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Kenya Power

SPECIFICATION FOR HYDRAULIC LONG-REACH CHAIN SAW FOR LIVE-LINE WORK

A Document of the Kenya Power & Lighting Plc

October 19, 2026

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Date: 2026-10-19	Date: 2026-10-19

0.1 Circulation List

Copy No.	Copy Holder
1	Snr Engineer, Sub-transmission, Central Office.
2	Manager, Transmission, Central Office.

REVISION OF KPLC STANDARDS

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

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0.2 Amendment Record

Rev No.	Date (YYYY-MM-DD)	Description of Change	Prepared by (Name & Signature)	Approved by (Name & Signature)
0	2026-10-19	New issue	Eng. Alistair Akute	Eng. George Korir

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0.3 Foreword

This specification has been prepared by the Transmission Department in collaboration Live Line Section, of The Kenya Power and Lighting Company Plc. The specification lays down requirements for the Hydraulic Long-Reach Chain Saw kit for Live-Line Work. It is intended for use by KPLC to procure hydraulic long-reach chain saws kit that are powered from the hydraulic system of a live-line(aerial device) truck and used by live-line teams to cut trees and branches that encroach on energized overhead lines.

Vegetation encroachment is a major cause of faults and supply interruptions on overhead distribution and Transmission networks. Clearing it conventionally requires the line to be switched off, which increases the time customers are without supply and adversely affects network performance indices such as SAIDI (System Average Interruption Duration Index). Vegetation management carried out with the line energised, using properly insulated tools, avoids planned outages and shortens restoration time.

Because the operator works close to energised conductors, the safety of the crew depends directly on the dielectric integrity of the tool. This specification therefore stipulates the minimum requirements for insulating components, dielectric hydraulic hoses and fluid, mechanical strength, operator-safety features, testing and training that are acceptable for use on the KPLC power network.

There are no other specifications in this series.

It shall be the responsibility of the suppliers and manufacturers to ensure that the offered design is of the highest quality and guarantees excellent service to KPLC, good workmanship and good engineering practice in the manufacture of the hydraulic long-reach chain saw.

Users of Kenya Power specifications are responsible for their correct interpretation and application.

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

Name	Department	Signature	Date
Nicodemus Ondigo Otore	Transmission		19/10/2026
Callen Buruchara	Distribution / Live Line		19/10/2026

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1. SCOPE

1.1 This specification covers technical requirements for the hydraulic long-reach chain saw that shall be used by KPLC live-line teams on energised overhead lines, powered from the hydraulic system of a live-line truck.

1.2 The specification covers requirements for design, inspection and tests, packing, warranty and training for the hydraulic long-reach chain saw and its associated accessories.

2. NORMATIVE REFERENCES

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

Standard	Title
IEC 60855-1	Live working – Insulating foam-filled tubes and solid rods – Part 1: Tubes and rods of a circular cross-section
IEC 61235	Live working – Insulating hollow tubes for electrical purposes
IEC 60832 (Parts 1 & 2)	Live working – Insulating sticks and universal tool attachments
IEC 61477	Live working – Minimum requirements for the utilization of tools, devices and equipment
IEC 60060-1	High-voltage test techniques – Part 1: General definitions and test requirements
IEC 60529	Degrees of protection provided by enclosures (IP code)
IEC 60068	Environmental testing
IEC 60815	Selection and dimensioning of high-voltage insulators intended for use in polluted conditions
ASTM D877	Standard test method for dielectric breakdown voltage of insulating liquids using disk electrodes
ASTM F711	Fiberglass-reinforced plastic (FRP) rod and tube used in live-line tools
IEEE 978	Guide for in-service maintenance and electrical testing of live-line tools
ISO 11681-2	Machinery for forestry – Portable chain-saw safety requirements and testing – Part 2: Chain-saws for tree service
ISO 11680	Machinery for forestry – Safety requirements and testing for pole-mounted powered pruners
ISO 3448	Industrial liquid lubricants – ISO viscosity classification
ISO 4413	Hydraulic fluid power – General rules and safety requirements for systems and their components
ISO 7241	Hydraulic fluid power – Dimensions and requirements of quick-action couplings
SAE 100R7	Non-conductive thermoplastic hydraulic hose

Standard	Title
ISO 9001	Quality Management Systems – Requirements
ISO/IEC 17025	General requirements for the competence of testing and calibration laboratories

3. DEFINITIONS AND ABBREVIATIONS

For the purpose of this specification, the definitions and abbreviations given in the reference standards shall apply together with the following.

3.1 Abbreviations

KPLC	Kenya Power and Lighting Company Plc
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
ASTM	American Society for Testing and Materials
IEEE	Institute of Electrical and Electronics Engineers
FRP	Fibre-Reinforced Plastic
kV	Kilovolt
Kg	Kilogram
IP	Ingress Protection
SAIDI	System Average Interruption Duration Index
GTP	Guaranteed Technical Particulars
QAP	Quality Assurance Plan
MAD	Minimum Approach Distance
LLT	Live-Line Truck (insulated aerial device with auxiliary hydraulic tool circuit)

3.2 Definitions

Long-reach chain saw: a chain saw head mounted at the end of an insulated, extendable pole that allows the operator to cut at a distance from the energised conductor.

Insulating section: the portion of the pole and hydraulic hose between the cutting head and the operator or truck that provides the required dielectric isolation.

4. REQUIREMENTS

4.1 Service Conditions

4.1.1 The hydraulic long-reach chain saw shall be suitable for outdoor use in tropical areas and in harsh climatic conditions including areas exposed to:

a) Altitudes of up to 2200 m above sea level;

b) Humidity of up to 90%;

c) Average ambient temperature of +30 °C with a minimum of -1 °C and a maximum of +40 °C;

d) Isokeraunic levels of up to 180 thunderstorm days per year;

e) Pollution (IEC 60815) Very Heavy: Class IV.

4.1.2 The saw shall be capable of operating on 11 kV, 33 kV, 66 kV and 132 kV overhead lines at 50 Hz. The network voltage on which the saw will be used shall be specified for each tender.

4.2 Design and Construction

4.2.1 The hydraulic long-reach chain saw shall be designed, manufactured and tested in accordance with IEC 60855-1, IEC 61235, IEC 60832, IEC 61477 and ISO 11681-2 standards..

4.2.2 The saw shall consist of the following main parts: hydraulic motor and chain saw head, guide bar and chain, insulated extendable pole, dielectric hydraulic hose assembly, quick couplers, operator control handle and associated accessories.

4.2.3 The tool shall be designed for mounting on, and operation from, the auxiliary hydraulic tool circuit of KPLC live-line trucks. The long reach chain saw kit shall be compatible with the tool circuit of the truck in the following respects, the tenderer shall state the compatibility types offered, and the supplier shall supply any adaptors needed:

a) Circuit type: open-centre, constant-flow auxiliary tool circuit [to be confirmed by KPLC against the live-line truck fleet];

b) Pressure: operating pressure of 100 bar to 140 bar, and capable of withstanding the system relief pressure of 175 bar without damage (clause 4.4.1);

c) Flow: 20 L/min to 40 L/min, with the rated chain speed achieved at 26 L/min at 140 bar (clause 4.5.2);

d) Coupler type: flat-face, dry-break (non-spill) quick couplers in accordance with clause 4.4.4, of a nominal size and gender that match the tool-circuit couplers of the truck [size to be confirmed by KPLC], with the pressure and return couplers keyed so that they cannot be connected incorrectly;

e) Port and thread type: the hose and adaptor connection threads shall match the tool-circuit ports of the truck [BSP, NPT or SAE, to be confirmed by KPLC], and the adaptors shall have a pressure rating not less than that of the hoses (210 bar);

f) Return line: the saw shall operate with a truck return-line back pressure of not more than [ ] bar;

g) Fluid: compatible with the dielectric hydraulic fluid in the truck, as specified in clause 4.4.5.

4.2.4 The tool shall be designed so that the operator can work from the truck bucket and boom platform without the need to contact or approach any energised part closer than the minimum approach distance (MAD) prescribed in the KPLC Safety Rules for the voltage in use.

4.2.5 All external surfaces shall be free from sharp edges, burrs and contaminants. Metallic parts shall be corrosion-resistant (stainless steel, anodised aluminium or equivalent).

4.3 Insulated Pole

4.3.1 The pole shall be made of epoxy-resin fibreglass (FRP) tube, foam-filled or otherwise sealed against moisture, complying with IEC 60855-1 / IEC 61235 or ASTM F711.

4.3.2 The pole shall be telescopic or sectional, with a minimum extended working length (measured from the operator's hand grip to the tip of the guide bar) of **3.0 m**.

4.3.3 The effective insulating length between the metal cutting head and the nearest metal part held by the operator shall be not less than the minimum shown in Table 1 for the voltage class, and shall not be less than the MAD in the KPLC Safety Rules.

4.3.4 The pole shall have a smooth, hydrophobic, UV-resistant surface coating, shall be permanently marked with the effective insulating length, and shall have a clearly marked hand-guard (limit) ring separating the insulated portion from the operator's grip area.

4.3.5 The locking mechanism for telescopic sections shall be positive, tool-free, shall not rely on metal parts bridging the insulating section, and shall hold under the rated cutting loads.

4.3.6 The pole shall provide an attachment point for a rope or sling so that it can be supported from the boom or bucket during use.

4.4 Hydraulic System

4.4.1 The saw shall operate from a hydraulic supply with an operating pressure in the range of **100 bar to 140 bar** and flow rate of **20 L/min to 40 L/min**, and shall withstand a maximum system relief pressure of 175 bar without damage.

4.4.2 The saw shall be driven by a hydraulic motor powered from the tool circuit of the mobile unit. The motor shall be of a robust, sealed design with a case drain or equivalent, and shall be protected against over-speed and shock load. It shall deliver smooth, controllable power to the chain throughout the rated operating range and shall be suitable for continuous use in dusty, wet and humid field conditions. The motor, and the tool as a whole, shall be designed, tested and certified in accordance with IEC 61477 and IEC 61318.

4.4.3 The saw shall be supplied with a complete dielectric hydraulic hose assembly (pressure and return) of non-conductive thermoplastic construction (SAE 100R7), with a rated working pressure of not less than 210 bar and a burst pressure of not less than four (4) times the working pressure. The hose assembly shall be of the minimum insulated length given in Table 1.

4.4.4 Hose couplings and quick couplers shall be of the flat-face, dry-break (non-spill) type complying with ISO 7241 and shall have an insulating sleeve or be separated from the energised region by the required insulating length. The pressure and return couplers shall be differently sized or keyed to prevent incorrect connection.

4.4.5 The saw shall be designed for use with dielectric hydraulic fluid, which is the fluid in KPLC live-line trucks. The fluid shall be a non-conductive, mineral-oil-based, anti-wear hydraulic fluid of viscosity grade ISO VG [32] (ISO 3448), with a dielectric breakdown voltage of not less than 25 kV when tested in accordance with ASTM D877 [to be confirmed by KPLC against the fluid specified by the truck manufacturer]. The seals, hoses and couplers of the saw shall be compatible with this

fluid, and the tenderer shall state the fluid recommended and any fluid that shall not be used. Dielectric hydraulic fluid shall not be mixed with other fluids.

4.4.6 All hose assemblies shall be individually pressure-tested and dielectrically tested, and shall be marked with the working pressure, voltage rating, date of test and serial number.

4.5 Chain Saw Head, Bar and Chain

4.5.1 The saw shall have a guide bar of effective cutting length of **not less than 300 mm (12 in)**, capable of cutting branches of not less than 250 mm diameter in hardwood species common in Kenya.

4.5.2 The saw chain shall be a low-kickback, low-vibration, semi-chisel type, 3/8 in (9.525 mm) pitch, 1.5 mm (0.058 in) gauge, with 56 drive links for a 400 mm (16 in) guide bar. It shall run at 15 to 20 m/s at the rated supply of 26 L/min at 140 bar, with speeds stated at minimum, rated and maximum flow. It shall be matched to a replaceable 7-tooth 3/8 in sprocket and a hardened alloy-steel guide bar with gauge groove, oiling hole and sealed or replaceable nose.

4.5.3 Components shall be heat-treated alloy steel with chromium-plated cutting edges (at least 58 HRC), peened rivets and a corrosion-resistant finish, with tensile strength stated and verified by test. Reduced-gauge depth gauges, guard links, a reduced-kickback bar nose and a chain catcher shall be fitted. Kickback shall be demonstrated to ISO 9518, tool safety shall conform to ISO 11681-2, and terminology shall follow ISO 6531. Vibration at the handhold or insulated pole shall not exceed 5 m/s^2.

4.5.4 Lubrication shall be automatic, independent of the dielectric hydraulic fluid, using biodegradable oil with a reservoir of at least 250 mL. The chain and bar shall be treated as live parts and not relied on for insulation, with the tool designed, tested, inspected and re-tested to IEC 61318 and IEC 61477 (terminology per IEC 60743).

4.5.5 The saw head shall be fitted with an automatic chain lubrication system, using a biodegradable bar and chain oil, with an oil reservoir sufficient for at least thirty (30) minutes of continuous cutting.

4.5.6 The saw head shall have a chain catcher, a chain guard, a bar scabbard/cover for transportation, and a tool-free or simple-tool chain tensioning mechanism accessible without removing the head from the pole.

4.5.7 The weight of the saw head with bar and chain shall not exceed 6.0 kg, and the weight of the complete 3.0 m assembly shall not exceed 12.0 kg.

4.6 Operator Controls and Safety Features

4.6.1 The saw shall be equipped with a dead-man (hold-to-run) control valve on the operator's handle, so that the chain stops when the control is released.

4.6.2 The saw shall have a chain brake that stops the chain within one (1) second of control release.

4.6.3 The handle shall be ergonomic, anti-slip, and provide a two-hand grip with an insulating hand guard. The operator control shall not require any metallic linkage across the insulating section.

4.6.4 The saw shall have a hydraulic pressure relief or flow-limiting provision to protect the hydraulic motor and hoses against pressure surges.

4.6.5 Sound power level and hand-arm vibration of the saw shall be in accordance with ISO 11681-2.

4.6.6 Warning labels, in English shall be fixed on the tool covering at least: danger of electric shock, maximum voltage of use, maximum pressure, and requirement to wear personal protective equipment.

4.7 Accessories

4.7.1 The following accessories shall be included with each saw:

a) Two (2) spare chains and one (1) spare guide bar;

b) One (1) set of tools for chain tensioning and routine maintenance;

c) A complete set of couplers, O-rings and seals.

d) Insulated storage tube or bag for the pole, and a carrying case for the saw head and accessories;

e) One (1) set of operating and maintenance manuals in English.

4.8 Technical Particulars

4.8.1 The hydraulic long-reach chain saw shall have the technical particulars shown in Table 1 below.

Table 1: Technical particulars of Hydraulic Long-Reach Chain Saw for Live-Line Work

Parameter	Description
Operating temperature	-5 °C to +50 °C
Storage temperature	-5 °C to +60 °C
Humidity range (relative humidity)	20% to 96%, non-condensing
Voltage classes of application	11 kV, 33 kV, 66 kV & 132 kV
Minimum effective insulating length (pole)	11 kV: 0.9 m; 33 kV: 1.0 m; 66 kV: 1.4 m; 132 kV: 1.8 m
Minimum extended working length	3.0 m
Dielectric withstand of insulating pole	Minimum 100 kV (rms, 50 Hz) per 300 mm for 1 minute without flashover, puncture or perceptible heating (IEC 60832 / IEEE 978)
Hydraulic operating pressure	100–140 bar
Hydraulic flow	20–40 L/min
Maximum relief pressure	175 bar
Hose rating	Not less than 210 bar working pressure, 4:1 burst, non-conductive
Guide bar length	Not less than 300 mm
Maximum cutting diameter	Not less than 250 mm
Chain speed	Not less than 15 m/s
Chain stop time	1 second maximum
Weight of saw head with bar and chain	6.0 kg maximum
Weight of complete 3.0 m assembly	12.0 kg maximum

Parameter	Description
Connectors	ISO 7241 flat-face dry-break couplers
Tool circuit compatibility	Open-centre, constant-flow auxiliary tool circuit of KPLC live-line trucks; couplers, port threads and adaptors as per clause 4.2.3
Fluid	Dielectric hydraulic fluid: mineral-oil-based, anti-wear, ISO VG [32], dielectric breakdown voltage not less than 25 kV (ASTM D877)
Chain oil reservoir	Not less than 30 minutes continuous operation
Type test	According to IEC 60832, IEC 61477 and IEEE 978

5. TEST REQUIREMENTS

5.1 The hydraulic long-reach chain saw shall be inspected and tested in accordance with IEC 60855-1, IEC 61235, IEC 60832, IEC 61477, IEC 60060-1, ISO 11681-2, ISO 4413 and this specification.

5.2 Copies of previous test reports issued by the manufacturer or a third-party testing laboratory that is accredited to ISO/IEC 17025:2005 or 17025:2017, confirming the dielectric and mechanical performance and compliance of the saw offered, shall be submitted with the offer for evaluation (all in English language).

5.3 Copies of test reports for the saw offered shall be submitted, covering the following tests:

a) Routine tests (on every unit)

i. Visual and dimensional inspection
ii. Dielectric withstand test of each insulating pole section
iii. Dielectric withstand test and leakage-current measurement on each hydraulic hose assembly
iv. Hydraulic proof-pressure test of hoses and couplers (1.5 times working pressure)
v. Leakage test of the complete hydraulic circuit
vi. Functional test: chain run, dead-man control, chain stop time
vii. Marking and durability of markings

b) Type tests

i. Dielectric tests on the pole: power-frequency withstand, and moisture absorption/surface-resistance tests after wet conditioning
ii. Mechanical tests on the pole: bending, torsion, tension and deflection under rated load
iii. Hose burst pressure test and impulse (pressure cycling) test
iv. Hydraulic performance test: chain speed, power output and cutting capacity at rated pressure and flow
v. Chain brake and kick-back safety tests (ISO 11681-2)
vi. Sound power level and hand-arm vibration tests
vii. Environmental tests: temperature, humidity, UV and weathering (IEC 60068)
viii. Drop and impact tests, including the carrying case

ix. Endurance test: not less than 50 hours cumulative cutting duty without failure

c) Functional tests on the instrument that shall include:

i. Clear indication of voltage rating and test date
ii. Clear perceptibility of warning labels
iii. Response of the dead-man control
iv. Coupler connect/disconnect under pressure
v. Compatibility with the live-line truck hydraulic circuit

6. MARKING AND PACKING

6.1 Marking

The following information shall be marked legibly and permanently on the saw, on each insulating pole section and on each hose assembly:

i. The manufacturer's name or trade mark;
ii. Maximum voltage of use (kV);
iii. Model number;
iv. Serial number;
v. Date of manufacture and date of last dielectric test;
vi. Maximum working hydraulic pressure;
vii. Letters "Property of Kenya Power & Lighting Plc".

6.2 Packing

6.2.1 The saw, pole sections, hose assemblies and accessories shall be packed in carrying cases and a storage tube so as to protect them from damage and entry of moisture during transportation, handling and storage.

6.2.2 The carrying case shall be shock proof and impact resistant and shall be able to withstand a fall of the packed saw.

6.2.3 Hydraulic ports shall be fitted with dust caps during transport and storage.

7. WARRANTY

7.1 The hydraulic long-reach chain saw shall be backed by a minimum of 12-months warranty period from the date of delivery to KPLC stores.

7.2 Technical support, and the availability of spare parts (chains, bars, seals, hoses, couplers), shall be guaranteed for a period of not less than 5 years. Technical support shall be provided free of charge for not less than 36 months.

7.3 The Bidder shall submit a clause-by-clause statement of compliance with the specification (GTP) together with copies of the manufacturer's catalogues, brochures, technical data and proven test

reports, all in English, for evaluation, according to Appendix C1 of this Specification. The manufacturer's type reference/designation of the item offered shall be indicated.

7.4 In the case of tender award, technical details for the hydraulic long-reach chain saw shall be submitted to Kenya Power for approval before manufacture commences, according to Appendix C2 of this Specification.

8. TRAINING

8.1 Training at the manufacturer's premises

8.1.1 The successful bidder/manufacturer shall arrange to conduct a Factory Acceptance Test for the manufactured saws. The Factory Acceptance Test shall include training on the saw for four (4) KPLC engineers/technicians. At least two (2) of the engineers/technicians shall be live-line users.

8.1.2 The training shall include theory followed by practical demonstrations on set-up, operation from a live-line truck, safe working procedures on live lines, routine care and dielectric testing of the tool.

8.1.3 The manufacturer shall plan adequate time for the training, which shall be conducted by the manufacturer's expert.

8.1.4 The training shall be deemed successful once the engineers/technicians are able to assemble, inspect, test and operate the equipment safely.

8.1.5 The manufacturer shall meet all the costs of the factory training.

8.2 Local Training

8.2.1 Following delivery of the saws, the manufacturer shall conduct training in Nairobi, Kenya. The training shall be conducted in one session of 20 KPLC engineers/technicians and shall last at least three (3) days.

8.2.2 The training shall include theory on features and how the equipment works, safe live-line operating practice, maintenance (chain sharpening and tensioning, hose inspection, fluid care) and in-service dielectric testing, followed by practical demonstrations. All steps shall be exhaustively explained and demonstrated.

8.2.3 The training shall be considered to have been successful once the engineers/technicians are able to completely assemble, inspect, test and operate the equipment.

8.2.4 The supplier shall meet all the costs for conducting the local training, including local accommodation and transport for their training staff. The supplier shall provide all the training materials including notes.

APPENDICES

A: TESTS AND INSPECTION (Normative)

A.1 It shall be the responsibility of the supplier to test or to have all the relevant tests performed on the hydraulic long-reach chain saw.

A.2 Copies of previous test reports issued by the manufacturer or a third-party testing laboratory that is accredited to ISO/IEC 17025:2005 or 17025:2017 shall be submitted with the tender for the purpose of technical evaluation. A copy of the accreditation certificate for the testing laboratory shall also be submitted with the tender (all in English language). Any translations of certificates and test reports into English language shall be signed and stamped by the Testing Authority.

A.3 Test certificates and calibration certificates shall be submitted by the supplier to KPLC for approval before supply/delivery.

A.4 On receipt of the saws, Kenya Power will inspect the items and may perform relevant tests (including dielectric tests of the insulating pole and hoses) in order to verify compliance with the specification. The supplier shall replace without charge to Kenya Power any unit that upon test or use fails to meet any or all of the requirements in the specification.

B: QUALITY MANAGEMENT SYSTEM (Normative)

B.1 The supplier shall submit a Quality Assurance Plan (QAP) that will be used to ensure that the physical properties, tests and documentation of the saw will fulfil the requirements stated in the contract documents, standards, specifications and regulations. The QAP shall be based on and include relevant parts to fulfil the requirements of ISO 9001:2015.

B.2 The manufacturer's Declaration of Conformity to applicable standards and copies of quality management certifications, including a copy of valid and relevant ISO 9001:2015 certificate, shall be submitted with the tender for evaluation.

B.3 The bidder shall indicate the delivery time of the equipment. A detailed list and contact addresses (including e-mail) of the manufacturer's previous customers for similar live-line tools sold shall be submitted with the tender for evaluation.

C: TECHNICAL DOCUMENTATION (Normative)

C.1 The bidder shall submit its tender complete with technical documents for tender evaluation. The technical documents to be submitted (all in English language) shall include:

a) Fully filled clause-by-clause Guaranteed Technical Particulars (GTP) signed by the Agent, Dealer, manufacturer, as indicated in Appendix D of this Specification;

b) Copies of the manufacturer's catalogues, brochures, drawings giving all relevant dimensions, hydraulic circuit diagram and technical data;

c) Records for previous projects, local or foreign, for the items;

d) Details of manufacturing capacity and the manufacturer's experience;

e) Copies of required test reports of a testing laboratory accredited to ISO/IEC 17025;

f) Copy of accreditation certificate to ISO/IEC 17025 for the testing laboratory;

g) Manufacturer's letter of authorisation, ISO 9001 certificate, and other technical documents required in the tender;

h) Manufacturer's warranty and guarantee, subject to 12 months from date of delivery of items to KPLC stores;

i) Operational and service manual for the items.

k) Where the bidder is not the Original Equipment Manufacturer (OEM), the bidder shall be a licensed dealer or an agent duly authorized by the OEM to supply the offered equipment. The bidder shall submit a valid Manufacturer's Authorization Letter (MAL) issued by the OEM

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

a) Fully filled clause-by-clause GTP stamped and signed by the manufacturer, as indicated in Appendix D;

b) Drawings of the saw to be manufactured for KPLC;

c) Product operation manuals and brochures;

d) Quality assurance plan (QAP) used to ensure that the design, material, workmanship, tests, service capability, maintenance and documentation will fulfil the requirements stated in the contract documents, standards, specifications and regulations. The QAP shall be based on and include relevant parts to fulfil the requirements of ISO 9001:2015;

e) Each saw, pole section, hose and coupler shall be permanently and legibly marked with the manufacturer's name, model, unique serial number, year of manufacture, rated voltage class and test voltage, rated flow and pressure where applicable, and the live-working double-triangle symbol (IEC 60417), in accordance with IEC 61477, IEC 61318 and, for insulating tubes, IEC 60855-1. Metal parts shall be laser-engraved or fitted with a riveted stainless-steel data plate. Insulating pole sections shall be marked by durable printing or sleeve labels under a clear protective coat, with no engraving, drilling or metallic labels. Hoses shall carry factory-printed or embossed cover marking at intervals not exceeding 1 m, with a non-metallic identification tag at each end showing serial number, test voltage and test date, and flow-direction arrows for pressure and return. Markings shall remain legible after rubbing with water and petroleum spirit and exposure to UV, hydraulic fluid and bar oil. A tamper-evident, colour-coded test status label shall be applied after each periodic dielectric test, and each item shall carry a QR or bar code linked to its test certificate and the KPLC asset register

f) All documentation necessary for safety of the equipment;

g) Packaging details (including packaging materials).

C.3 The supplier shall submit recommendations for use, care, storage, and routine inspection and in-service dielectric testing procedures, all in the English language, during delivery of the saws to KPLC stores.

Head of Section: Sub-transmission, Central Office	Head of Department: Transmission, Central Office
Signed:	Signed:
Date: 2026-10-19	Date: 2026-10-19

D: GUARANTEED TECHNICAL PARTICULARS (Normative)

To be filled and signed by the Manufacturer and submitted together with relevant copies of the Manufacturer's catalogues, brochures, drawings, technical data, sales records for previous five years, four customer reference letters, details of supplier's capacity and experience, and copies of complete type test certificates and test reports for tender evaluation, all in English language.

Tender No. .....

Bidder's name and address .....

Clause number	Requirement	KPLC Requirement	Bidder's offer
	Manufacturer's name and address	State	
	Country of manufacture	State	
	Name and model number	State	
1.0	Scope	State	
2.0	Normative references	State	
3.0	Definitions and abbreviations	State	
4.0	**Requirements**		
4.1	Service conditions	State	
4.2	**Design and construction**		
4.2.1	Standards of design and manufacture	State	
4.2.2	Main components of the saw	State	
4.2.3	Compatibility types with the KPLC live-line truck hydraulic circuit (circuit type, pressure, flow, couplers, port threads, return line) and adaptors supplied	State	
4.2.4	Provisions for safe approach distance	State	
4.2.5	Materials and corrosion protection	State	
4.3	**Insulated pole**		
4.3.1	Pole material and standard	State	
4.3.2	Extended working length (and optional lengths)	State	
4.3.3	Effective insulating length per voltage class	State	
4.3.4	Surface finish, marking and hand-guard	State	
4.3.5	Locking mechanism of telescopic sections	State	
4.3.6	Attachment point for support rope/sling	State	
4.4	**Hydraulic system**		

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Clause number	Requirement	KPLC Requirement	Bidder's offer
4.4.1	Operating pressure, flow and relief pressure	State	
4.4.2	Hydraulic motor design	State	
4.4.3	Dielectric hose: type, working and burst pressure, length	State	
4.4.4	Quick couplers: type and standard	State	
4.4.5	Hydraulic fluid type, viscosity grade and dielectric breakdown voltage (ASTM D877)	State	
4.4.6	Hose testing and marking	State	
4.5	**Chain saw head, bar and chain**		
4.5.1	Guide bar length and cutting capacity	State	
4.5.2	Chain type, pitch, gauge and speed	State	
4.5.3	Chain lubrication system and reservoir capacity	State	
4.5.4	Chain catcher, guard, scabbard and tensioner	State	
4.5.5	Weight of saw head and complete assembly	State	
4.6	**Operator controls and safety features**		
4.6.1	Dead-man control	State	
4.6.2	Chain brake and stop time	State	
4.6.3	Handle and insulating hand guard	State	
4.6.4	Pressure relief / flow limiting provision	State	
4.6.5	Sound power level and vibration	State	
4.6.6	Warning labels	State	
4.7	Accessories supplied	State	
4.8	**Table 1 technical particulars**		
4.8.1	Operating temperature (-5 °C to +50 °C)	State	
4.8.2	Minimum effective insulating length by voltage class	State	
4.8.3	Minimum extended working length (3.0 m)	State	
4.8.4	Dielectric withstand of pole (100 kV per 300 mm, 1 min)	State	
4.8.5	Hydraulic pressure (100–140 bar) and flow (20–40 L/min)	State	
4.8.6	Maximum relief pressure (175 bar)	State	
4.8.7	Hose rating (210 bar, 4:1 burst)	State	

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Clause number	Requirement	KPLC Requirement	Bidder's offer
4.8.8	Guide bar length (not less than 300 mm)	State	
4.8.9	Maximum cutting diameter (not less than 250 mm)	State	
4.8.10	Chain speed (not less than 15 m/s)	State	
4.8.11	Chain stop time (1 s maximum)	State	
4.8.12	Weight of saw head (6.0 kg maximum)	State	
4.8.13	Weight of complete 3.0 m assembly (12.0 kg maximum)	State	
4.8.14	Couplers (ISO 7241 flat-face, dry-break)	State	
5.0	**Test requirements**		
5.1	Manufacturer's capabilities of inspection and testing	State	
5.2	Copies of previous test reports; accreditation certificate and scope	Attach	
5.3	Copies of routine, type and functional test reports	Attach	
6.0	**Marking and packing**		
6.1	Marking	Specify	
6.2	Packing	Specify	
7.0	**Warranty:** state duration	State	
7.1	Minimum 12-months factory warranty	State	
7.2	Technical support (36 months) and spare parts availability (5 years)	State	
7.3	Clause-by-clause statement of compliance with supporting documents	State	
7.4	Technical details for KPLC approval before manufacture	State	
8.0	**Training**		
8.1	Training at manufacturer's premises (4 engineers/technicians)	State compliance	
8.2	Local training (20 engineers/technicians, at least 3 days)	State compliance	
A	**Test and inspection**		
A.1	Responsibility of carrying out tests	State	
A.2	Copies of type test reports submitted with tender	Provide	
A.3	Test and calibration certificates for approval before delivery	Provide	
A.4	Inspection at the stores and replacement of rejected items	State	

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Clause number	Requirement	KPLC Requirement	Bidder's offer
B	**Quality management system**		
B.1	Quality Assurance Plan	Provide	
B.2	Copy of ISO 9001:2015 certificate	Provide	
B.3	Manufacturer's experience and list of previous customers	Provide	
C	**Technical documentation**		
C.1	Documents submitted with tender	Provide	
C.2	Documents to be submitted for approval before manufacture	Provide	
C.3	Documents to be submitted during delivery at the store	Provide	
	Statement of deviations, if any, and supporting documents	State deviations	

NOTE:

1) Bidders shall give full details of the items on offer as per the specification and applicable standards. The details provided shall conform to the test reports and their certificates, as well as labelled drawings complete with dimensions, catalogues and/or brochures for the purpose of tender evaluation.

2) Bidders should note that the above Guaranteed Technical Particulars schedules must be fully completed and submitted with the bid. Wherever there is conflict between the GTPs and the clauses in the specification, the clauses in the specification take precedence. Failure to complete the schedules shall lead to rejection of the bid.

3) Guaranteed values shall be specified. Words like 'agreed', 'confirmed', 'As per KPLC specifications', etc. shall not be accepted and shall be considered non-responsive.

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Manufacturer's Name, Signature, Stamp and Date