Kenya Power and Lighting Co. PLC

Network Management, Distribution, MV network, Live Line.

USER SPECIFICATION: WIRE ROLLING STICK FOR LIVE-LINE OPERATIONS

1. Description

Supply of insulated Wire Rolling Sticks designed for use by live-line maintenance teams in the handling, rolling, positioning and manipulation of overhead electrical conductors during live-line operations.

The tool shall be suitable for hot-stick operations on energized overhead electrical distribution and transmission lines and shall provide safe, controlled conductor manipulation while maintaining the required electrical insulation and mechanical strength.

2. Technical Specifications

Item	Minimum user requirements
1. Tool type	Insulated Wire Rolling Stick with rotating conductor-engaging hook/roller mechanism.
2. Insulating pole	Manufactured from high-strength, electrical-grade Epoxiglas or equivalent tested insulating composite material.
3. Pole length	Approximately 2,080 mm (82 inches) overall length.
4. Conductor engagement mechanism	Fitted with a robust rotating hook/link mechanism designed to engage, capture and roll overhead conductors during manipulation.
5. Operating mechanism	Mechanism shall permit controlled rotation and movement of the conductor without unintended disengagement during operation.
6. Mechanical capacity	Minimum working load limit of 454 kg (1,000 lb), or higher.
7. Metallic components	Corrosion-resistant, high-strength metallic components suitable for outdoor electrical utility applications.
8. Insulation performance	Insulating pole shall meet applicable requirements for live-line hot sticks and be suitable for the intended voltage application.
9. Surface finish	Smooth, non-porous, weather-resistant finish, free from cracks, blisters, delamination or other defects that may compromise insulation.
10. Environmental suitability	Suitable for outdoor use under varying weather conditions and normal utility field operating environments.
11. Maintenance	Designed for inspection, cleaning and routine maintenance in accordance with the manufacturer's instructions.

3. Functional Requirements

The Wire Rolling Stick shall:

1. Enable live-line personnel to engage and manipulate overhead conductors from a safe working position.
2. Allow controlled rolling, repositioning and movement of conductors during live-line maintenance activities.
3. Have a secure conductor-engaging mechanism that minimizes the risk of accidental release during operation.
4. Be suitable for use with approved live-line working procedures and compatible hot-stick equipment.
5. Withstand the mechanical stresses associated with its rated working load without permanent deformation or failure.

4. Standards and Quality Requirements

- The insulating pole shall comply with ASTM F711 or an equivalent recognised standard for fibre-glass-reinforced plastic materials used in live-line tools.
- The complete tool shall comply with applicable live-working equipment safety requirements, including IEC 60832-1, where applicable.
- The supplier shall provide evidence of electrical insulation testing and mechanical load testing.
- The tool shall be supplied with manufacturer's inspection, operation, maintenance and storage instructions.
- All components shall be new, unused and free from manufacturing defects.

5. Documentation to Accompany Supply

The successful bidder shall provide:

- Manufacturer's technical datasheet.
- Certificate of conformity.
- Electrical insulation test certificate.
- Mechanical load test certificate indicating the working load limit.
- Operation and maintenance manual.
- Warranty documentation.

6. Warranty

The equipment shall carry a minimum manufacturer's warranty of twelve (12) months from the date of acceptance against manufacturing and material defects.

7. Inspection and Acceptance

Upon delivery, the equipment shall be inspected to verify:

- Compliance with the approved technical specifications.
- Correct operation of the rotating conductor-engaging mechanism.
- Absence of physical damage, defects or deterioration of insulating surfaces.
- Availability and validity of the required electrical and mechanical test certificates.
- Verification of the stated working load limit.

8. Delivery Requirements

The Wire Rolling Stick shall be delivered complete, assembled and ready for use, with all necessary operating components and accessories.

Important technical clarification for the tender

The proposed 454 kg (1,000 lb) rating is the tool's working load limit, not the allowable conductor tension in every live-line application. The supplier must demonstrate the rating through manufacturer documentation.

The approximately 2,080 mm length and rotating conductor-engaging mechanism are included to capture the intended tool configuration. The reference photograph should accompany the tender as a visual guide, with technically equivalent products permitted.

Recommended tender description:

Supply and Delivery of Insulated Wire Rolling Sticks Complete with Rotating Conductor-Engaging Mechanism for Live-Line Maintenance Operations

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