



Kenya Power

# THE KENYA POWER AND LIGHTING CO. LTD.

## SPECIFICATIONS

*For*

### ASSORTED TOOLS AND EQUIPMENT

#### APPROVAL RECORD

NAME	NAME	DESIGNATION	SIGNATURE	DATE
Compiled by:	Peter Wanyonyi	1 <sup>st</sup> A.E., New Connections		29-04-14
Checked	Eng. Thagichu Kiiru	Dep. Manager Installation Inspection & Fraud Control		29-04, 14
Checked by:	Thomas Ogutu	Ag. Customer Service Manager		29/04/14
Approved by:	Joshua Mutua	Ag. Chief Manager, Commercial Services		30/4/14

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4.24 Adjustable Spanner 8"

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## **FOREWORD**

This standard has been approved as above and prepared by Commercial Services Division (Prepayment Systems) of KPLC and lays down requirements for various tools and equipment.

This specification is intended for procurement of goods.

## 1. SCOPE

- 1.1 This specification indicates requirements for various hand held tools and equipment.
- 1.2 The tools and equipment are meant to improve on the quality of work for our field staff.

## 2. REFERENCES

Several international standards have been created to ensure the comparability of the operational safety, quality and features of various tools and equipment. Several industrial organisations are in charge of the standardisation. These include the International Electrotechnical Commission IEC and the European CENELEC, which creates the EN standards. In this case, IEC 61010, 61557, 61236 and 900 EN 60900 and 61326 standards have been used.

## 3. DEFINITIONS

Tool – A device or implement that facilitates work.

Equipment-A machine needed for a particular job.

## 4 Requirements

The Tenderer shall fill the attached spread sheet matrix to be used as a guideline in accessing the manufacturers' compliance to the requirements of this specification. The tenderers shall indicate the details of their offer where it is different from these requirements. Insertions such as "noted", "agreed" etc. shall be considered as non-responsive where a specific response is called for.

Copies of type approval, test compliance and calibration certificates shall confirm compliance with the standards used. The standards used-certified by the national standards institute of the country of manufacture-shall be provided (printed in English). If type approval certificates are from accredited laboratories (and not national or international bodies), they shall be accompanied with copies of certificates of accreditation from the national of the international certification body.

### 4.1 Clamp on Ammeter

CLAUSE	KPLC REQUIREMENT	MANUFACTURER'S COMPLIANCE/ REMARKS	REFERENCE PAGE IN THE SUBMITTED DOCUMENTS
4.1.1	The ammeter shall have capability to measure the true inrush current		
4.1.2	The ammeter shall measure currents of up to 1000A for both AC and DC		
4.1.3	The ammeter shall be able to measure power supply of a frequency range 50HZ-60HZ		
4.1.4	The unit shall have capability for frequency measurement		
4.1.5	The unit shall have capability to measure resistance up to 50kΩ		
4.1.6	The ammeter shall measure AC/DC voltage of at least 600V		
4.1.7	The unit shall have LCD display		
4.1.8	The unit shall be able to measure the total harmonic distortion		
4.1.9	The unit's jaw opening shall be at least 40mm		

CLAUSE	KPLC EQUIREMENT	MANUFACTURER'S COMPLIANCE/ REMARKS	REFERENCE PAGE IN THE SUBMITTED DOCUMENTS
4.1.10	The unit shall have a resolution of at least 1mA		
4.1.11	The unit shall have back light for the screen		
4.1.12	The unit shall have auto shut off capability		
4.1.13	The unit shall be able to measure the power factor		
4.1.14	The ammeter shall have an accuracy of $\pm 3\%$		
4.1.15	The unit shall have a recording and hold on function		
4.1.16	The unit shall have a degree of protection of at least IP54		
4.1.17	The unit shall have a continuity buzzer		
4.1.18	The unit shall meet the IEC 61010-1000V CAT IV safety rating		
4.1.19	Each unit shall have a blue tooth and USB communication capability		
4.1.20	Each unit shall have measuring probes		
4.1.21	Each unit shall have copies of calibration certificates		
4.1.22	Each unit shall have a carrying case		
4.1.23	The tenderer shall submit one sample on request.		
4.2.24	The units shall be manufactured in an ISO 9001:2008 certified facility		
4.1.25	Each unit shall have 12 months warranty. All defects due to faulty workmanship shall be replaced at supplier's cost.		
4.1.25	The tenderer shall submit copies of user manual and brochures.		

## 4.2 Digital Multimeter

CLAUSE	KPLC EQUIREMENT	MANUFACTURER'S COMPLIANCE/ REMARKS	REFERENCE PAGE IN THE SUBMITTED DOCUMENTS
4.2.1	The Multimeter shall have capability to measure DC voltage up to 1000V in four range of scales		
4.2.2	The Multimeter shall have capability to measure AC voltage up to 1000V in four range of scales		
4.2.3	The unit shall have capability to measure DC current in four range of scales up to 10A		
4.2.4	The unit shall have capability to measure AC current in four range of scales up to 10A		
4.2.5	The unit shall have overload protection feature		
4.2.6	The unit shall have capability to measure resistance in four range of scales up to 50Megaohms		
4.2.7	The unit shall have a continuity buzzer		
4.3.8	The unit shall have LDC display		

CLAUSE	KPLC EQUIREMENT	MANUFACTURER'S COMPLIANCE/ REMARKS	REFERENCE PAGE IN THE SUBMITTED DOCUMENTS
4.2.9	The unit shall have the capability of a diode test		
4.2.10	The unit shall have capability to measure capacitance		
4.2.11	The unit shall have capability for frequency measurement		
4.2.12	Each unit shall have a chargeable battery		
4.2.13	The unit shall have low battery charger indicator		
4.2.14	The unit shall have back light for the screen		
4.2.15	The unit shall have ingress protection of degree IP67		
4.2.16	The unit shall have a continuity buzzer		
4.2.17	The unit shall meet the IEC 61010-1000V CAT IV specifications		
4.2.18	Each unit shall have the following accessories: <ul style="list-style-type: none"> <li>• Test leads</li> <li>• Instruction/user manual</li> <li>• brochures</li> <li>• RS-232C cable and software for communicating with a personal computer running on windows platform</li> </ul>		
4.2.19	The unit shall have auto shut off capability		
4.2.20	Each unit shall have a carrying case		
4.2.21	The unit shall meet the electromagnetic compatibility EN 61326 standards		
4.2.22	Each unit shall have copies of calibration certificates		
4.2.23	The units shall be manufactured in an ISO 9001:2008 certified facility		
4.2.24	The tenderer shall submit one sample on request.		
4.2.25	Each unit shall have 12 months warranty. All defects due to faulty workmanship shall be replaced at supplier's cost.		

### 4.3 Insulation Tester

CLAUSE	KPLC EQUIREMENT	MANUFACTURER'S COMPLIANCE/ REMARKS	REFERENCE PAGE IN THE SUBMITTED DOCUMENTS
4.3.1	The insulation tester shall have a voltage measurement range of 0V-1000V AC/DC		
4.3.2	The unit shall be capable of measuring insulation resistance of up to 2TΩ		
4.3.3	The ammeter shall be able to measure power supply of a frequency range 40HZ-80HZ		
4.3.4	The unit shall have nominal test voltages of 250V,500V and 1000V		
4.3.5	Each unit shall have a rechargeable battery		
4.3.6	The unit shall be able to measure supplies with a frequency range of 40HZ to 80HZ		

CLAUSE	KPLC REQUIREMENT	MANUFACTURER'S COMPLIANCE/REMARKS	REFERENCE PAGE IN THE SUBMITTED DOCUMENTS
4.3.7	The unit shall have back light for the screen		
4.3.8	The unit shall have auto shut off capability		
4.3.9	The unit shall have combined analogue and dual digital display		
4.3.10	The ammeter shall have an accuracy of $\pm 3\%$		
4.3.11	The unit shall be capable of live circuit detection and inhibit the test if the initial terminal voltage is more than 40V		
4.3.12	The unit shall have a degree of protection of IP67		
4.3.13	The unit shall have a continuity buzzer		
4.3.14	The unit shall meet the IEC 61010 600 V CAT IV standard		
4.3.15	Each unit shall meet the EN 61557 specifications		
4.3.16	The unit shall absorb any external physical shocks as per IEC 61010-1 standards		
4.3.17	Each unit shall have electromagnetic compatibility as per EN 61326-1 standards		
4.3.18	Each unit shall have the following accessories: <ul style="list-style-type: none"> <li>• Colour coded Test cables</li> <li>• AC power cord</li> <li>• Carrying case</li> <li>• English user manual</li> <li>• User manual</li> <li>• brochures</li> <li>• IP67 hard case</li> </ul>		
4.3.19	The unit shall have overload protection feature		
4.3.20	Each unit shall comply to IEC 61010-1, CAT IV safety standards		
4.3.21	The unit shall have capability to download data to a PC		
4.3.22	Each unit shall have copies of calibration certificates		
4.3.23	The units shall be manufactured in an ISO 9001:2008 certified facility		
4.3.24	The tenderer shall submit one sample on request.		
4.3.25	Each unit shall have 12 months warranty. All defects due to faulty workmanship shall be replaced at supplier's cost.		

#### 4.4 Phase Sequence Device

CLAUSE	KPLC REQUIREMENT	MANUFACTURER'S COMPLIANCE/REMARKS	REFERENCE PAGE IN THE SUBMITTED DOCUMENTS
4.4.1	Each device shall have live wire checking capability		
4.4.2	The unit shall be capable of voltage detection via electrostatic induction		
4.4.3	Each unit shall be capable of positive and negative phase sequence detection for three phase supplies		

CLAUSE	KPLC EQUIREMENT	MANUFACTURER'S COMPLIANCE/ REMARKS	REFERENCE PAGE IN THE SUBMITTED DOCUMENTS
4.4.4	The units shall be able to check supplies of a voltage range of 90V-600V		
4.4.5	The device should have the minimum current pick up of 1mA		
4.4.6	The device shall be able to check supplies of frequency range 50HZ-60HZ		
4.4.7	Each unit shall have battery low status display		
4.4.8	The unit shall have back light for the screen		
4.4.9	The unit shall have auto shut off capability		
4.4.10	The unit shall meet the IEC 61010 CAT III 600V safety specifications		
4.4.11	Each unit shall have colour coded test leads		
4.4.12	Each unit shall have a carrying case		
4.4.13	Each device should have at least IP40 protection		
4.4.15	The device must comply to European community directive 93/68/EEC on electromagnetic compatibility		
4.4.16	Each device shall have an overload protection feature		
4.4.17	Each device should weigh a maximum of 300g		
4.4.18	The devices shall be accompanied by user manuals and brochures done in English.		
4.4.19	The units shall be manufactured in an ISO 9001:2008 certified facility		
4.4.20	The tenderer shall submit one sample on request.		
4.4.21	Each unit shall have 12 months warranty. All defects due to faulty workmanship shall be replaced at supplier's cost.		

#### 4.5 Pair of Long Nose Pliers

CLAUSE	KPLC EQUIREMENT	MANUFACTURER'S COMPLIANCE/ REMARKS
4.5.1	The pliers shall have a cutting edge hardness of HRC58-62	
4.5.2	The pliers shall be suitable for both hard and soft wire and superb ergonomic handling	
4.5.3	Each unit shall be made of drop forged chrome vanadium steel	
4.5.4	The unit shall have heavy duty insulation on handle grips	
4.5.5	Each unit shall have finger stops to prevent slipping	
4.5.6	Each pliers shall be tested to EN 60900 1000V standards to ensure safety of users	
4.5.7	The unit shall be manufactured to Euronorm IEC 900 standards	
4.5.8	Each unit shall be stamped with date-month and year- of manufacture	
4.5.9	Each unit shall have an overall length of 200mm and an head of 95mm	
4.3.10	The tenderer shall submit one sample on request.	



CLAUSE	KPLC EQUIREMENT	MANUFACTURER'S COMPLIANCE/ REMARKS
4.5.11	Each unit shall have 12 months warranty. All defects due to faulty workmanship shall be replaced at supplier's cost.	
4.5.12	The tenderer shall submit copies of user manual and brochures.	

#### 4.6 Pair of Electrician Pliers

CLAUSE	KPLC EQUIREMENT	MANUFACTURER'S COMPLIANCE/ REMARKS
4.6.1	The pliers shall have a cutting edge hardness of HRC58-62	
4.6.2	The pliers shall be suitable for both hard and soft wire and superb ergonomic handling	
4.6.3	Each unit shall be made of forged and oil hardened vanadium electric steel	
4.6.4	The unit shall have heavy duty insulation on handle grips	
4.6.5	Each shall be capable of cutting, crimping, stripping and gripping	
4.6.6	Each unit shall have carefully controlled gap at the tip to ensure important cutting edge with terminal crimping slot	
4.6.7	Each pliers shall be tested to 1000V to ensure safety of users as per EN 60900 standards	
4.6.8	The unit shall be manufactured to Euronorm IEC 900 standards	
4.6.9	Each unit shall have finger stops to prevent slipping	
4.6.10	Each unit shall have an overall length of 200mm and an head of 70mm	
4.6.11	The tenderer shall submit one sample on request.	
4.6.12	Each unit shall be stamped with date-month and year- of manufacture	
4.6.13	Each unit shall have 12 months warranty. All defects due to faulty workmanship shall be replaced at supplier's cost.	
4.6.14	The tenderer shall submit copies of user manual and brochures.	

#### 4.7 Side Cutting Pliers

CLAUSE	KPLC EQUIREMENT	MANUFACTURER'S COMPLIANCE/ REMARKS
4.7.1	The pliers shall have a guaranteed cutting edge hardness of HRC58-62	
4.7.2	The pliers shall be suitable for both hard and soft wire and superb ergonomic handling	
4.7.3	Each unit shall be made of drop forged high carbon steel	
4.7.4	The unit shall have heavy duty insulation on handle grips	
4.7.5	Each unit shall have carefully controlled gap at the tip to ensure important cutting edge with terminal crimping slot	
4.7.6	Each pliers shall be tested to 1000V to ensure safety of users as per EN 60900 standards	
4.7.7	The unit shall be manufactured to Euronorm IEC 900 standards	

CLAUSE	KPLC REQUIREMENT	MANUFACTURER'S COMPLIANCE/ REMARKS
4.7.8	Each unit shall have finger stops to prevent slipping	
4.7.9	Each shall have the crimping capability	
4.7.10	Each unit shall have an overall length of 215mm and an head of 75mm	
4.7.11	The tenderer shall submit one sample on request.	
4.7.12	Each unit shall be stamped with date-month and year- of manufacture	
4.7.13	Each unit shall have 12 months warranty. All defects due to faulty workmanship shall be replaced at supplier's cost.	
4.7.13	The tenderer shall submit copies of user manual and brochures.	

#### 4.8 Professional Heavy duty 8 piece screw driver set

CLAUSE	KPLC REQUIREMENT	MANUFACTURER'S COMPLIANCE/ REMARKS
4.8.1	Each unit shall be made of forged chrome vanadium steel	
4.8.2	The unit shall have heavy duty stepped insulation to improve terminal access	
4.8.3	Each handle shall be marked for easy identification of screw driver size,type and length	
4.8.4	Each shall have precision machined tips for accurate fastening	
4.8.5	Each pliers shall be tested to 1000V to ensure safety of users as per EN 60900 standards	
4.8.6	The unit shall be manufactured to Euronorm IEC 900 standards	
4.8.7	Each unit shall be suitable for live line work up to 1000V AC	
4.8.8	The tenderer shall submit one sample on request.	
4.8.9	The screw drivers shall have corrosion resistant tips	
4.8.10	Each shall have soft grip handles for maximum torque	
4.8.11	Each screw driver shall be designed for comfort with recessed finger stops to prevent slipping	

CLAUSE	KPLC EQUIREMENT	MANUFACTURER'S COMPLIANCE/ REMARKS
4.8. 12	<p>Set to comprise Five (5) flat and three (3) star screw drivers of the following sizes;</p> <p>5 Flat</p> <ul style="list-style-type: none"> <li>➤ Overall Blade Tip</li> <li>➤ 255mm X 150 X 8</li> <li>➤ 230mm X 125 X 6</li> <li>➤ 220mm X 125 X 5</li> <li>➤ 185mm X 100 X 4</li> <li>➤ 140mm X 75 X 3</li> <li>➤ 160mm X 75 X 3</li> </ul> <p>3 Star</p> <ul style="list-style-type: none"> <li>➤ 200mm X 150 X No. 2</li> <li>➤ 175mm X 75 X No. 1</li> <li>➤ 140mm X 75 X No. 0</li> </ul>	
4.8.13	Each unit shall have 12 months warranty. All defects due to faulty workmanship shall be replaced at supplier's cost.	
4.8.14	The tenderer shall submit copies of user manual and brochures.	

#### 4.9 Steel Trunking Hole cutter (Electricians hole saw kit)

CLAUSE	KPLC EQUIREMENT	MANUFACTURER'S COMPLIANCE/ REMARKS
4.9.1	<p>Piece Bi-Metal holesaw kit supplied in blow mould plastic carrying case. Kit includes:</p> <p>Hole saws</p> <ul style="list-style-type: none"> <li>• 1 X 20 mm</li> <li>• 1 X 25 mm</li> <li>• 1 X 32 mm</li> <li>• 1 X 38 mm</li> <li>• 1 X 40 mm</li> <li>• 1 X 51 mm</li> </ul> <p>They shall be of heavy duty Bi-metal construction for durability with alternate set variable pitch 4/6 teeth – producing tighter grip, less vibration, cleaner faster cut</p>	
4.9.2	The units shall be made of pressed gap to give full cutting depth	
4.9.3	Each shall have M3 steel cutting edge to keep its teeth sharper for longer period of time	
4.9.4	The body shall be made of shatterproof material for staying power	
4.9.5	Each unit shall be able to cut brass, copper, steel, aluminium, wood etc.	
4.9.6	The hole saws shall be able to be used in electric drills, pneumatic drills, vertical drilling machines and lathes	
4.9.7	Each unit shall have 12 months warranty. All defects due to faulty workmanship shall be replaced at supplier's cost.	
4.9.8	The tenderer shall submit copies of user manual and brochures.	
4.9.9	The tenderer shall submit one sample on request.	

#### 4.10 Power Drilling Machines

CLAUSE	KPLC REQUIREMENT	MANUFACTURER'S COMPLIANCE/ REMARKS
4.10.1	The Machine shall be capable of both fastening/unfastening screws	
4.10.2	The machine shall be suitable for drilling of hard metals-carbon steel, alloy steel, cast steel, cast iron, bronze, copper and aluminium, wood and plastic.	
4.10.3	Each machine shall have adjustable speed option with electronic speed control	
4.10.4	Each Machine shall have Soft start trigger	
4.10.5	Each machine maximum rated input power shall be 800 watts	
4.10.6	Each shall have depth sensitive clutch capable of disengaging when set depth is reached	
4.10.7	The drilling machine shall have Variable and reversible features to make screw fastening and unfastening easy	
4.10.8	Each machine shall have durable gear housing	
4.10.9	Each machine shall come With standard accessories for holding/ driving screws into variety of materials	
4.10.10	The tenderer shall submit one sample on request.	
4.10.11	The tenderer shall submit copies of user manual and brochures.	
4.10.12	Each unit shall have 12 months warranty. All defects due to faulty workmanship shall be replaced at supplier's cost.	

#### 4.11 Drill Bits – 10 Piece set sizes from 1mm – 10 mm (In 1mm increments)

CLAUSE	KPLC REQUIREMENT	MANUFACTURER'S COMPLIANCE/ REMARKS
4.11.1	They shall be made of high speed steel for drilling hard metals, wood and plastic.	
4.11.2	The Sizes shall range from 1 mm to 10 mm with a roll up storage porch	
4.11.3	The tenderer shall submit one sample on request.	
4.11.4	Each unit shall have 12 months warranty. All defects due to faulty workmanship shall be replaced at supplier's cost.	
4.11.5	The tenderer shall submit copies of user manual and brochures.	

### 4.12 Professional Hacksaw Frames

CLAUSE	KPLC EQUIREMENT	MANUFACTURER'S COMPLIANCE/ REMARKS
4.12.1	The frames Shall be made of heavy duty materials	
4.12.2	Each shall have Strong beam to keep blades rigid	
4.12.3	Each shall have hand grip design for comfort and protection	
4.12.4	Each shall have versatile key hole saw section	
4.12.5	They shall be supplied complete with high grade Bi-Metal blade	
4.12.6	Each shall have additional 45 degree blade position for use at awkward angles	
4.12.7	Each shall have easy to use tensioning device	
4.12.8	The length shall be 400mm	
4.12.9	The tenderer shall submit one sample on request.	
4.12.10	Each unit shall have 12 months warranty. All defects due to faulty workmanship shall be replaced at supplier's cost.	
4.12.11	The tenderer shall submit copies of user manual and brochures.	

### 4.13 Replacement 400mm Blades

CLAUSE	KPLC EQUIREMENT	MANUFACTURER'S COMPLIANCE/ REMARKS
4.13.1	They shall be made of superb high-speed cutting performance with high grade bi-metal blades	
4.13.2	The tenderer shall submit one sample on request.	
4.13.3	Each unit shall have 12 months warranty. All defects due to faulty workmanship shall be replaced at supplier's cost.	
4.13.4	The tenderer shall submit copies of user manual and brochures.	