

**COMMUNICATION AUTHORITY OF KENYA
PROPOSED ELECTRICAL INSTALLATION FOR LOW VOLTAGE SWITCHGEAR
BILLS OF QUANTITIES**

Notes to all Tenderers

These notes shall form an important part of the tender document.

Important: The site for the proposed works is an occupied premises with a number of existing installations. The contractor will be required to ensure normal power supply to the building is maintained throughout and not interfered with throughout the entire period of this exercise. The contractor will be required to take all precaution and care so that no damage will occur to the existing installations on site. The contractor is also advised to secure all the necessary insurance policies as he will be solely held responsible for any damages to the existing system, injuries to persons resulting from his activities and/or interference with normal operations of the building that may result from his negligence, actions or otherwise.

- 1) The tenderer is required to check the number of pages in this document and should any be found to be missing or the figures indistinct, he must inform the procurement officer at once and have the same rectified. Should the tenderer be in doubt about the precise meaning of any item, word or figures, or for any reason whatsoever observe any apparent omission of words or figures, he must inform the procurement officer in order that the clarification is given 5 days before the date for the submission of the tenders.
- 2) No liability whatsoever will be admitted nor claim allowed in respect of errors in the completed tender due to mistakes in this document which should have been rectified in the manner described above.
- 3) The tenderer shall not alter or otherwise qualify the text of this specification. Any alteration or qualification made without authority will be ignored and the text of the specification as printed will be adhered to.
- 4) The tenderer shall be deemed to have made allowances in his unit prices generally to cover items of preliminaries or additions to Prime cost Sums or other items, if those have not been priced against the respective items.
- 5) **The Tenderer's price shall include all government taxes including duties. etc but only VAT will be worked out as a percentage of the total in the Summary Page**
- 6) In no case will any expenses incurred by the tenderer in preparation of this tender be reimbursed.

Section No. 1
PRELIMINARIES
INSTRUCTIONS TO TENDERERS

**COMMUNICATION AUTHORITY OF KENYA
PROPOSED ELECTRICAL INSTALLATION FOR LOW VOLTAGE SWITCHGEAR
BILLS OF QUANTITIES**

- 8) The specifications must be priced in Kenya Currency i.e. Shillings and Cents.
- 9) The quantities given in the bills of quantities are only for guidance. Precise re-measurements will be done at the end of the contract and the contractor will only be paid for workdone
- 11) The tenderer to note this is a very fast-track assignment.
9. The works shall be carried out in accordance with provisions of the latest Edition of Institution of Engineering and Technology Wiring Regulations, the most current Kenya Standards governing such works, NEMA Regulations and relevant provisions of the current Kenya Power by-laws. The contractor is also presumed to be familiar with the standard General Specifications governing such works; a copy can however be obtained from our office any working day. The Particular Specifications have been detailed in the drawings and Bills of Quantities, but the contractor is advised to seek clarification from the procurement officer on any matter whatsoever where he has the slightest of doubts.

Section No. 1
PRELIMINARIES
INSTRUCTIONS TO TENDERERS

**COMMUNICATION AUTHORITY OF KENYA
PROPOSED ELECTRICAL INSTALLATION FOR LOW VOLTAGE SWITCHGEAR
BILLS OF QUANTITIES**

Item No	Description	Quantity	Rate	Amount
	Allow sums for all costs which the Contractor may incur in terms of any or all of descriptions covered in the schedule below. Submit full details.			
1/1/1	Cost of 10% Bank guaranty for performance Bond		SUM	
1/1/2	Preparation of construction or shop drawings.		SUM	
1/1/3	Insurance.		SUM	
1/1/4	Completion documents: Comprising As built drawings, manufacturer's technical product catalogues, users manuals, maintenance manuals, operating manuals, as installed drawings, test certificates, etc. {NOTE: Penultimate valuation will not be paid until these are fully availed & signed off by the Engineer}		SUM	
1/1/5	Testing and commissioning of the entire installations set complete with all accessories, interconnections, controls, BMS link & activation and the necessary programing. All the testing and commissioning procedures and results to be documented and handed over to the Project Engineer. Proper settings of all the equipment to be carried out on or before commisioning and schedules documented.		SUM	
1/1/6	12 months maintenance for the new installations during the defect liability period from date of practical completion.		SUM	
1/1/7	Training of client personnel on maintenance and operations of the newly installed equipment.		SUM	
	Carried to Final Summary		KES	
	Section No. 1 PRELIMINARIES Bill No. 1 PRELIMINARIES			

**COMMUNICATION AUTHORITY OF KENYA
PROPOSED ELECTRICAL INSTALLATION FOR LOW VOLTAGE SWITCHGEAR
BILLS OF QUANTITIES**

Item No	Description	Quantity	Rate	Amount
2/1/1	<p>AVR BY-PASS BOARD</p> <p>a) Free-standing purpose made front access bottom cable entry switchboard as Schneider switchgear IP42 or approved equivalent manufactured in 14SWG mild steel sheet and finished in cream (or appropriate colour) powder coating as shown on the schematic (the other details as per Particular Specification), complete with the following:-</p> <p>b) 5 No. 800A TPN copper bus rated short time withstand current $I_{cw}(KA/1s)$ 25/1s and Peak withstand current $I_{pk}(KA)$ 50</p> <p>c) Main Incomer to the stabilizer 2No.800A 3Pole MCCB</p> <p>d) Space for cut-outs, CTS and meter. The spaces to be provided with punched studs for installing kpic meter seals</p> <p>e) MANUAL BY-PASS ASSEMBLY 2No. 800A TPN Manual by-pass switch mechanical interlocked.</p> <p>(Note: The entire switchboard assembly to be Form 3b)</p> <p>f) Heavy duty rubber lining for all the perspex viewing windows</p> <p>g) Carry out comprehensive labeling of all the bus bars, circuit breakers etc. indicating the areas served, outgoing cable sizes etc.</p>	No	1	
	Carried Forward to Summary of Section No. 2		KES	
	<p>Section No. 2 LOW VOLTAGE 415V 50Hz SWITCHBOARDS Bill No. 1 AVR By pass Board</p>			

**COMMUNICATION AUTHORITY OF KENYA
PROPOSED ELECTRICAL INSTALLATION FOR LOW VOLTAGE SWITCHGEAR
BILLS OF QUANTITIES**

Item No	Description	Quantity	Rate	Amount
2/2/1	<p>GENERATOR SELECTOR BOARD as per schematic</p> <p>The Panel should be free standing, FTTA, modular, extensible, metal clad, cubicle pattern to IP42 rating, Form 3b separation.</p> <p>The Panel should comprise of a termination point for connection of remote signals required</p> <p>The Panel should comprise of a set digital energy multimeter (complete with current transformers and fuse holder/fuses) for indication of voltage, current, kW, etc.</p> <p>The switchboard should comprise the following switchgear:</p> <p>A Generator Control Unit for automatically sending signal command to the breaker of the duty Generator.</p> <p>Check logic circuitry for performing the progressive function of verifying voltage and phase angle conditions and ensuring that they are within preset limits, before allowing the breaker(s) to close and any other necessary circuitry and programing for proper operation.</p> <p>To operate such that the generator on duty operates for set number of hours and switch to the slave which becomes master alternately on achieving set number of hours</p> <p>Should the duty generator fail to start on mains outage, the slave should start after 30 seconds of failure of the master to start or after two (2) consecutive abortive cranking of the duty generator.</p> <p>CABLE ENTRY:- TOP Cable entry type</p> <p style="padding-left: 40px;">The sub-board should comprise of a termination point for connection of remote signals for Mains available & Mains on Load, Generator Available & Generator on load, Other details as per particular specifications.</p> <p style="padding-left: 40px;">The switchboard should comprise the following:-</p>			
	Carried Forward		KES	
	<p>Section No. 2 LOW VOLTAGE 415V 50Hz SWITCHBOARDS Bill No. 2 Generator Selector Board</p>			

COMMUNICATION AUTHORITY OF KENYA
PROPOSED ELECTRICAL INSTALLATION FOR LOW VOLTAGE SWITCHGEAR
BILLS OF QUANTITIES

	Brought Forward		KES	
	<p>BUSBARS RATINGS</p> <p>a) 5 No. 800A TPN copper busbar cross section area 10x50mm with rated short time withstand current $I_{cw}(KA/1s)$ 35/1s and Peak withstand current $I_{pk}(KA)$ 50</p> <p>INCOMERS</p> <p>b) 2No.800 Amps 3P mechanically interlocked motorised MCCBs and associated PLC, with adjustable overcurrent settings, having a short circuit breaking capacity of 50KA at 415ac, 50Hz.</p> <p>OUTGOERS</p> <p>c) 2No. 800Amp 3P MCCB with adjustable overcurrent settings, having a short circuit breaking capacity of 100KA/1Sec at 415Vac,50Hz.</p>	No	1	
	Carried Forward to Summary of Section No. 2		KES	
	<p>Section No. 2 LOW VOLTAGE 415V 50Hz SWITCHBOARDS Bill No. 2 Generator Selector Board</p>			

COMMUNICATION AUTHORITY OF KENYA
PROPOSED ELECTRICAL INSTALLATION FOR LOW VOLTAGE SWITCHGEAR
BILLS OF QUANTITIES

Item No	Description	Quantity	Rate	Amount
	NEW LOW VOLTAGE BOARD			
2/3/1	<p>NEW LOW VOLTAGE PANEL as per schematic drawing</p> <p>The Sub-board should be free standing, FTTA, modular, extensible, metal clad, cubicle pattern to IP42 rating, Form 3b separation.</p> <p>The Sub-board should comprise of a termination point for connection of remote signals required</p> <p>The Sub-board should comprise of a set digital energy power check meter (complete with current transformers and fuse holder/fuses) for indication of voltage, current, kW, etc.</p> <p>INCOMER</p> <p>a) 1No. Supply & Install a 320Amp 3P MCCB.</p> <p>OUTGOERS</p> <p>b) 7No. 100 Amp 3P MCCB's c) 3No. Spare spaces</p>	No	1	
2/3/2	Allow sum for labelling all the boards and the circuits.		SUM	
2/3/3	Allow for recovery of the existing equipment and cables that are being replaced in the power rooms and hand over the same to the client. The bidders are requested to visit site and determine the scope of the works.	Item		
	Carried Forward to Summary of Section No. 2		KES	
	Section No. 2 LOW VOLTAGE 415V 50Hz SWITCHBOARDS Bill No. 3 New Low Voltage Power Distribution			

COMMUNICATION AUTHORITY OF KENYA
 PROPOSED ELECTRICAL INSTALLATION FOR LOW VOLTAGE SWITCHGEAR
 BILLS OF QUANTITIES

Bill No		Page No		Amount
	Section No. 2			
	LOW VOLTAGE 415V 50Hz SWITCHBOARDS			
	SECTION SUMMARY - LOW VOLTAGE 415V 50Hz SWITCHBOARDS			
2/1	AVR By pass Board	4		
2/2	Generator Selector Board	6		
2/3	New Low Voltage Power Distribution	7		
	Carried to Final Summary		KES	
	Section No. 2			
	LOW VOLTAGE 415V 50Hz SWITCHBOARDS			

**COMMUNICATION AUTHORITY OF KENYA
PROPOSED ELECTRICAL INSTALLATION FOR LOW VOLTAGE SWITCHGEAR
BILLS OF QUANTITIES**

Item No	Description	Quantity	Rate	Amount
3/1/1	<p>AUTOMATIC VOLTAGE STABILIZER: Automatic Voltage stabilizer c/w the features outlined in the particular specifications herein. The main specifications of the AVS are:</p> <ul style="list-style-type: none"> i) 650KVA Rated AVS Three Phase with Independent Regulation on each phase ii) Input: 415 ± 25% (3P+N) Output: 400 ± 1% (3P+N) C/w all software and hardware necessary for operation. Must be BMS compatible & ready with MODBUS (RTU) protocol MODBUS (RTU) compatible Gateway to be supplied in event of different protocol. Should include Enclosed emergency trip push button and associated cabling. iii) Operation: Independent correction for each Phase v Output: + 1% of 415V/240V vi Frequency 50Hz + 1% vii. Rated Current: 910 Amps viii Admitted Load Variation 0 to 100% ix. Admitted Load unbalance up to 100% x. Correction Speed:0.65ms/V xi. Waveform distortion <0.2% xii. Efficiency 98% xiii. Cooling: Natural air cooled (free convection without fans) xiv. Ambient temperature: -10o C to +40 o C xv. Storage temperature: -20o C to +60 o C xvi. Relative Humidity: 90% (without ondensate) xvii The AVR must be fitted with the following <ul style="list-style-type: none"> a) Digital meter b) Surge arrestors for lightening protection c) Over/under voltage protection d) Thermal relay e) Soft start f) Reverse phase sequence and phase failure protection. g) Tropicalization version h) color RAL 7035 xviii Warranty: Not less than 2 Years xix State Dimensions of the AVR (WxDxH) xx State Weight of the AVR. 			
	Carried Forward		KES	
	<p>Section No. 3 VOLTAGE STABLIZER EQUIPMENT Bill No. 1 VOLTAGE STABILIZER EQUIPMENT</p>			

**COMMUNICATION AUTHORITY OF KENYA
PROPOSED ELECTRICAL INSTALLATION FOR LOW VOLTAGE SWITCHGEAR
BILLS OF QUANTITIES**

	Brought Forward			KES	
	xxi State Protection degree of the AVR. xxi State Make, country of origin and model of the AVR.	No	1		
	Carried to Final Summary			KES	
	Section No. 3 VOLTAGE STABLIZER EQUIPMENT Bill No. 1 VOLTAGE STABILIZER EQUIPMENT				

**COMMUNICATION AUTHORITY OF KENYA
PROPOSED ELECTRICAL INSTALLATION FOR LOW VOLTAGE SWITCHGEAR
BILLS OF QUANTITIES**

Item No	Description	Quantity	Rate	Amount
4/1/1	From existing 630KVA Transformer to AVR BYPASS BOARD Through the STABILZER EQUIPMENT			
	1Cx630mm ² PVC/SWA/PVC CU cables laid in the trench.	m	200	
4/1/2	Cable glands for CU cables above	No	32	
4/1/3	Cable lugs for CU cables above complete with hydraulic crimping	No	32	
4/1/4	From BYPASS BOARD TO NEW CHANGEOVER.			
	1Cx630mm ² PVC/SWA/PVC CU cables laid on cable tray	m	40	
4/1/5	Cable glands for CU cables above	No	8	
4/1/6	Cable lugs for CU cables above complete with hydraulic crimping	No	8	
4/1/7	From EXISTING GENERATOR TO NEW GENERATOR SELECTOR BOARD.			
	1Cx400mm ² PVC/SWA/PVC CU cables laid in 2RUNS OF 400mm ² cable on each phase in the trench.	m	1,200	
4/1/8	Cable glands for CU cables above	No	8	
4/1/9	Cable lugs for CU cables above complete with hydraulic crimping	No	8	
4/1/10	From NEW GENERATOR SELECTOR BOARD TO NEW CHANGEOVER BOARD.			
	1Cx400mm ² PVC/SWA/PVC CU cables laid in 2RUNS OF 400mm ² cable on each phase in the trench.	m	1,200	
4/1/11	Cable glands for CU cables above	No	8	
4/1/12	Cable lugs for CU cables above complete with hydraulic crimping	No	8	
	Carried Forward			
	Section No. 4 ELECTRICAL CABLING Bill No. 1 Electrical Cabling			KES

**COMMUNICATION AUTHORITY OF KENYA
PROPOSED ELECTRICAL INSTALLATION FOR LOW VOLTAGE SWITCHGEAR
BILLS OF QUANTITIES**

Brought Forward			KES	
4/1/13	From the NEW GENERATOR TO NEW GENERATOR SELECTOR BOARD. 1Cx630mm ² PVC/SWA/PVC CU cables laid on cable tray	m	50	
4/1/14	Cable glands for CU cables above	No	8	
4/1/15	Cable lugs for CU cables above complete with hydraulic crimping	No	8	
4/1/16	From NEW LV BOARD TO NEW CHANGEOVER BOARD. 4Cx185mm ² PVC/SWA/PVC CU cables laid in the trench.	m	150	
4/1/17	Cable glands for CU cables above	No	2	
4/1/18	Cable lugs for CU cables above complete with hydraulic crimping	No	8	
Carried to Final Summary			KES	
Section No. 4 ELECTRICAL CABLING Bill No. 1 Electrical Cabling				

COMMUNICATION AUTHORITY OF KENYA
PROPOSED ELECTRICAL INSTALLATION FOR LOW VOLTAGE SWITCHGEAR
BILLS OF QUANTITIES

Item No	Description	Quantity	Rate	Amount
	<p>DUCT WORK, MANHOLE AND CABLE TRAYS</p> <p>Supply, install ,test and commission and put to work the following:</p>			
5/1/1	150mm diameter HG PVC duct for power supply from the Main power house to the small power house	m	600	
5/1/2	As above but with concrete surround	m	20	
5/1/3	Excavate trenches for the duct above, average 700mm, remove soft earth, lay duct, cover with "DANGER - HATARI" tiles, back fill with soil and compact to natural ground level.	m	150	
5/1/4	Build 1000x1000x1000mm deep power manhole with plaster and heavy duty EAFW steel cover	m	10	
5/1/5	<p>CABLE LADDER FOR POWER</p> <p>400mm x 65mm cable ladder produced in Fe P11 Carbon steel hot dip galvanised after production in compliance with UNI E 14.07.000.0 Standard project complying with CEI 7-6 Standard and BS 729.</p> <ul style="list-style-type: none"> • Standard lengths 3 meters • Standard height 65mm • Standard thickness 1.5mm <p>Retainer interaxis 300mm</p> <ul style="list-style-type: none"> • The profile to be made in away to make the cable ladder strong and resistant to bending and twisting • All conners and branches to have a wide curving angle (standard 300mm) • product to be easy to mount, practical and safe and cables to bve well ventillted • industrial application 	m	15	
	Carried Forward		KES	
	<p>Section No. 5 POWER RETICULATION Bill No. 1 DuctWork and Power Manhole</p>			

COMMUNICATION AUTHORITY OF KENYA
PROPOSED ELECTRICAL INSTALLATION FOR LOW VOLTAGE SWITCHGEAR
BILLS OF QUANTITIES

	Brought Forward			KES	
5/1/6	<p>300mmx130mm punched base cable trays IP20 open without mounting cover. Produced in Fe P11 carbon steel hot dip galvanised after production in compliance with UNI E 14.07.000.0 standard project complying with CEI 7-6 Standard and BS 729.</p> <p>Standard length 3 metres and height 130mm, thickness 1.5mm.</p> <p>Resistant to atmospheric and chemical (water, saline solution and mineral and oil bases) agents.</p>	m	50		
	Carried to Final Summary			KES	
	<p>Section No. 5 POWER RETICULATION Bill No. 1 DuctWork and Power Manhole</p>				

**COMMUNICATION AUTHORITY OF KENYA
PROPOSED ELECTRICAL INSTALLATION FOR LOW VOLTAGE SWITCHGEAR
BILLS OF QUANTITIES**

Item No	Description	Quantity	Rate	Amount
	EARTHING FOR THE GENERATORS			
6/1/1	Supply & Install Earthing Matt for Body Earthing of Generator set complete with a copper lattice matt measuring 1000mm X 1000mm constructed with copper tapes measuring 25mm X 3mm	No 1		
6/1/2	Supply & Install a Earth Potential Copper Bar measuring 600m long X 50mm Wide X 6mm Thick.	No 1		
6/1/3	Connect the copper lattice matt with 35mm sq SC CU cable c/w appropriate cable lugs, cable lugs & any other accessories required.	No 1		
6/1/4	Connect the generator to the Earth potential Bar with 95mm sq SC CU cable c/w appropriate cable lugs, cable lugs & any other accessories required.	m 15		
6/1/5	Earth Chamber / Pit measuring 300mm x 300mm for visual inspection and recording of readings. This should include 1No. 4ft copper earth electrode complete with clamp and earth wire and cast iron cover as manufactured by EAL	No 1		
6/1/6	Labelling of Earthing bars and other components.	Item		
6/1/7	Soil treatment around the earth pits with marconite to achieve the required conductivity and obtain reading <1.0 ohms. NB: Higher readings will NOT be accepted.	Item		
6/1/8	Allow for cable ties to manage cables above	Item		
	EARTHING FOR LV SWITCH BOARDS			
6/1/9	Supply & Install Earthing Matt for Low voltage Switchgear complete with a copper lattice matt measuring 1000mm X 1000mm constructed with copper tapes measuring 25mm X 3mm	No 2		
6/1/10	Supply & Install a Earth Potential Copper Bar measuring 600m long X 50mm Wide X 6mm Thick.	No 2		
	Carried Forward		KES	
	Section No. 6 EARTHING SYSTEM Bill No. 1 EARTHING INSTALLATIONS			

**COMMUNICATION AUTHORITY OF KENYA
PROPOSED ELECTRICAL INSTALLATION FOR LOW VOLTAGE SWITCHGEAR
BILLS OF QUANTITIES**

Brought Forward			KES		
6/1/11	Connect the copper lattice matt with 35mm sq SC CU cable c/w appropriate cable lugs, cable lugs & any other accessories required.	No	2		
6/1/12	Connect the LV Switchboards to the Earth potential Bar with 95mm sq SC CU cable c/w appropriate cable lugs, cable lugs & any other accessories required.	m	30		
6/1/13	Earth Chamber / Pit measuring 300mm x 300mm for visual inspection and recording of readings. This should include 1No. 4ft copper earth electrode complete with clamp and earth wire and cast iron cover as manufactured by EAL	No	2		
6/1/14	Labelling of Earthing bars and other components.		Item		
6/1/15	Soil treatment around the earth pits with marconite to achieve the required conductivity and obtain reading <1.0 ohms. NB: Higher readings will NOT be accepted.		Item		
6/1/16	Allow for cable ties to manage cables above		Item		
Carried to Final Summary				KES	
Section No. 6 EARTHING SYSTEM Bill No. 1 EARTHING INSTALLATIONS					

COMMUNICATION AUTHORITY OF KENYA
PROPOSED ELECTRICAL INSTALLATION FOR LOW VOLTAGE SWITCHGEAR
BILLS OF QUANTITIES

Item No	Description	Quantity	Rate	Amount
7/1/1	<p>The tenderer <u>MUST</u> visit site to assess and establish the nature of all existing services on site.</p> <p>Allow for removal of any existing power services in the small power room, comprising:</p> <ul style="list-style-type: none"> • Applying to the Kenya Power to disconnect and remove such services, including the power meter • making all the required liason with Kenya Power to ensure speedy disconnection, removal, and closing of the existing account. 	Item		50,000.00
	Carried to Final Summary		KES	
	Section No. 7 KENYA POWER DISCONNECTION Bill No. 1 KPLC Account Closing			

COMMUNICATION AUTHORITY OF KENYA
**PROPOSED ELECTRICAL INSTALLATION FOR LOW VOLTAGE SWITCHGEAR
 BILLS OF QUANTITIES**

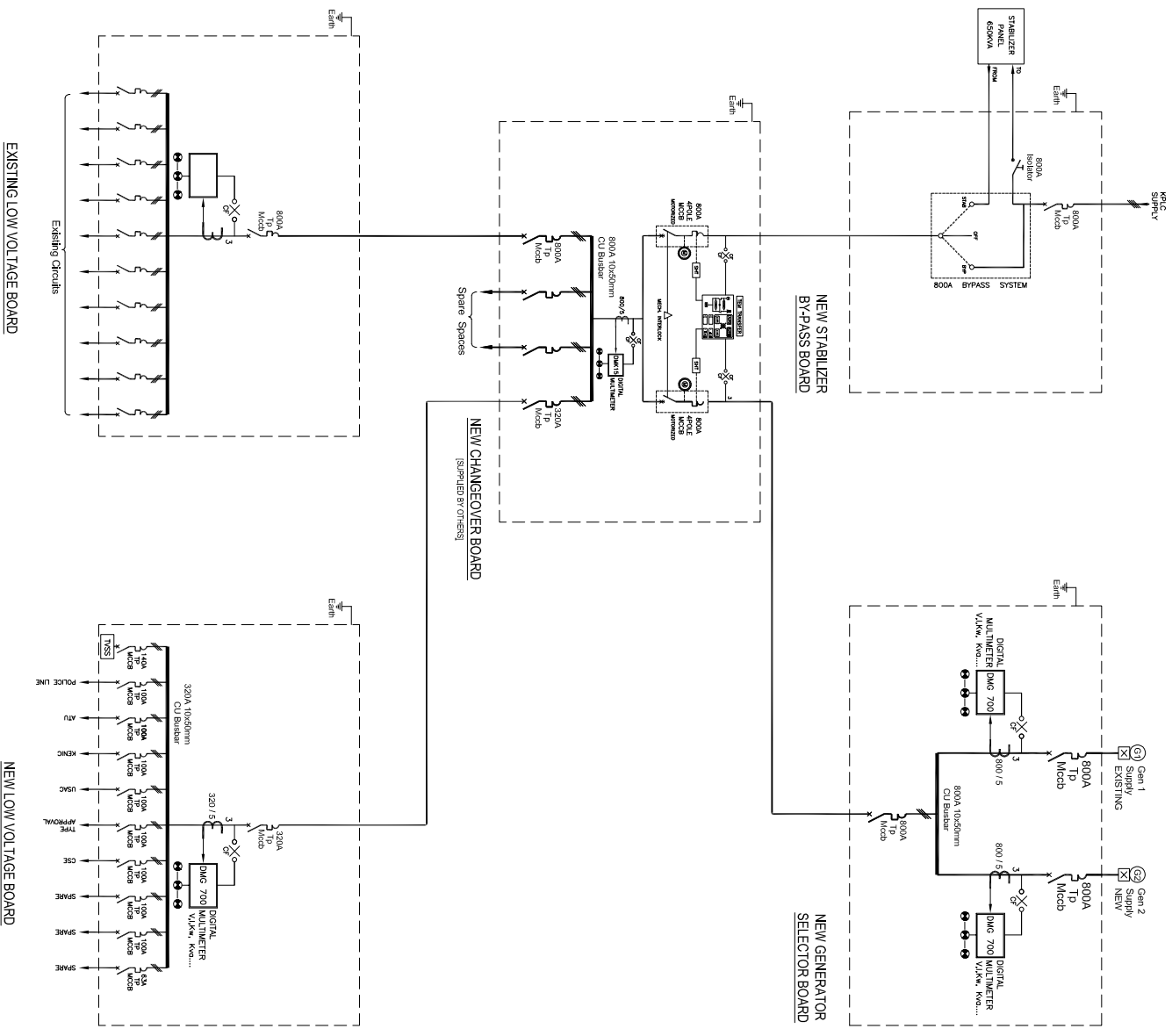
Item No	Description	Quantity	Rate	Amount
	<p>Bidders to allow for a Financial Proposal for Comprehensive Routine and corrective maintenance of Electrical Installations in the entire facility</p> <p>Provide a comprehensive draft Service Level Agreement for routine and corrective maintenance contract.</p> <p>The SLA proposal will form a basis of negotiation for a 3year contract.</p>			
8/1/1	The contractor is requested to visit the site to enable him to provide the cost for Quarterly routine and corrective maintenance of all Electrical Installations at the CAK Hq facilities. The cost shall include labour and consumables.	No	1	
8/1/2	On a separate sheet of paper provide a list of Critical Spares which the client may be required to keep in stock or purchase whenever need arises. Each item should be costed and the price shall be fixed through the contract period.	No	1	
	Carried to Final Summary			KES
	Section No. 8 PROPOSAL FOR MAINTENANCE CONTRACT Bill No. 1 PROPOSAL FOR ROUTINE AND CORRECTIVE MAINT			

COMMUNICATION AUTHORITY OF KENYA
PROPOSED ELECTRICAL INSTALLATION FOR LOW VOLTAGE SWITCHGEAR
BILLS OF QUANTITIES

Item No	Description	Quantity	Rate	Amount
9/1/1	ADD KES 500,000.00 (Kenya Shillings Five Hundred Thousand) Contingency	Item		500,000.00
	Carried to Final Summary		KES	
	Section No. 9 CONTIGENCY Bill No. 1 Contingency			

**COMMUNICATION AUTHORITY OF KENYA
PROPOSED ELECTRICAL INSTALLATION FOR LOW VOLTAGE SWITCHGEAR
BILLS OF QUANTITIES**

Section No	<u>FINAL SUMMARY</u>	Page No	Amount
1	PRELIMINARIES	3	
2	LOW VOLTAGE 415V 50Hz SWITCHBOARDS	8	
3	VOLTAGE STABLIZER EQUIPMENT	10	
4	ELECTRICAL CABLING	12	
5	POWER RETICULATION	14	
6	EARTHING SYSTEM	16	
7	KENYA POWER DISCONNECTION	17	
8	PROPOSAL FOR MAINTENANCE CONTRACT	18	
9	CONTIGENCY	19	
	ADD 16% VAT		KES
	Total (Inclusive of 16% VAT) Carried to Form of Tender		KES



SINGLE LINE DIAGRAM