied and installed and shall be of the appropriate range, and complete with C.T.'s where required. Voltage selector switches shall give phase to phase, phase to neutral readings. Ammeter selector switches shall provide readings in all three phases and an off position. The accuracy of all meters V.T.'s and C.T.'s shall be class 1 or class 0.5.

Ammeters and voltmeters shall be moving iron, self-contained instruments complying with BS 89 and IEC 51 to Class 1 or better.

Instruments and relays shall be removed from the switchboard for delivery and shall be packed in cases and delivered with the associated switchboard.

All current operated instruments and relays shall be suitable for operating on 5 amp secondary windings of current transformers.

20.2.11. Labels

All switchgear shall be individually labelled showing the circuits controlled by means of laminated Formica labels and showing white letters on a black background. Wiring diagram of the L.V. switchboard shall be printed on the approved type of paper, size A3 and shall be folded and inserted in a suitably designed slot inside the switchgear door.

20.2.12. Interlocks

Provision shall be made in the L.V. Switchboard for inter-locking the incoming supply from a diesel generator such that paralleling cannot take place under any circumstances.

Interlocks of a substantial mechanical type shall be provided on each cubicle between the door and the circuit breaker such that the door cannot be opened unless the circuit breaker is in the 'OFF' position, and all live parts, which can be accidentally touched, have been disconnected.

When the door is open it shall not be possible to readily turn the circuit breaker to the 'ON' position.

20.2.13. Switchboard Equipment Rupturing Capacity

All switchboard equipment shall be entirely suited to the application and adequate space shall be provided for all items as required.

Switchboards shall be capable of withstanding the maximum fault level which may occur in the installation and shall have a short circuit rating of not less than 25 kA and capable of sustaining the maximum short circuit for a period of three seconds.

20.2.14. Layout of L.V. Switchboard

The general layout of the L. V. Switchboard is to be submitted by the contractor to the Engineer before commencing the manufacture of the new L.V. Switchboard. The final layout of the switchboard is to suit the proposed loads and mode of operation.

20.2.15. Automatic Transfer Switches

Automatic Transfer and Bypass-Isolation Switch with Microprocessor Control, shall include the following:

- a. Open transition operation. Time delay to override momentary normal source outages to delay all transfer switch and engine starting signals. Adjustable from 0.5 to 6 seconds. Transfer to alternate time delay. Adjustable from 0 to 5 minutes. Re-transfer to normal time delay which is automatically bypassed if alternate fails and normal is available. Adjustable from 0.5 to 30 minutes. Unloaded running time delay for engine generator cool down. Adjustable from 0 to 30 minutes.
- b. Close differential voltage sensing of all phases of normal source. Pickup adjustable from 85% to 100% of nominal and dropout adjustable from 75% to 98% of the pickup value. Single-phase voltage sensing and frequency sensing of alternate source. Voltage pickup adjustable from 85% to 100% of nominal. Frequency pickup adjustable from 90% to 100% of nominal.
- c. Momentary type test switch with gold plated low voltage contacts to simulate normal source failure. Two-pole double throw contacts that close when normal source fails and two-pole double contacts that open when normal source fails. Gold plated for low voltage engine start signal or other customer use. Rated 10 amperes, 32 VDC.
- d. Green signal light indicates ATS is connected to normal source. Red signal light indicates ATS is connected to alternate source. One auxiliary contact closed when ATS is connected to normal. Rated 10 amperes, 480 VAC. One auxiliary contact closed when ATS is connected to alternate. Rated 10 amperes, 480 VAC. Selection of manual or automatic re-transfer to normal.

20.2.16. Automatic Changeover Contactor Unit

(a) General

The Contractor shall supply and install complete, an automatic changeover Contactor to operate in conjunction with the KPLC supply and the standby diesel plant. The automatic changeover Contactor shall be housed within a cubicle type L.V. switchboard.

(b) Contactor Unit

The Automatic Changeover Contactor Unit shall consist of contactors feeding a common bus-bar system to which the loads are directly connected. One contactor shall control the normal mains supply and the other controls the standby diesel supply. Substantial mechanical and electrical interlocks shall be provided so that both supplies cannot be operated at the same time and shall be suitable for continuous rating and robust construction.

(c) Manual Change-Over Switches

Manual changeover switches shall be provided so that the supply can be maintained from source, normal or standby in the event of a Contactor failure. These shall be suitable for continuous rating and of robust construction. They shall be installed in a separate compartment in the L.V. Switchboard, or elsewhere to be agreed with the Engineer.

(d) Operation

The Contractor shall ensure that in the event of a KPLC mains power supply failure, the automatic changeover contactor break the connections of the Mains Supply and make the connections to the standby diesel generator set supply. When the normal supply is restored the reverse action should take place. The standby generator also operates if there is loss of one or more phase on the incoming KPLC mains supply cable.

The automatic changeover unit shall come into operation in the event of one or more of the following occurring: -

- Loss of KPLC mains supply
- Loss of one or more phases;
- Under-voltage, within prescribed limits;
- Over-voltage, within prescribed limits;
- Any other additional feature offered by the specialist manufacturers.

With the restoration of the KPLC mains supply to the normal voltage, frequency and regulation, the automatic changeover unit shall again, automatically connect the loads back onto the main supply. This taking place after a prescribed time to prevent the continual starting and stopping of the diesel generating plant, in the event of there being intermittent KPLC mains supply interruptions. Suitable timers shall be provided so that the change-back period can be adjusted and agreed with the Client. The protection relays and monitoring device shall be suitably mounted and located on the incoming supply with signal cables extended to the Diesel Generator Control Panel.

The Diesel Generator shall continue to run for a pre-determined period after the restoration of the mains supply, and then stop and revert automatically to a standby power unit ready to start-up in the event of future loss of KPLC main supply. Full operational details shall be agreed with the Engineer.

20.2.17. Electricity Meter Boards

The meter boards shall be weather proof (IP54) suitable for mounting semi recessed in walls. They shall be constructed in 16-gauge sheet steel with lockable double leaf doors. A Perspex window for electricity meter viewing will be provided to allow for meter reading without the need to open the meter board.

The meter boards shall be fitted with all mounting brackets and shall be of sufficient capacity for to accommodate KPLC. Main supply cables, KPLC. three phase meters and cut outs, ESP 415 electronic surge diverters, MCCBs.

The meter boards shall have sufficient cable ways and shall be provided with 20% spare space for any future additions.

The meter boards must meet all requirements and approval of KPLC

20.2.18. Electrical Distribution System

(a) Scope of Work

The Contractor shall supply and install, test and commission new distribution cables as indicated on the drawings and the specifications to complete the electrical distribution system, all in accordance with the IEE Wiring Regulations BS 7671.

(b) Sub-main Cables

The Contractor shall supply new PVC insulated or armoured cables with stranded copper conductors as shown on the drawings. All low and medium voltage cables shall be rated at 600/1000 Volts and shall comply with the relevant British Standard or other approved international standards. The Contractor shall supply, install, test, and commission the entire sub-main cable system.

All the sub-main cables to consumer units for lighting and power shall be drawn in conduit/ducts concealed in walls, floors and ceilings slabs of the buildings.

(c) Cables, Wiring and Accessories

This section of the Specification includes the inspection, delivery to site, unloading, complete installation, putting into commission and handing over in the approved working order, the whole of the main and auxiliary power cables and other cables and wiring as detailed herein and in the tender.

The work includes the supply, delivery and erection of all cable racks, cable cleats, conduits, trunking, pipes, Unistrut and fittings required for the support and accommodation of the cables and wiring, grouting of rag bolts for the fixing of cable racks, supports, and all required trenching. The work also includes the installation of cables and wiring within the trenches, conduit, trunking and the proper protection, marking and terminations of all such cables.

Jointing of cables shall not be permitted under this contract, as the distances are short and therefore continuous cable lengths can be used. However, where joints are permitted by the Engineer for any reason they shall be of an approved type and manufacture and of the cast resin type. Where joints are required for control cables they shall be housed within a purpose made concrete pit with lid and

jointed/terminated such that testing can easily and readily be carried out. The cables shall be as manufactured and tested in accordance with the appropriate International Standards as applicable, and the following Standards in particular shall apply: -

Copper conductors shall be provided throughout and shall comply with BS 6360/IEC 228 or BS 4109 or approved equivalent.

PVC (Polyvinyl Chloride) insulation and PVC sheath shall comply with BS 6746/IEC 227 and BS 6346 or approved equivalent.

Non-armoured PVC insulated cables shall comply with BS 6004/IEC 227 or approved equivalent.

Armoured cables with XLPE insulated copper conductors (25 mm² cross sectional area or higher) where used shall comply with BS 5467/IEC 502, IEC 811 or approved equivalent.

The tenderer should submit a fully detailed technical description and manufacturing data of the cables offered together with full test certificates of all cables and wiring provided.

All cables shall be delivered to site in the same coils as despatched from the manufacturer and the labels showing size, type and length and shall be removed only in the presence of the Engineer or his representative and handed to him.

All cables and wiring shall be of adequate rating in accordance with the relevant IEE Wiring Regulations BS 7671:2001(2004), 16th Edition, protected in conduits or trunkings, placed on cable trays, in underground pipe ducts or trenches, or when cleated to Unistrut inserts etc. safe-guarded so as to prevent danger.

The Contractor shall agree with the Engineer and the Employer route of all cables, conduit and cable trunking and shall not install such trunking or conduits until agreement and approval has been given.

The main supply cables shall be extended from the LV switchboard position in the service areas. It will be necessary for the Contractor to liaise with the Engineer when finalising the cable routes.

20.2.19. Trenching

All underground cables where not installed within pre-formed service trenches or service duct, shall be laid in pipes, ducts or buried directly in the ground, as specified for the particular case or as indicated on the Drawings.

The Contractor shall carry out all excavation, back filling, sanding, consolidation and making good, and shall remove all spoil and waste on completion. The Contractor shall include for the re-instatement of the grass and other areas such as roads and pathways where excavation has been necessary to accommodate the installation of the various controls, alarm, power and external lighting cables.

The depth of trenches shall be such as to provide the cover set out hereunder. Trenches shall be free of large stones and similar material likely to cause damage to cables, and the bottom shall be level and smooth, consolidated if necessary to provide a firm bed for cables or pipes.

Pipes or cables shall be bedded in 0.08m of sand or approved equivalent material which has been sifted through a No. 36 BS sieve, care being taken to ensure that cinders, breeze, or any other chemically active material does not come in contact with the cables at any point. After the laying of the cables or pipes, back-fill material initially consisting of a further layer of sand to provide a cover of approximately 0.08m, which shall be consolidated as necessary before final back filling and consolidation. All cables which are laid directly in the ground shall be protected by concrete or earthenware tiles.

- (i) In open ground and under pavements, the minimum cover shall be 0.6 metres.
- (ii) Under roadways subject to vehicular traffic, the minimum cover shall be 0.9 metres.
- (iii) Minimum horizontal spacing between LV cables laid in common trench shall be 0.03 metres, and between LV cables and other services laid in common trench or run adjacent, the minimum spacing shall be 0.3 metres.

Where cables are laid under roads, pathways exceeding 0.90m width, and paved areas, they shall be installed in continuous runs of approved asbestos cement or glazed earthenware pressure piping, the pipes extending 600 mm on either side of the roads etc.

The routes of the cables buried underground shall be clearly and permanently marked by concrete cable markers, as detailed on the Drawings. These shall be positioned 100 mm to the right of each cable and installed such that the distance between markers is approximately 20m and one at every change to direction. The final details to be agreed at site during the construction works to suit final external cable distribution.

Cables shall be snaked between all terminations and junction boxes to allow movement and settlement of soil.

20.2.20. Laying of Cables in the Ground

Where installation involves laying of cables directly in the ground, the cables shall be protected with pre-cast concrete cover blocks, and shall be buried at least 1.0m below ground surface. The locations of such cables shall be made evident by means of mass concrete marker posts inscribed with cast-in lettering of the word "CABLE" which shall be of dimensions and painted in colours approved by the Engineer. The marker posts shall be installed at all changes in straight horizontal alignment or at 50 m interval, whichever is the lesser; the marker posts shall be installed 1.0 m away from the cable with the lettered face parallel to and facing away from the cable.

20.2.21. Other Cable Installation Methods

Where cables are not laid directly in the ground or in prepared concrete trenches or ducts they shall be supported in reinforced Industrial nylon or aluminium alloy cable cleats bolted directly on the

building walls or to vertical or horizontal mild steel channel supports embedded in the floor or walls. Fixing centres for supports shall not exceed 600 mm.

Where several control cables are run in a common route, they may be supported on galvanised, perforated steel trays in preference to individual supports detailed above. Cable tray supports shall be suspended from secure overhead fixtures at intervals not greater than 1000 mm, and groups of cables fixed to the cable tray by PVC or other approved saddles at intervals not greater than 500 mm. In sections where cables are laid directly in the ground, power and control cables shall not run together but shall take different routes. Where cables are installed inside cable trenches they shall be run on separate galvanised steel hooks fixed on the sides of the cable trenches at intervals of not more than 500 mm, Power and control cables shall run on opposite walls inside the cable trenches.

20.2.22. Depth and Separation of Cables

Cable trenches shall be excavated or ducts laid at such a depth that the minimum distance to the top of the cable trench or duct shall comply with the following:

Minimum Clearance		
Type of Service	Vehicular Roadways	Open Ground or Foot Path
HV	1000 mm	750 mm
Others	750 mm	500 mm

Where possible, electric cables and associated ducts shall be installed such that subsequent excavations to expose another service will not disturb the electric cables and associated ducts. Where it is not possible to separate two cables by installing them along different routes, the following clearances shall be observed along parallel routes:

Type of Cable	To HV Cable	To LV Cable	To Other lower voltages	To Gas/water etc
HV	150 mm	300 mm	300 mm	300 mm
LV	300 mm	150 mm	250 mm	300 mm
Others	300 mm	250 mm	150 mm	300 mm

The spacing of cables installed at the same time shall be generally in accordance with the above table, but the Engineer may specify where circumstances permit a more economical arrangement.

As far as possible electric cables shall not be installed alongside other services except where otherwise directed. Where such segregation is not possible, then 50 mm thick concrete slabs may be constructed with the Engineers approval, to separate the services. Adequate slack shall be left at each bend of the cable laid directly in the ground.

Instrument and control cables shall as far as possible be routed separately from power cables and shall not be run on long distances on parallel routes or range to cross one another. A minimum separation of 250 mm shall be maintained between them. Power cables shall not be installed in the same ducts as instrument or control cables.

Separation between the three categories of cables shall be maintained as follows

Separation in mm

	<u>Category 1</u>	<u>Category 2</u>	<u>Category 3</u>
<u>Category 1</u> Instrument, Power and Control (over 50 V under 10 A dc or ac)	-	200	300
<u>Category 2</u> High level signals (6 to 50 V dc)	200	-	300
<u>Category 3</u> Low level signals (less than 5 V dc)	300	200	-

Only conductors carrying signals of the same category shall be contained within any one multi-core cable.

20.2.23. Types of Cables, Conditions and Wiring**(a) Power Cables**

In general, these shall be multi-core cables, insulated with PVC single wire armoured and PVC outer sheath. These cables are 600/1000 volt class to BS 6346, the conductors being copper. The numbers of cores are as indicated on the drawings and these cables shall be used for all LV distribution requirements where indicated.

For XLPE/SWA/PVC cables, 600/1000-volt class to BS 5467 for cable sizes of 25 mm² or higher shall be used where indicated.

(b) Control/Alarm Cables

Multi-core control cables are PVC/SWA and PVC sheathed overall where run in the ground with every core colour coded. Conductor sizes are to suit and details of cores and cable lengths are set out in the Drawings. Details of cables offered are to be forwarded with tender.

(c) Domestic, Lighting and Small Power

In general, these shall be PVC insulated single core cables with stranded copper conductors, to meet the general requirements of the installation.

20.2.24. Terminations of Cables

The ends of each PVC, SWA, PVC cable shall be terminated in brass compression-type cable-glands of the correct size which shall secure the cable inner sheath and ensure effective electrical continuity between the armour wires and the cubicle metal enclosure in which the cable is terminated.

Where cables are required to be terminated in terminal boxes or other items of Plant which have not been supplied by the Contractor, the Contractor shall be responsible for completing the terminations in accordance with the requirements specified above, including testing and verifying of the correct phase sequence of the cores.

Cables shall be identified inside all manholes at the cubicle terminations by tags made of brass, PVC or other types of insulating materials on which circuit identification marks shall be indelibly inscribed. Power cables shall have phase identification on each core done on tags made of crimped or

sweated sockets of the correct size. Control and protection cables shall have each core identified by an insulated numbered ferrule.

All instrumentation cables shall have their armours or screens earthed at only one end preferably at the control cubicle end.

On completion of the installation, the cables shall, in the presence of the Engineer or his representative, be subjected to the following tests as laid down in the IEE Wiring Regulations BS 76711:2001(2004), 16th Edition, and the Electric Power Act (1997).

- (a) Insulation level
- (b) Polarity

20.2.25. Voltage Drop

The Contractor shall inspect, test and ensure that the size of every cable conductor is such that the drop in voltage from the main LV switchboard to any point in the respective installations shall not exceed 4% of the normal declared voltage.

The Contractor shall inspect, test and ensure that the final circuit wiring for small power and lighting circuits shall not be less than 4.0 and 2.5 mm² respectively as stated on the Drawings.

20.2.26. Conduits

Unless otherwise installed on site all concealed conduits used shall be black rigid super high impact heavy gauge Class A PVC in accordance with BS 2782. Where steel conduits are required these shall be deemed to be included in the Contractor's price.

Where surface conduits are to be installed, or conduits other than PVC specified for the various services, these shall be of the heavy gauge Class 'B' welded and screwed steel and shall comply with BS 4568.

In general, the installation shall be concealed throughout and shall be fixed by distance type saddles spaced at not more than 900mm apart.

Conduits installed on surface shall be supported with saddles every 60mm. Conduit runs in chases shall be firmly held in position by means of substantial pipe hooks driven into wooden plugs.

Conduit PVC connections shall either be by a demountable (screwed up) or adhesive fixed and made watertight. The tube and fittings must be clean and free of all grease before applying the adhesive. When connections are made between conduit and switch boxes, care shall be taken that no rough edges or conduit stick out into the boxes.

Conduit accessories and fittings for the heavy duty PVC conduit shall match fully the requirements of the conduit used and shall be agreed. Conduit fittings for the steel conduits shall be malleable cast iron galvanised to BS 4568 with extended spouts, internally treated and cover fixing lugs.

The drawings with these specifications indicate the approximate positions only of points and switches, and it shall be the Contractor's responsibility to mark out and centre on site the accurate positions where necessary in consultation with the Engineer and the Employer. The Contractor shall be responsible for the accuracy of the final positions.

Conduit outlets and junction boxes, where used in conjunction with PVC conduit, are to be PVC manufactured to BS 4607: Part1, 1970.

Outlet boxes for lighting fittings are to be of the loop-in type where conduit installation is concealed and the Contractor shall allow one such box per fitting, except where fluorescent fittings are specified when two such boxes per fittings are used.

Flexible conduit are manufactured to BS 731 (Part 1) galvanised and with PVC outer sheath.

It shall be entirely the Contractor's responsibility to ensure that conduits and other equipment, are installed at the appropriate stage of building progress, and no extra payment shall be made for chasing, boring, cutting or any other work arising from failure to meet this requirement.

Conduits are installed in such a manner that all cables can be drawn-in after erection by means of a draw-in tape.

Where a steel conduit system is required and specified the exposed outlet boxes shall be cast metal type and flush boxes shall be cast or sheet metal. No knockouts shall be removed unless used. Where conduits enter sheet metal boxes, they shall be lock-nutted back and front. Burrs and obstructions shall be removed before installation of boxes and conduits.

No conduit shall be smaller than 20mm nor shall accommodate more than 75% of the conductors permitted under the IEE wiring regulations.

Conduits to be concealed in structures cast-insitu are or shall be secured to the steel reinforcement work with heavy binding wire, spaced not more than 900mm to prevent movement of conduit boxes during the pouring and vibrating of the concrete. Outlet boxes shall be filled with paper to prevent ingress or concrete, and all boxes shall securely fixed to the shuttering with nails or other measures, which must not be visible after removal of the shuttering unless they later can be concealed e.g. by plaster. Conduits shall be installed after the chasing work has been completed. Couplings plugged with a suitable non-metallic stopping plug shall protect all open ends of conduit.

Conduit run in chases in walls or the like shall be fixed by means of mild steel pipe hooks or saddles spaced at not more than 900 mm. Where the conduit is concealed behind the plaster it shall be sunk 20 mm below finished plaster level before application of the plaster.

Surface conduit shall also be fixed 200 mm from boxes, the boxes themselves being securely fixed. Where such an arrangement of boxes and saddles would prove to be both unsightly and unnecessary, short lengths of conduit not exceeding 900mm between boxes need not be secured further than by connection to the adjacent boxes. In such cases the Engineer reserves his right to insist upon having

additional fixings provided should he for any reason whatsoever consider additional fixings necessary.

Special care should be taken to prevent dirt and plaster to enter any section of conduit system.

All bends in conduits shall be formed without any decrease or increase of the cross section diameter of the conduits. The radius of the bend shall not to be less than indicated by British Standard. For concealed work this radius should be increased. No manufactured tees, elbows, and bends will be permitted. All conduits shall be thoroughly cleaned for sharp edges.

The conduits shall be installed avoiding unnecessary bends or changes in directions. Conduits shall be laid in straight lines. Where straight rows of conduits are installed, inspection boxes shall be placed at not more than 15 metre intervals. There shall not be more than 4 easy bends or 2 right-angle bends between boxes.

Sub-mains conductors shall not be bunched in the same conduit as other circuits.

Lighting sub-circuits shall not be enclosed in the same conduit as general-purpose power sub-circuits.

Single-phase sub-circuits shall not be enclosed in the same conduit as three-phase sub-circuit.

20.2.27. Cable Trunking

The Contractor shall supply new install, test all single, two and three compartments cable trunking installed on the site to ensure that they are electrically and mechanically sound. All trunking are or shall be provided with removable covers of an agreed and appropriate length for handling, removal and servicing. The colour of the trunking shall be agreed to suit the Employer, the Contractor including in his prices for factory painting in a colour agreed with the Architect.

In general all trunking shall be manufactured by a renowned company. The cable trunking shall be made from hot galvanised sheet metal and approved to CEI 23-31 standards. It shall be factory painted externally where normally visible to match the finish of the walls as approved by the Architect and to suit the requirements of the other areas as agreed. A continuous cover of the same material are provided and fitted, for all areas except as for the laboratory trunking and cover screws so arranged that no sharp protrusions occur within the wiring space.

The mounting height of the trunking shall be agreed in general and shall be skirting in all working areas.

The trunking shall be complete with all supports, tee-pieces, angles, fixings, fillets, couplings, bends etc. as required and as necessary to complete the installation.

The trunking shall be sized in compliance with the capacity Table issued by the B.E.S.A.; the Contractor shall therefore inspect and ensure that the size all trunkings comply with this requirement.

Each conduit take-off from the cable trunk shall be lock-nutted on both sides, with no excess conduit protruding into the cable trunk unless it is properly bushed.

The Contractor shall inspect and ensure that the maximum number of cables in the trunkings shall be that in aggregate would occupy 50% of the cross sectional area of the trunking.

UPVC trunking shall, unless otherwise specified be manufactured to BS 5750 part 2. All sections shall be rigidly fixed together and fixed to building structure at intervals of not more than 1200mm.

20.2.28. Cable Tray

The Contractor shall inspect and test to ensure that cable trays are manufactured of perforated enamelled steel plate with returned flanges and with suspensions at intervals of not more than 1000mm. The final sizes shall be determined by the Contractor to suit the requirements of the installations.

20.2.29. Continuity

The Contractor shall inspect, test all conduits, cable trunking and cable tray to ensure that they are mechanically and electrically continuous throughout. Where steel conduits cross expansion joints, flexible steel conduit sections, PVC sheathed are inserted, or other approved means used to provide the necessary continuity and flexibility.

20.2.30. Load Balancing

The Contractor shall test and ensure that the electrical load in respect of the entire installation is balanced to the satisfaction of KPLC and the Engineer. The Contractor shall carry out such alterations to the power off takes at the switchboard and at the distribution/control cubicle connections as may be required to balance the electrical load of the installation.

20.2.31. Labels

All items of equipment, apparatus and the like should be clearly labelled, labels being as previously specified. Starters controlling motors shall be labelled identically such that the motor and starting are readily identified.

20.2.32. Earthing

The Contractor shall install, test and commission the entire earthing installation in accordance with the IEE Wiring regulations BS 7671. The entire system of metallic conduits and trunking, metallic sheaths of cables, cases and enclosures of switch-gear and electrical apparatus shall be connected to the earth point, according to the current rules and regulations. The Contractor is reminded that the resistance of the earth conductor from the earth-electrode to any point in the earthing system shall not exceed 0.5 ohms.

The Contractor shall supply and install all additional conductors, cables, tapes, earthing rods, inspection pits and all associated items for the installation of the complete earthing system.

The Contractor shall carry out earth resistivity tests to determine the best location for the main earth electrode. The results of such tests shall be clearly indicated on a site plan and submitted to the Engineer for approval 21 days prior to locating of the main earth electrodes.

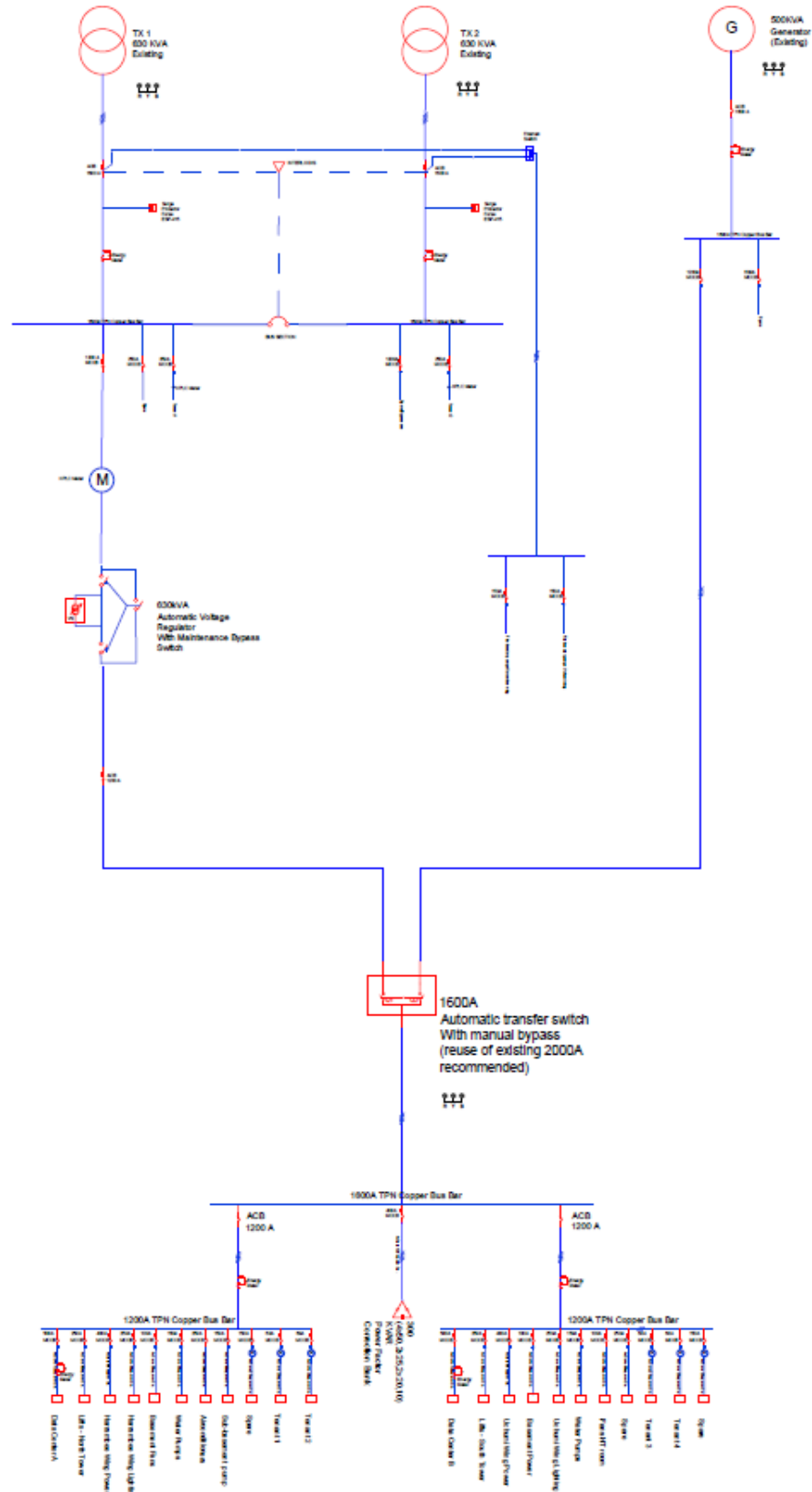
The earth tape or cable between the main earth terminal and the earth electrodes shall be of high conductivity copper.

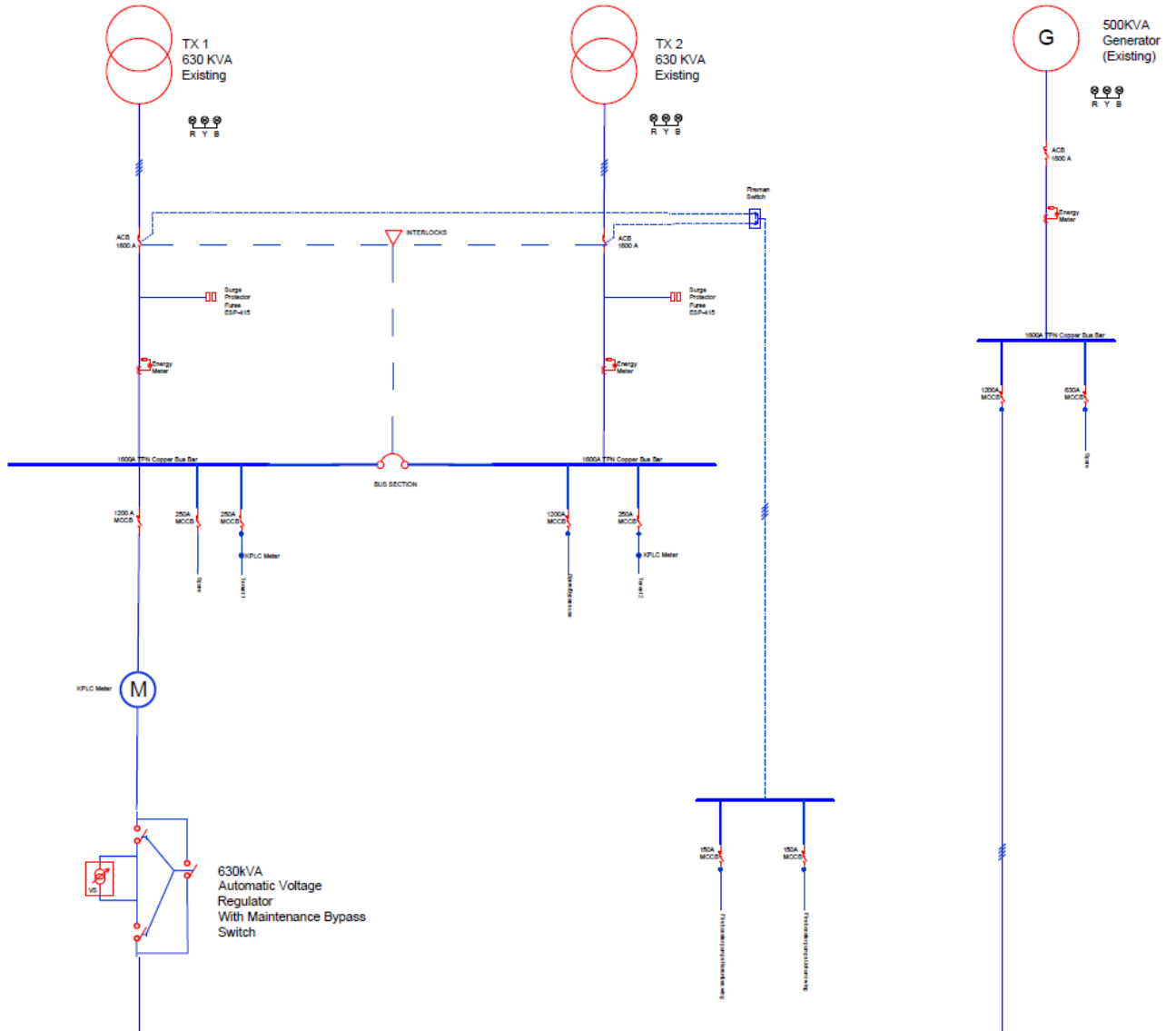
The earthing shall be carried out to an externally positioned inspection/earthing rod pits by means of copper tape (25 x 3.5mm) or the equivalent stranded copper conductor. The pits shall be complete with an inspection lid such that access to the rods shall be readily available. The number of pits or rods will be dependent upon the values recorded during the testing and it shall be deemed that the Contractor has included in his tender for all necessary materials to meet the requirements.

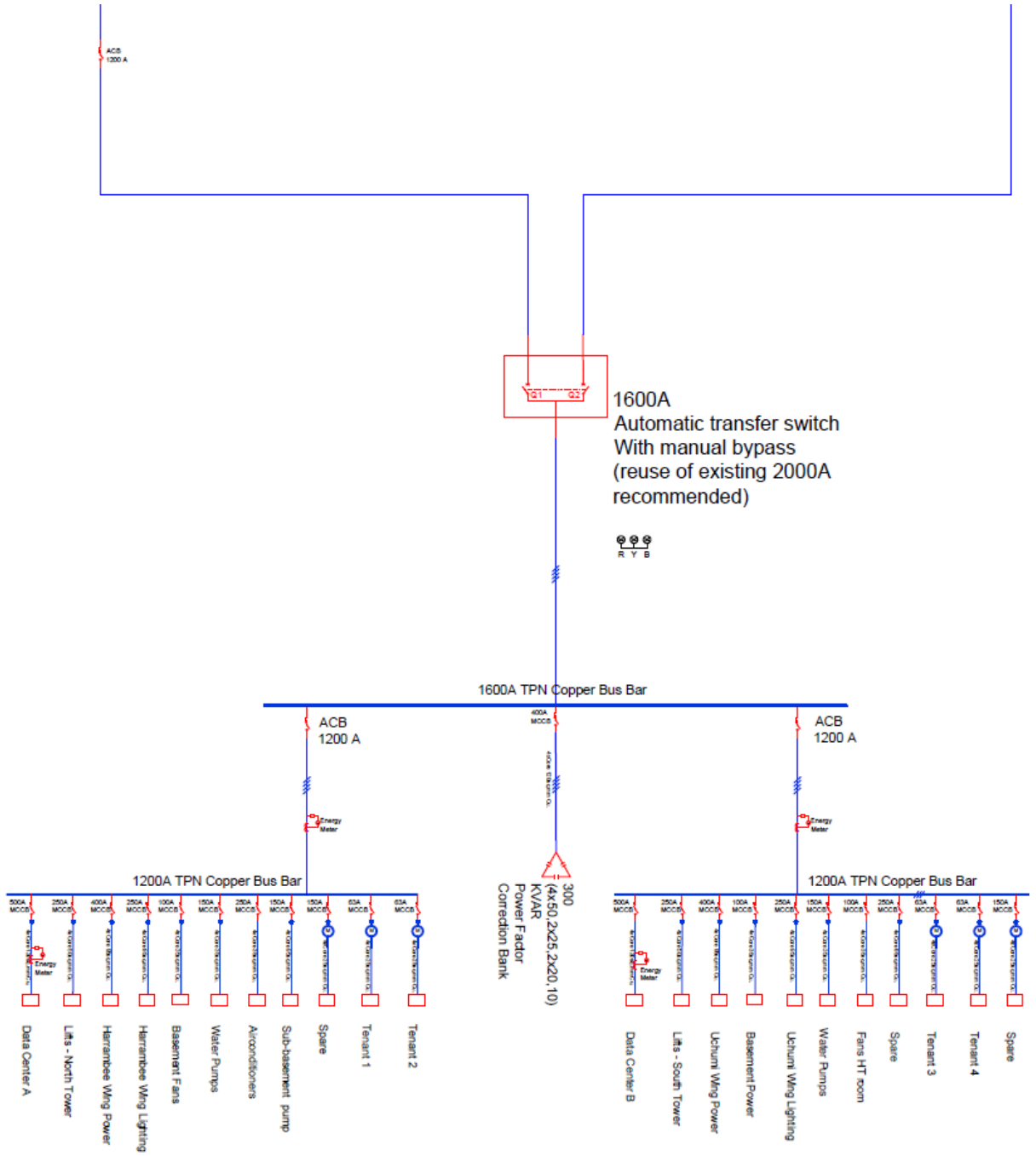
The earthing requirements, while being in accordance with the power supply authority regulations, shall also be fully in accordance with the requirements of the Institution of Electrical Engineers, Wiring Regulations BS 7671: 1992, requirements for electrical installations, together with the British Standard Code of Practice BS 7430: 1991.

The Contractor shall include for the bonding up complete of all sinks, taps, pipe work, metal branches and other similar items as required by the IEE Wiring Regulations, all details shall be agreed, this being particularly important in kitchen areas, pump houses and toilets.

PART C - LV SWITCHBOARD ONE LINE DIAGRAM

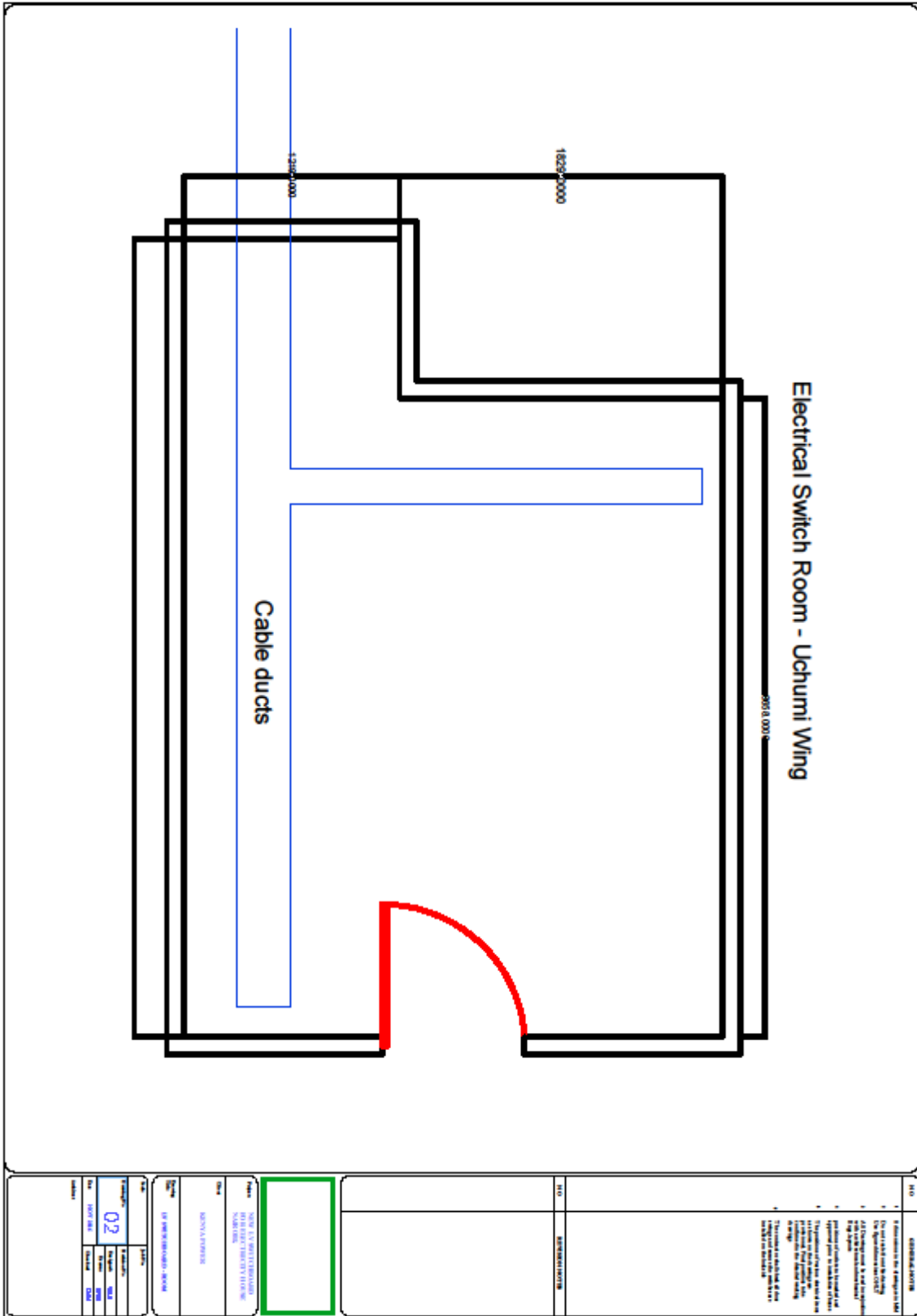






These on-line diagram act as a guide in preparing detail working drawings.

PART D - LV SWITCHBOARD ROOM



PART E- OVERAL BUILDING PLAN

