



Kenya Power

SPECIFICATION FOR TRANSFORMER OIL TRANSFER AND FILTER CART

A Document of the Kenya Power & Lighting Co. Ltd
February 2025



Kenya Power

TITLE:
SPECIFICATION FOR
TRANSFORMER OIL TRANSFER AND
FILTER CART

Doc. No.

Issue No.

1

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Date of Issue

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0.1 CIRCULATION LIST

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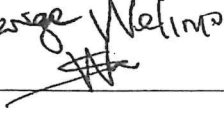
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0.2 AMENDMENT RECORD

Rev No.	Date (YYYY-MM-DD)	Description of Change	Prepared by (Name & Signature)	Approved by (Name & Signature)
0	2025-02-25	New issue	DOUGLAS M. KIRBY 	George Welimo 

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FOREWORD

This specification has been prepared by the E/plant workshop of The Kenya Power and Lighting Company Limited (KPLC) and it lays down requirements for Transformer oil transfer and filter cart.

The Transformer oil transfer and filter cart is intended for use by the E/plant workshop for transformer oil transfer.

This specification was prepared to establish and promote uniform requirements for Transformer oil transfer and filter cart to be used at Kenya Power and Lighting Company Ltd.

There are no other specifications in this series.

This specification stipulates the minimum requirements for Transformer oil transfer and filter cart acceptable for use in the company and it shall be the responsibility of the suppliers and manufacturer 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 Transformer oil transfer and filter cart for KPLC.

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

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1. SCOPE

- 1.1. This specification is for Transformer oil transfer and filter cart for use by company's E/plant workshop.
- 1.2. The specification covers requirements, inspection and tests, schedule of Guaranteed Technical Particulars, marking and packaging of Transformer oil transfer and filter cart.

2. NORMATIVE REFERENCES

The following standards contain provision 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.

- IEC 61557: Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d.c - Equipment for testing, measuring or monitoring of protective measures - Part 1: General requirements;
- IEC 60815: Selection and dimensioning of high voltage insulators intended for use in polluted conditions –Part 1: Definitions, information and general principles
- OIML D 11: General Requirements for Measuring Instruments - Environmental Conditions
- IEC 61000: Electromagnetic Compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test; – Part 6-2: Generic standards – Immunity for Industrial environment.
- IEC 60529: Degrees of protection provided by enclosures (IP code)
- ISO 9001: Quality Management systems – Requirements
- ISO/IEC 17025: General Requirements for the competence of testing and calibration laboratories

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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 abbreviations.

3.1. ABBREVIATIONS

KPLC- Kenya Power and Lighting Company Limited

ISO – International Organization for Standardization.

LED –Light Emitting Diode

Kg –Kilogram

KV - Kilovolt

IP – Ingress Protection

LV – Low Voltage

EMC – Electromagnetic Compatibility

EU – European Union


4. REQUIREMENTS

4.1. SERVICE CONDITIONS

4.1.1 The Transformer oil transfer and filter cart shall be suitable for use outdoors in tropical areas and harsh climatic conditions including areas exposed to:


- Altitudes of up to 2200m above sea level;
- Humidity of up to 95%;
- Average ambient temperature of +30°C with a minimum of -1°C and a maximum of +50°C
- Pollution: Degree 2

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4.2. DESIGN, CONSTRUCTION AND OPERATION

4.2.1. Design

- 4.2.1.1. The Transformer oil transfer and filter cart shall be used for transformer maintenance to pump oil from a tank to transformer tap changer tank and from transformer tap changer tank to tank on a regular basis
- 4.2.1.2. The Transformer oil transfer and filter cart shall be capable of transferring insulating oil to and from transformers and other electrical equipment at minimum rate of 3500LPH
- 4.2.1.3. Transformer oil transfer and filter cart shall be suitable for operation on 50Hz, single or three phase system. The Single phase voltage supply shall be $240\text{ V} \pm 10\%$ or The three phase voltage supply shall be $415\text{ V} \pm 10\%$.
- 4.2.1.4. The Transformer oil transfer and filter cart shall be of latest design, sturdy in construction and requiring minimum maintenance.

4.2.2. Construction

- 4.2.2.1. Transformer oil transfer and filter cart shall be suitable for outdoor use. All components including control panel shall have outdoor weather protected enclosures of sheet metal.
- 4.2.2.2. Transformer oil transfer and filter cart shall have a strainer, filter, pump and motor mounted on a hand trolley
- 4.2.2.3. All components shall be mounted on a common base frame, including all necessary piping for oil as well as electrical wiring
- 4.2.2.4. Transformer oil transfer and filter cart shall have A 4-Way transfer valve that allows the operator to reverse flow direction without disconnecting the hose
- 4.2.2.5. All bought out components shall be of reputed makes. Manufacturer's test reports for pump and motor will be supplied
- 4.2.2.6. Flow meter with totalizer in the outlet pipe of filter press shall be provided
- 4.2.2.7. A valve for draining the oil each from edge filter and filter press shall be provided

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- 4.2.2.8. Filter vessel, shall be of mild steel construction. The internal and external surface filter vessel and structural steel work to be painted and shall be shot or sand blasted to remove all rust and scale of foreign adhering matter or grease. All steel surface in contact with insulating oil shall be painted with two coats of heat resistant oil insoluble, insulating varnish/paint
- 4.2.2.9. All internal painted steel surface shall be given a primary coat for zinc chromate second coat of oil and weather resistant varnish of a colour distinct from primary and final two coats of glossy oil and weather resisting paint
- 4.2.2.10. All paints shall be carefully selected to withstand heat and extremes of weather. The paint shall not scale off or crinkle or be remove by abrasion due to normal handling
- 4.2.2.11. The external overall dimensions for Transformer oil transfer and filter cart shall be submitted with tender.
- 4.2.2.12. The gross weight of the Transformer oil transfer and filter cart shall be submitted with this tender.
- 4.2.2.13. Transformer oil transfer and filter cart shall have a variable frequency drive for pump/motor speed control. The variable frequency drive shall be conveniently located at the back of the filter cart.
- 4.2.2.14. Scheme drawings for Transformer oil transfer and filter cart offered and Flow diagram of oil filtration plant, pumps and motors shall be submitted with tender, clearly detailing important dimensions, any special features of the offered design, components, accessories and fittings.
- 4.2.2.15. Complete list of components, instruments and accessories offered with their make and accompanied with catalogue/brochure/pamphlets/literature/write-ups shall be submitted with the tender.

4.2.3. Operation

- 4.2.3.1. Operation sequence and dangers sign plates shall also be provided

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- 4.2.3.2. Oil shall be taken in through inlet valve
- 4.2.3.3. Oil shall be passed through a strainer installed on the inlet line of the plant up stream of the inlet pump
- 4.2.3.4. This oil shall be filtered through a filter (10 micron) to remove major portion of coarse dirt
- 4.2.3.5. The hoses shall stay connected, and flow is reversed by turning the A 4-Way valve to the proper position.

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4.3. TECHNICAL PARTICULARS

4.3.1. OIL PUMP (INLET PUMP)

- 4.3.1.1. The pumps shall be single stage positive displacement gear type.
- 4.3.1.2. The pump shall be capable of delivering the minimum flow rate of 3500 LPH
- 4.3.1.3. The pump motor shall have insulation class-F with IP-54 protection.
- 4.3.1.4. A built in pressure relief valve to re-circulate the oil to suction side in case of accidental pressure rise shall be provided.
- 4.3.1.5. Suction lift of the pump shall be at least 5 meters of transformer oil at atmospheric pressure and temperature.
- 4.3.1.6. A separate by pass valve shall be provided across the gear pump so that the flow rate through the filter can be adjusted as required.
- 4.3.1.7. The following oil inlet pump details shall be provided
- a) Pump Make
 - b) Pump Type
 - c) Pump Capacity
 - d) Motor make and type
 - e) Motor Rating
 - f) Motor type of starter

4.3.2. MAGNETIC STRAINER

- 4.3.2.1. The plant shall be provided with a suitable magnetic strainer with wire mesh to filter all particles of sizes above 0.5 mm and all magnetic particles.
- 4.3.2.2. The strainer shall be installed at the suction of the oil pump described at 4.3.1

4.3.3. FILTER PRESS

- 4.3.3.1. These unit shall be designed for quick and easy replacement of media.
- 4.3.3.2. A sludge outlet for receiving the solid impurities and cleaning the filter plate without opening the unit shall be provided.

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4.3.3.3. The unit shall also be provided with vent and drain valves, pressure gauge at inlet and outlet and other necessary accessories.

4.3.3.4. The inner filter element of the filter cartridge shall be 10 micron or less.

4.3.3.5.

4.3.4. INSTRUMENTATION AND CONTROL

4.3.4.1. Following minimum instruments shall be provided on the purification plant

- a) Compound gauge at filter inlet and outlet.
- b) High differential pressure across filters

4.3.5. HOSES FOR TRANSFORMER OIL AND VACUUMING

4.3.5.1. Reinforced rubber hoses shall be provided for each operation of oil suction and Oil discharge

4.3.5.2. Two pieces of Oil hose of nitrile rubber reinforced with armour 1.5 inch internal diameter. Each piece shall be 15 meters long and shall be with leakage-proof, quick connect couplers for connection to installations under operation.

4.3.5.3. Hose pipes for oil service shall be suitable for transformer oil applicable up to temperature of 100°C. full vacuum and pressure up to 2.5 kg/cm² or 245.2kPa.

4.3.5.4. All oil hoses shall be built up around an earthed core or have built in earthed conductor to avoid static electricity accumulation.

4.3.5.5. Suitable mobile hose racks shall be provided to accommodate the hoses. All pipes fittings and hoses shall be properly labelled and distinctively marked

4.3.6. ELECTRICAL SYSTEM

4.3.6.1. The plant shall receive 240v, 1-phase, 3 wire or 415V 3-Phase, 50Hz, 4 wire power supply through flexible cable in the cable in the distribution panel location on the Cart.

4.3.6.2. One length of 20 meters of oil resistant cable shall be provided for connection of the unit to mains.

4.3.6.3. The length of the cable will be covered in a suitable cable holder.

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4.3.6.4. Provision for earthing the plant at the operating locations with earthing terminals for safety shall be provided.

4.4. DRAWINGS, DOCUMENTATION AND SUPPORT

4.4.1. Warranty and training

4.4.1.1. The Transformer oil transfer and filter cart shall be backed by a minimum of 12-months factory warranty.

4.4.1.2. The Bidder shall submit a clause by clause statement of compliance with the specifications together with copies of the manufacturer's catalogues, brochures and technical clearly marked to support each clause, all in English for evaluation. The manufacturer's type reference/designation of the item offered shall be indicated

4.4.1.3. In the case of tender award, technical details for the Transformer oil transfer and filter cart shall be submitted to the Kenya Power for approval before manufacture commences. The tenderer shall submit all the drawings as following

- a) Schematic drawings of the plant with all piping systems, control systems and instrumentation with reference of the relevant international standards followed for the design and construction of the plant and its components/material
- b) General arrangement plan, section of main and sub-assemblies, with detailed dimensions of the parts and the size of each and every part of the equipment to be supplied under this specification
- c) Complete list of accessories and auxiliaries with their make and accompanied with catalogue/pamphlets/literature/write-ups

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5. MARKING, LABELLING AND PACKING

5.1. MARKING


5.1.1. The following information shall be marked legibly and in a permanent manner on the Transformer oil transfer and filter cart:

- a) The manufacturer's name or trade mark;
- b) Type, model and serial number;
- c) Nominal input voltage and Frequency
- d) Individual loads ratings e.g Pumps, motors
- e) Total Power (kW) Consumption
- f) Flow diagram from inlet to outlet connection
- g) Letters "PROPERTY OF KENYA POWER"
- h) The instructions for handling and use (in the English Language).

5.2. PACKING


5.2.1. The Transformer oil transfer and filter cart shall be packed in a carrying case so as to protect it from damage during transportation, handling and storage.

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APPENDICIES

A: TESTS AND INSPECTION (Normative)

A.1 Transformer oil transfer and filter cart shall be inspected and tested in accordance with the requirements of this specification. It shall be the responsibility of the manufacturer to perform or to have performed all the tests specified. Tenderers shall confirm the manufacturer's capabilities in this regard when submitting tenders. Any limitations shall be clearly specified.

A.2 Transformer oil transfer and filter cart shall be subject to acceptance tests at the manufacturer's works before dispatch. Acceptance tests shall be witnessed by Three Engineers appointed by KPLC and shall include the following

- a) General construction inspection i.e. visual, dimensional and material
- b) Operational test of the Cart
- c) Cart capacity test for flow rate
- d) Test for electrical check i.e. Insulation Resistance and High Voltage test of Control panel
- e) Tests certificates for suction & discharge heads of pump supplied
- f) Control Panel check
- g) Any other test which is required to ensure satisfactory operation of the plant shall be performed by the supplier free of cost.

A.3 On receipt of the Transformer oil transfer and filter cart, Kenya Power will inspect them and may perform or have performed any of the relevant tests in order to verify compliance with the specification. The supplier shall replace without charge to Kenya Power, any Transformer oil transfer and filter cart which upon examination, test or use fail 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 Transformer oil transfer and filter cart physical properties, tests and documentation, will fulfill

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the requirements stated in the contract documents, standards, specifications and regulations. The QAP shall be based on and include relevant parts to fulfill the requirements of ISO 9001: 2015.



B.2 The Manufacturer's Declaration of Conformity to applicable standards and copies of quality management certifications including 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, manufacturer's monthly & annual production capacity and experience in the production of the Transformer oil transfer and filter cart being offered. A detailed list & contact addresses (including e-mail) of the manufacturer's previous customers for similar type of the Transformer oil transfer and filter cart sold in the last five years as well as reference letters from at least four of the customers shall be submitted with the tender for evaluation.

C: DOCUMENTATION AND DEMONSTRATION (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) for tender evaluation shall include the following:

- a) Fully filled clause by clause guaranteed technical particulars (GTP) signed by the manufacturer;
- b) Copies of the Manufacturer's catalogues, brochures, drawings giving all relevant dimensions, Flow/Schematic Diagram and technical data;
- c) Sales records for the last five years and at least four customer reference letters;
- d) Details of manufacturing capacity and the manufacturer's experience;
- e) Manufacturers letter of authorization, ISO 9001 certificate, and other technical documents required in the tender.
- f) Manufacturer's warranty and guarantee; subject to 12 months from date of delivery to KPLC stores

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g) Operational manual.

h) Service manual.

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 guaranteed technical particulars (GTP) stamped and signed by the manufacturer;
- b) Drawings of the Transformer oil transfer and filter cart to be manufactured for KPLC.
- c) Schematic drawings of the plant with all piping systems, control systems and instrumentation with reference of the relevant international standards followed for the design and construction of the plant and its components/material
- d) General arrangement plan, section of main and sub-assemblies, with detailed dimensions of the parts and the size of each and every part of the equipment to be supplied under this specification
- e) Complete list of accessories and auxiliaries with their make and accompanied with catalogue/pamphlets/literature/write-ups
- f) Product manuals, operation manuals and brochures,
- g) Quality assurance plan (QAP) that will be used to ensure that the design, material; workmanship, tests, service capability, maintenance and documentation will fulfill the requirements stated in the contract documents, standards, specifications and regulations. The QAP shall be based on and include relevant parts to fulfill the requirements of ISO 9001.
- h) All documentation necessary for safety of the plant.
- i) Packaging details (including packaging materials).

C.3. The supplier shall submit recommendations for use, care, storage and routine inspection/testing procedures, all in the English Language, during delivery of the the Transformer oil transfer and filter cart to KPLC.

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

C.4. The successful bidder shall demonstrate to KPLC Staff (in Mombasa) the operation of the Transformer oil transfer and filter cart.

D: ACCESSORIES (MANDATORY)

The following accessories shall be part of the bid

- 1) filter Cartridges/elements,10 sets
- 2) Variable frequency drive,1 piece

Bidder to indicate any other accessories to be supplied and quote the price of each separately

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E: 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 suppliers' 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	Bidder's offer
	Manufacturer's Name and address	
	Country of Manufacture	State
	Name and model Number	
1.	Scope	State
2.	Normative References	State
3.	Definitions and Abbreviations	
3.1.	Abbreviations	State
4.1.	SERVICE CONDITIONS	
4.1.1	suitable for use outdoors in tropical areas and harsh climatic conditions	
a)	Altitudes	State
b)	Humidity	State
c)	Average ambient temperature	State
4.2.	DESIGN, CONSTRUCTION AND OPERATION	
4.2.1.	Design	
4.2.1.1.	The Transformer oil transfer and filter cart rated for transformer maintenance to pump oil from a tank to transformer on a regular basis	State
4.2.1.2.	The Transformer oil transfer and filter cart capable of transferring insulating oil to and from transformers and other electrical equipment at minimum rate of 3500LPH	State

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4.2.1.3.	Transformer oil transfer and filter cart suitable for operation on 50Hz, single or three phase system. The Single phase voltage supply shall be 240 V + 10% or The three phase voltage supply shall be 415 V + 10%..	State
4.2.1.4.	The Transformer oil transfer and filter cart shall be of latest design, sturdy in construction and requiring minimum maintenance.	State
4.2.2.	Construction	State
4.2.2.1.	Transformer oil transfer and filter cart suitable for outdoor use. All components including control panel shall have outdoor weather protected enclosures of sheet metal.	State
4.2.2.2.	Transformer oil transfer and filter cart have a filter, pump and motor mounted on a hand trolley	State
4.2.2.3.	All components mounted on a common base frame, including all necessary piping for oil as well as electrical wiring	State
4.2.2.4.	Transformer oil transfer and filter cart have A 4-Way transfer valve that allows the operator to reverse flow direction without disconnecting the hose pipes	State
4.2.2.5.	All bought out components of reputed makes. Manufacturer's test reports for pump and motor attached	State
4.2.2.6.	Flow meter with totalizer in the outlet pipe of filter press provided	State
4.2.2.7.	A valve for draining the oil each from edge filter and filter press provided	State
4.2.2.8.	Filter vessel of mild steel construction. The internal and external surface filter vessel and structural steel work to be painted and shot or sand blasted to remove all rust and scale of foreign adhering matter or grease. All steel surface in contact with insulating oil painted with two coats of heat resistant oil insoluble, insulating varnish/paint	State
4.2.2.9.	All internal painted steel surface given a primary coat for zinc chromate second coat of oil and weather resistant varnish of a colour distinct from primary and final two coats of glossy oil and weather resisting paint	State
4.2.2.10.	All paints carefully selected to withstand heat and extremes of weather. The paint shall not scale off or crinkle or be removed by abrasion due to normal handling	State
4.2.2.11.	The external overall dimensions for Transformer oil transfer and filter cart submitted with tender.	State
4.2.2.12.	The gross weight of the Transformer oil transfer and filter cart submitted with this tender.	State

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Clause number	Requirement	Bidder's offer
4.2.2.13.	Transformer oil transfer and filter cart have a variable frequency drive for pump/motor speed control. The variable frequency drive shall be conveniently located at the back of the filter cart.	State
4.2.2.14.	Scheme drawings for Transformer oil transfer and filter cart offered and Flow diagram of oil filtration plant, pumps and motors submitted with tender, clearly detailing important dimensions, any special features of the offered design, components, accessories and fittings.	State
4.2.2.15.	Complete list of components, instruments and accessories offered with their make and accompanied with catalogue/brochure/pamphlets/literature/write-ups submitted with the tender.	State
4.2.3.	Operation	
4.2.3.1.	Operation sequence and dangers sign plates shall provided	State
4.2.3.2.	Oil taken in through inlet valve	State
4.2.3.3.	Oil passed through a strainer installed on the inlet line of the plant up stream of the inlet pump	State
4.2.3.4.	This oil filtered through a filter (10 micron) to remove major portion of coarse dirt	State
4.2.3.5.	The hoses stay connected, and flow is reversed by turning the 4-way valve to the proper position.	State
4.3.	TECHNICAL PARTICULARS	
4.3.1.	OIL PUMP (INLET PUMP)	
4.3.1.1.	The pumps single stage positive displacement gear type.	State
4.3.1.2.	The pump capable of delivering the minimum flow rate of 3500 LPH	State
4.3.1.3.	The pump motor have insulation class-F with IP-54 or better protection.	State
4.3.1.4.	A built in pressure relief valve to re-circulate the oil to suction side in case of accidental pressure rise provided.	State
4.3.1.5.	Suction lift of the pump at least 5 meters of transformer oil at atmospheric pressure and temperature.	State
4.3.1.6.	A separate by pass valve provided across the gear pump so that the flow rate through the filter can be adjusted as required.	State
4.3.1.7.	The following oil inlet pump details provided	
a)	Pump Make	Specify
b)	Pump Type	Specify
c)	Pump Capacity	Specify
d)	Motor make and type	Specify
e)	Motor Rating	Specify

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f)	Motor type of starter	Specify
4.3.2.	MAGNETIC STRAINER	
4.3.2.1.	The plant provided with a suitable magnetic strainer with wire mesh to filter all particles of sizes above 0.5 mm and all magnetic particles.	
4.3.2.2.	The strainer installed at the suction of the oil pump described at 4.3.1	
4.3.3.	FILTER PRESS	
4.3.3.1.	These units designed for quick and easy replacement of media.	State
4.3.3.2.	A sludge outlet for receiving the solid impurities and cleaning the filter plate without opening the unit provided.	State
4.3.3.3.	The unit provided with vent and drain valves, pressure gauge at inlet and outlet and other necessary accessories.	State
4.3.3.4.	The inner filter element of the filter cartridge 10 micron or less.	Specify
4.3.4.	INSTRUMENTATION AND CONTROL	
4.3.4.1.	Following minimum instruments provided on the purification plant	
a)	Compound gauge at filter inlet and outlet.	State
b)	High differential pressure across filters	State
4.3.5.	HOSES FOR TRANSFORMER OIL AND VACUUMING	
4.3.5.1.	Reinforced rubber hoses provided for each operation of oil suction and Oil discharge	State
4.3.5.2.	Two pieces of Oil hose of nitrile rubber reinforced with amour 1.0 inch internal diameter. Each piece 15 meters long and with leakage-proof, quick connect couplers for connection to installations under operation.	State
4.3.5.3.	Hose pipes for oil service suitable for transformer oil applicable up to temperature of 100°C. full vacuum and pressure up to 2.5 kg/cm ² or 245.2kPa.	State
4.3.5.4.	All oil hoses built up around an earthed core or have built in earthed conductor to avoid static electricity accumulation.	State
4.3.5.5.	Suitable mobile hose racks provided to accommodate the hoses. All pipes fittings and hoses shall be properly labelled and distinctively marked	State
4.3.6.	ELECTRICAL SYSTEM	
4.3.6.1.	The plant receive 240V, 1-phase, 3 wire or 415V 3-Phase, 50Hz, 4 wire power supply through flexible cable in the cable in the distribution panel location on the Cart.	State
4.3.6.2.	One length of 20 meters of oil resistant cable provided for connection of the unit to mains.	State

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Clause number	Requirement	Bidder's offer
4.3.6.3.	The length of the cable will be covered in a suitable cable holder.	State
4.3.6.4.	Provision for earthing the plant at the operating locations with earthing terminals for safety provided.	State
4.4.	DRAWINGS, DOCUMENTATION AND SUPPORT	
4.4.1.	Warranty and training	
4.4.1.1.	The Transformer oil transfer and filter cart backed by a minimum of 12-months factory warranty.	State
4.4.1.2.	The Bidders submit a clause by clause statement of compliance with the specifications together with copies of the manufacturer's catalogues, brochures and technical clearly marked to support each clause, all in English for evaluation. The manufacturer's type reference/designation of the item offered shall be indicated	State
4.4.1.3.	In the case of tender award, technical details for the Transformer oil transfer and filter cart shall be submitted to the Kenya Power for approval before manufacture commences. The tenderer submit all the drawings as following	
a)	Schematic drawings of the plant with all piping systems, control systems and instrumentation with reference of the relevant international standards followed for the design and construction of the plant and its components/material	State
b)	General arrangement plan, section of main and sub-assemblies, with detailed dimensions of the parts and the size of each and every part of the equipment to be supplied under this specification	State
c)	Complete list of accessories and auxiliaries with their make and accompanied with catalogue/pamphlets/literature/write-ups	State
5	MARKING, LABELLING AND PACKING	
5.1.	MARKING	
5.1.1.	The following information marked legibly and in a permanent manner on the Transformer oil transfer and filter cart:	
a)	The manufacturer's name or trade mark;	State
b)	Type, model and serial number;	State
c)	Nominal input voltage and Frequency	State
d)	Individual loads ratings e.g Pumps motors	State
e)	Total Power (kW) Consumption	State
f)	Flow diagram from inlet to outlet connection	State
g)	Letters "PROPERTY OF KENYA POWER"	State
h)	The instructions for handling and use (in the English Language).	State
5.2.	PACKING	

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5.2.1.	The Transformer oil transfer and filter cart shall be packed in a carrying case so as to protect it from damage during transportation, handling and storage.	State
	APPENDICIES	
A:	TESTS AND INSPECTION (Normative)	
A.1	Transformer oil transfer and filter cart shall be inspected and tested in accordance with the requirements of this specification. It shall be the responsibility of the manufacturer to perform or to have performed all the tests specified. Tenderers shall confirm the manufacturer's capabilities in this regard when submitting tenders. Any limitations shall be clearly specified.	State
A.2	Transformer oil transfer and filter cart shall be subject to acceptance tests at the manufacturer's works before dispatch. Acceptance tests shall be witnessed by Three Engineers appointed by KPLC and shall include the following	
a)	General construction inspection i.e. visual, dimensional and material	State
b)	Operational test of the Cart	State
c)	Cart capacity test for flow rate	State
d)	Test for electrical check i.e. Insulation Resistance and High Voltage test of Control panel	State
e)	Tests certificates for suction & discharge heads of pump supplied	State
f)	Control Panel check	State
g)	Any other test which is required to ensure satisfactory operation of the plant shall be performed by the supplier free of cost.	State
A.3	On receipt of the Transformer oil transfer and filter cart, Kenya Power will inspect them and may perform or have performed any of the relevant tests in order to verify compliance with the specification. The supplier shall replace without charge to Kenya Power, any Transformer oil transfer and filter cart which upon examination, test or use fail to meet any or all of the requirements in the specification.	State
B:	QUALITY MANAGEMENT SYSTEM (Normative)	
B.1	The supplier shall submit a quality assurance plan (QAP) that will be used to ensure that the Transformer oil transfer and filter cart physical properties, tests and documentation, will fulfill the requirements stated in the contract documents, standards, specifications and regulations. The QAP shall be based on and include relevant parts to fulfill the requirements of ISO 9001: 2015.	State
B.2	The Manufacturer's Declaration of Conformity to applicable standards and copies of quality management certifications including	State

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	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, manufacturer's monthly & annual production capacity and experience in the production of the Transformer oil transfer and filter cart being offered. A detailed list & contact addresses (including e-mail) of the manufacturer's previous customers for similar type of the Transformer oil transfer and filter cart sold in the last five years as well as reference letters from at least four of the customers shall be submitted with the tender for evaluation.	State
C:	DOCUMENTATION AND DEMONSTRATION (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) for tender evaluation shall include the following:	
a)	Fully filled clause by clause guaranteed technical particulars (GTP) signed by the manufacturer;	State
b)	Copies of the Manufacturer's catalogues, brochures, drawings giving all relevant dimensions, Flow/Schematic Diagram and technical data;	State
c)	Sales records for the last five years and at least four customer reference letters;	State
d)	Details of manufacturing capacity and the manufacturer's experience;	State
e)	Manufacturers letter of authorization, ISO 9001 certificate, and other technical documents required in the tender.	State
f)	Manufacturer's warranty and guarantee; subject to 12 months from date of delivery to KPLC stores	State
g)	Operational manual.	State
h)	Service manual.	State
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 guaranteed technical particulars (GTP) stamped and signed by the manufacturer;	State
b)	Drawings of the Transformer oil transfer and filter cart to be manufactured for KPLC.	State
c)	Schematic drawings of the plant with all piping systems, control systems and instrumentation with reference of the relevant international standards followed for the design and construction of the plant and its components/material	State

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d)	General arrangement plan, section of main and sub-assemblies, with detailed dimensions of the parts and the size of each and every part of the equipment to be supplied under this specification	State
e)	Complete list of accessories and auxiliaries with their make and accompanied with catalogue/pamphlets/literature/write-ups	State
f)	Product manuals, operation manuals and brochures,	State
g)	Quality assurance plan (QAP) that will be used to ensure that the design, material; workmanship, tests, service capability, maintenance and documentation will fulfill the requirements stated in the contract documents, standards, specifications and regulations. The QAP shall be based on and include relevant parts to fulfill the requirements of ISO 9001.	State
h)	All documentation necessary for safety of the plant.	State
i)	Packaging details (including packaging materials).	State
C.3.	The supplier shall submit recommendations for use, care, storage and routine inspection/testing procedures, all in the English Language, during delivery of the the Transformer oil transfer and filter cart to KPLC.	
C.4.	The successful bidder shall demonstrate to KPLC Staff (in Mombasa) the operation of the Transformer oil transfer and filter cart.	
D:	ACCESSORIES (MANDATORY)	
	The following accessories shall be part of the bid	
1)	filter Cartridges/elements, 10 sets	Quote
2)	Variable frequency drive, 1 piece	Quote
	Bidder to indicate any other accessories to be supplied and quote the price of each separately	Quote separately

.....
Manufacturer's Name, Signature, Stamp and Date

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