

**BID: RLM/DTIS/0121/2025/26: APPOINTMENT OF A  
CONTRACTOR TO PERFORM MAINTENANCE OF POWER  
TRANSFORMERS AT VARIOUS SUBSTATIONS AS AND  
WHEN REQUIRED FOR A PERIOD OF 3 YEARS**

**STANDARD FOR POWER TRANSFORMER  
REFURBISHMENT AND REPAIRS ONSITE AND OFFSITE**

**ANNEXURE B: PRICING SCHEDULE**

**BID: RLM/DTIS/0121/2025/26: APPOINTMENT OF A CONTRACTOR TO PERFORM MAINTENANCE OF  
POWER TRANSFORMERS AT VARIOUS SUBSTATIONS AS AND WHEN REQUIRED FOR A PERIOD OF 3  
YEARS**

**PRICING INSTRUCTIONS**

- 1 Measurement and payment shall be in accordance with the relevant provisions of clause 8 of each of the SABS 1200 Standardised Specifications referred to in the Scope of Work. The Preliminary and General items shall be measured in accordance with the provisions of SABS 1200-A, General.
- 2 The units of measurement described in the Bills of Quantities are metric units. Abbreviations used in these Bills of Quantities are as follows:

%	=	percent
h	=	hour
ha	=	hectare
kg	=	kilogram
kl	=	kilolitre
km	=	kilometre
km-pass	=	kilometre-pass
kPa	=	kilopascal
kW	=	kilowatt
l	=	litre
m	=	metre
mm	=	millimetre
m <sup>2</sup>	=	square metre
m <sup>2</sup> -pass	=	square metre-pass
m <sup>3</sup>	=	cubic metre
m <sup>3</sup> -km	=	cubic metre-kilometre
MN	=	meganewton
MN.m	=	meganewton-metre
MPa	=	megapascal
No.	=	number
Prov sum	=	Provisional sum
PC sum	=	Prime Cost sum
R/only	=	Rate only
Sum	=	lump sum
t	=	ton (1000 kg)
W/day	=	Work day

- 3 Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
- 4 The prices and rates in these Bills of Quantities are fully inclusive prices for the work described under the items. Such prices and rates cover all costs and expenses that may be required in and for the execution of the work described in accordance with the provisions of the Scope of Work, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the contract data, as well as additional work that may have to be carried out.
- 5 It will be assumed that prices included in these Bills of Quantities are based on Acts, Ordinances, Regulations, By-laws, International Standards and National Standards that were published 28 days before the closing date for tenders. (Refer to [www.stanza.org.za](http://www.stanza.org.za) or [www.iso.org](http://www.iso.org) for information on standards).

- 6** Where the Scope of Work requires detailed drawings and designs or other information to be provided, all costs associated therewith are deemed to have been provided for and included in the unit rates and sum amount tendered such items.
- 7** An item against which no price is entered will be considered to be covered by the other prices or rates in the Bills of Quantities. A single lump sum will apply should a number of items be grouped together for pricing purposes.
- 8** The quantities set out in these Bills of Quantities are approximate and do not necessarily represent the actual amount of work to be done. The quantities of work accepted and certified for payment will be used for determining payments due and not the quantities given in the Bills of Quantities.
- 9** Reasonable compensation will be received where no pay item appears in respect of work required in the Bills of Quantities in terms of the Contract and which is not covered in any other pay item.
- 10** The short descriptions of the items of payment given in these Bills of Quantities are only for the purposes of identifying the items. More details regarding the extent of the work entailed under each item appear in the Scope of Work.
- 11** Descriptions in the Bills of Quantities are abbreviated and comply generally with those in the SABS 1200 Standardised Specifications.
- 12** All prices and rates entered in the Bills of Quantities must be excluding Value Added Tax (VAT). VAT will be added last on the summary page of the Bill of Quantities.

## **BILL OF QUANTITIES**

### **GENERAL NOTES**

Tenderers must complete the Bills of Quantities and detail unit rate and total amount for each item. All rates and prices exclude VAT.

Any discrepancies which might occur between the specification, the Bills of Quantities and the drawings must immediately be brought to the attention of the Engineer and the tenderer should indicate at the time of tendering whether provision has been made in the tender price covering such discrepancies.

The "Total" shall constitute the tender price for adjudication.

Note:

Tenderers are advised to check their item extensions and total additions as arithmetic errors occurring in the priced Bills of Quantities cannot be considered as having an effect on the tender amount.

No alterations, erasure or addition is to be made in the text of the Bills of Quantities. Should any alteration, erasure or addition be made it will not be recognised but the original wording of the Bills of Quantities will be adhered to.

The Engineer will check the completed Bills of Quantities and reserves the right to adjust any individual price and to rectify any discrepancy whilst the total tender price as quoted remains unaltered.

The quantities given in the Bills for cable, cable markers, earth wire laid with cable, sleeves and excavations cannot be regarded as exact and are subject to measurement on site after completion of the service and adjustments will be made according to the unit rates given in the Bills.

The sundry materials associated with the Switchgear will not be re-measurable and the tenderer must therefore allow for the supply of all necessary sundries for the successful execution and completion of the installation.

**BID: RLM/DTIS/0121/2025/26: APPOINTMENT OF A CONTRACTOR TO PERFORM MAINTENANCE OF POWER TRANSFORMERS AT VARIOUS SUBSTATIONS AS AND WHEN REQUIRED FOR A PERIOD OF 3 YEARS**

<b>PHASE 1 : Workshop Transformer Assessment</b>						
<b>Item</b>	<b>Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Supply Rate</b>	<b>Labour Rate</b>	<b>Total Item Cost</b>
<b>1</b>	<b>Site Establishment</b>	sum				
1.1.1	Establish site		1			
1.1.2	Rent 44 ft container Establish site		1			
1.1.3	Portable Office 4m x5m Establish site		1			
1.1.4	Portable flushable toilet		1			
<b>2</b>	<b>Transport and Rigging</b>					
2.1.1	Hydraulic crane hire 0-40 tons	each	1			
2.1.2	Hydraulic crane hire 41-60 tons	each	1			
2.1.3	Hydraulic crane hire 61-80 tons	each	1			
2.1.4	Hydraulic crane hire 81-100 tons	each	1			
2.1.5	Hydraulic crane truck 50 ton with boom reaching 40 metres.	each	1			
2.1.6	Hydraulic crane truck 100-160 ton with boom reaching 50 metres.	each	1			
2.1.7	Hydraulic crane truck 160-300 ton with boom reaching 50 metres.	each	1			

**PHASE 1 : Workshop Transformer Assessment**

<b>Item</b>	<b>Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Supply Rate</b>	<b>Labour Rate</b>	<b>Total Item Cost</b>
<b>2</b>	<b>Transport and Rigging</b>					
2.2.1	Rigging of transformer on and Off the Low-bed 0-40 tons using a crane	each	1			
2.2.2	Rigging of transformer on and Off the Low-bed 0-40 tons using jacking system	each	1			
2.2.3	Rigging of transformer on and Off the Low-bed 41-60 tons using a crane	each	1			
2.2.4	Rigging of transformer on and Off the Low-bed 41-60 tons using jacking system	each	1			
2.2.5	Rigging of transformer on and Off the Low-bed 61-80 tons using a crane	each	1			
2.2.6	Rigging of transformer on and Off the Low-bed 61-80 tons using jacking system	each	1			
2.2.7	Rigging of transformer on and Off the Low-bed 81-100 tons using a crane	each	1			
2.2.8	Rigging of transformer on and Off the Low-bed 81-100 tons using jacking system	each	1			
2.3.1	Transport of transformer to workshop (per km)	each	1			

PHASE 1 : Workshop Transformer Assessment						
Item	Description	Unit	Qty	Supply Rate	Labour Rate	Total Item Cost
<b>3.1</b>	<b>Inspections and Analysis - Active Part</b>					
3.1.1	Untank active parts and assess	each	1			
3.1.2	Conduct preliminary test on transformer active parts	each	1			
3.1.3	Conduct oil and gas analysis	each	1			
3.1.4	Conduct furanic analysis	each	1			
3.1.5	Conduct physical paper analysis	each	1			
<b>3.2</b>	<b>Inspections and Analysis - Tank</b>					
3.2.1	Inspect tank	each	1			
3.2.2	Inspect all motors and coolers	each	1			
3.2.3	Inspect all pressure relief devices	each	1			
3.2.4	Inspect conservator	each	1			
3.2.5	Inspect all valves and piping	each	1			
3.2.6	Inspect all radiator fins	each	1			

**PHASE 1 : Workshop Transformer Assessment**

Item	Description	Unit	Qty	Supply Rate	Labour Rate	Total Item Cost
<b>4</b>	<b>Bushings</b>					
4.1	Conduct preliminary tests on all bushings. For condenser type bushings, Tan Delta/Partial Discharge test are required (issue test certificate)	each	1			
4.2	Take oil samples from bushings and have them analysed (with supervision from Rustenburg Local Municipality)	each	1			
4.3	Drain oil, dismantle and inspect all the bushings	each	1			
<b>5</b>	<b>On-load tap changer (Box-type)</b>					
5.1	Open front cover and inspect the defects	each	1			
5.2	Remove all contact epoxy boards and inspect for cracks or any other defects	each	1			
5.3	Remove barrier boards and inspects for cracks and effects	each	1			
5.4	Inspect pressure relays for defects and check settings	each	1			
5.5	Inspect mechanical drive mechanism for defects	each	1			
5.6	Record transitional resistor value and compare with the name plate information where applicable	each	1			
5.7	Inspect all contacts and shafts for wear and defects	each	1			

PHASE 1 : Workshop Transformer Assessment						
Item	Description	Unit	Qty	Supply Rate	Labour Rate	Total Item Cost
<b>6</b>	<b>On-load tap changer (Cylinder-type)</b>					
6.1	Open and drain oil from the diverter switch	Each	1			
6.2	Dismantle and untank the diverter switch	Each	1			
6.3	Inspect and test diverter switch	Each	1			
6.4	Test the diverter tube for leaks	Each	1			
<b>7</b>	<b>Reporting</b>					
7.1	Supply full detailed report and recommendations	Each	1			
7.2	Scrap copper price must be provided and indicated as a savings on all quotations	Each	1			
	<b>TOTAL (PHASE 1)</b>					

**PHASE 2: Workshop Transformer Repairs/Refurbishment**

Item	Description	Unit	Qty	Supply Rate	Labour Rate	Total Item Cost
<b>1</b>	<b>Site Establishment</b>					
1.1.1	Allow for complying with all General and Special Conditions of Contract, labour requirements, site establishment , water and sanitary facilities, first aid services, electrical services		1			
1.1.2	Allow for the storage and safe keeping of all materials and equipment including the provision of insurances as stipulated in the Conditions of Contract. Allow for 24 hour security for the duration of the contract.		1			
1.1.3	Allow for marking-up a full set of drawings to show the exact positions of cables, transformer earthing etc. These "As Built" drawings must be handed to the engineer at commissioning of the equipment. Also all maintenance manuals, including all technical literature, test certificates and wiring diagrams as per specification.		1			
1.1.4	Allow for training for Rustenburg Local Municipality staff during installation and commissioning of complete installation.		1			
1.2	Any additional item(s), not shown in the schedules that the tenderer consider essential and wish to detail and price. (Provide full details)		1			
1.3	Additional Item a					
1.4	Additional Item b					

**PHASE 2: Workshop Transformer Repairs/Refurbishment**

Item	Description	Unit	Qty	Supply Rate	Labour Rate	Total Item Cost
<b>2</b>	<b>Onsite maintenance/service/repairs (work to be done)</b>					
2.1	Onsite risk and condition assessment	each	1			
2.2	High pressure wash the transformer to remove all oil and dirt from the transformer as well as the plinth	each	1			
2.3	Re-gasketing of main tank	each	1			
2.4	Re-gasketing of bushings	each	1			
2.5	Remove and Install new bushings where required	each	1			
2.6	Re-gasketing of tap changer chamber	each	1			
2.7	Tap changer service/maintenance	each	1			
2.8	Oil purification [regeneration],	each	1			
2.9	Oil drainage and top up	each	1			
2.1	Radiator fins inspection and maintenance	each	1			
2.11	Dehydrating Breather Maintenance/Service	each	1			
2.12	Changing of Silica Gel Dessicant	each	1			

**PHASE 2: Workshop Transformer Repairs/Refurbishment**

Item	Description	Unit	Qty	Supply Rate	Labour Rate	Total Item Cost
<b>3</b>	<b>Active parts</b>					
3.1	Dismantle yoke and remove faulty windings	each	1			
3.2	Check , clean and overhaul core	each	1			
3.3	Renew core bolt and clamp insulation as required	each	1			
3.4	Strip and rewind coils using copper with a purity of 99.9% or better	each	1			
3.5	Conduct preliminary test on new coils	each	1			
3.6	Pre-press winding(s) to specification	each	1			
3.7	Reassemble and dry core and windings	each	1			
3.8	Conduct pre-test to ensure correct ratios and resistances	each	1			
3.9	Fit and tape harnessing for final dry-out	each	1			

**PHASE 2: Workshop Transformer Repairs/Refurbishment**

Item	Description	Unit	Qty	Supply Rate	Labour Rate	Total Item Cost
<b>4</b>	<b>Tank and parts</b>					
4.1	Drain oil from tank and clean and inspect tank.	each	1			
4.2	Overhaul and re-gasket tank and parts (valves, pumps, inspection plate, coolers etc.)	each	1			
4.3	Overhaul and pressure test all coolers (issue test certificate)	each	1			
4.4	Overhaul cooling motors and fans (issue test certificate)	each	1			
4.5	Overhaul, test and fit Buchholz relay (issue test certificate)	each	1			
4.6	Service all pressure devices, supply and fit new micro switches to all of them (issue test certificate)	each	1			
4.7	Inspect, clean and test all associated cable work	each	1			
4.8	Overhaul, re-gasket and replace all seals on conservator gauges and conservator tank	each	1			
4.9	Check and service conservator bag	each	1			

**PHASE 2: Workshop Transformer Repairs/Refurbishment**

Item	Description	Unit	Qty	Supply Rate	Labour Rate	Total Item Cost
<b>5</b>	<b>Bushings</b>					
5.1	Conduct preliminary tests on all bushings. For condenser type bushings, Tan Delta/Partial Discharge test are required (issue test certificate)	each	1			
5.2	Draw oil samples from bushings and have them analysed (with supervision from Rustenburg Local Municipality)	each	1			
5.3	Replace seals and gaskets and clean porcelain shells	each	1			
5.4	Assemble and fill with oil where applicable	each	1			
5.5	Final test the bushings (issue test certificate)	each	1			
<b>6</b>	<b>On-load tap changer (Box-type)</b>					
6.1	Open front cover and inspect the defects	each	1			
6.2	Remove all contact epoxy boards and inspect for cracks or any other defects	each	1			
6.3	Remove barrier boards and inspects for cracks and effects	each	1			
6.4	Inspect pressure relays for defects and check settings	each	1			
6.5	Inspect mechanical drive mechanism for defects	each	1			
6.6	Record transitional resistor value and compare with the name plate information where applicable	each	1			
6.7	Inspect all contacts and shafts for wear and defects	each	1			
6.8	Repair/replace tap changer contacts where necessary	each	1			

**PHASE 2: Workshop Transformer Repairs/Refurbishment**

Item	Description	Unit	Qty	Supply Rate	Labour Rate	Total Item Cost
<b>7</b>	<b>On-load tap changer (Cylinder-type)</b>					
7.1	Open and drain oil from the diverter switch	each	1			
7.2	Dismantle and Detank the diverter switch	each	1			
7.3	Inspect, test and overhaul diverter switch	each	1			
7.4	Replace all faulty parts	each	1			
7.5	Test the diverter tube for leaks	each	1			
7.6	Assemble and re-tank diverter switch for final reconnection to the active parts	each	1			
<b>8</b>	<b>Auxiliaries</b>					
8.1	Supply new silica gel breather where applicable	each	1			
8.2	Check and replace pressure relief devices	each	1			
8.3	Check and service Dry-Keep unit where required	each	1			
8.4	Check and test transformer protection indicators	each	1			

**PHASE 2: Workshop Transformer Repairs/Refurbishment**

Item	Description	Unit	Qty	Supply Rate	Labour Rate	Total Item Cost
<b>9</b>	<b>Final Assembly</b>					
9.1	Check and tighten all parts of the active parts and final tank	each	1			
9.2	Draw vacuum	each	1			
9.3	Break the vacuum and test fit all parts {bushings. tap changer (box type) and ancilliary parts}	each	1			
9.4	Draw vacuum and fill transformer with oil	each	1			
<b>10</b>	<b>Test transformer as per SANS 60076 (part 1,2,3,4,5 and 10) included tests are as follows:</b>					
10.1	Electrical Tests to be performed					
a)	Induced over voltage	each	1			
b)	Separate source over potential	each	1			
c)	No-load	each	1			
d)	Load losses and impedance voltage	each	1			
e)	No load loss [Copper and Iron losses]	each	1			
f)	Cellulose moisture content	each	1			
g)	Insulation resistance	each	1			
h)	Winding resistance	each	1			

**PHASE 2: Workshop Transformer Repairs/Refurbishment**

Item	Description	Unit	Qty	Supply Rate	Labour Rate	Total Item Cost
10.1	Electrical Tests to be performed					
i)	Voltage/Turns ratio and Phase displacement	each	1			
j)	Zero phase Impedance	each	1			
k)	Transformer Tan Delta and Capacitance	each	1			
l)	Magnetising current	each	1			
m)	Core ground insulation	each	1			
10.2	Remove paper sample and test for DP	each	1			
10.3	Draw oil sample for SANS 555 report from bulk oil	each	1			
10.4	Draw oil sample for full DGA, moisture and KV report	each	1			
<b>11</b>	<b>Transport to site and offload</b>					
11.1	Transport of transformer to site (per km)	each	1			
11.2	Offload transformer at site	each	1			
<b>12</b>	<b>Rigging and Installation</b>					
12.1	Provide malthoid on plinth where required	each	1			
12.2	Install unit at selected site: 0 – 40 tons	each	1			
12.3	Install unit at selected site: 41 – 80 tons	each	1			
12.4	Install unit at selected site: 81 – 100 tons	each	1			

**PHASE 2: Workshop Transformer Repairs/Refurbishment**

<b>Item</b>	<b>Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Supply Rate</b>	<b>Labour Rate</b>	<b>Total Item Cost</b>
<b>13</b>	<b>On – site activities</b>					
13.1	Drain oil and prepare auxiliary parts for spray painting with original paint	each	1			
13.2	Wait to dry and load transformer and parts for transport to site	each	1			
13.3	Draw a vacuum for 48 hours	each	1			
13.4	Supply virgin oil (per litre) where applicable	each	1			
13.5	Fill oil under vacuum	each	1			
13.6	Connect the HV and MV bushings	each	1			
13.7	HV Busbar/Conductor Clamps	each	1			
13.8	HV Conductor (Centipede) where required	m	1			
13.9	HV Conductor (Hare) to Surge Arrestors	m	1			
13.10	Solid Copper Busbar 160mm x 12mm between MV TX bushing and cable termination	m	1			
13.11	Flexible clamp for Solid Copper Busbar 160mm x 12mm onto MV bushing	each	1			
13.12	Provide MV Busbar/Conductor Clamps wher required	each	1			
13.13	Tubular Aluminium busbar clamps (inclusive of end cap on one side)	each	1			
13.14	Connect MV Conductor (Bull)	m	1			

**PHASE 2: Workshop Transformer Repairs/Refurbishment**

Item	Description	Unit	Qty	Supply Rate	Labour Rate	Total Item Cost
<b>13</b>	<b>On – site activities</b>					
13.15	Supply, Install surge arrestors brackets where required	each	1			
13.16	Connect the auxilliary wiring to the marshalling kiosk	each	1			
13.17	Connect the NECR/Aux transformer and transformer earth lead	each	1			
13.18	Remove existing plinth	each	1			
13.19	Install new concrete plinth (25MPA)	each	1			
13.20	Remove existing marshalling kiosk	each	1			
13.21	Remove existing termination structure	each	1			
13.22	Supply & install complete cable support structure for cable terminations & cable supports. Required foundations, bolts, nuts, indication signage and earthing to be included	each	1			
13.23	Corrosion protection paint to steel	litre	1			
13.24	Supply and install galvanized holding down bolts for steel structures	each	1			
13.25	Install new removable barrier welded mesh fence with frame	m <sup>2</sup>	1			
13.26	70mm <sup>2</sup> CCS conductor and connect onto main earth grid using exothermic welding only	m	1			
13.27	Test and verify earthmat integrity	each	1			

**PHASE 2: Workshop Transformer Repairs/Refurbishment**

Item	Description	Unit	Qty	Supply Rate	Labour Rate	Total Item Cost
<b>14</b>	<b>Control and Low Voltage cables where required</b>					
	<b>Adhoc purchases</b>					
14.1	7 Core - 2.5mm <sup>2</sup>	m	1			
14.2	12 Core - 2.5mm <sup>2</sup>	m	1			
14.3	4 Core - 2.5mm <sup>2</sup>	m	1			
14.4	4 Core - 16mm <sup>2</sup>	m	1			
14.5	4 Core - 4mm <sup>2</sup>	m	1			
14.6	19 Core - 2.5mm <sup>2</sup>	m	1			
14.7	4 Core - 1.5mm <sup>2</sup> (screened)	m	1			
14.8	Cable racking - 300mm wide	m	1			
14.9	7 Core - 2.5mm <sup>2</sup> termination	each	1			
14.10	12 Core - 2.5mm <sup>2</sup> termination	each	1			

**PHASE 2: Workshop Transformer Repairs/Refurbishment**

Item	Description	Unit	Qty	Supply Rate	Labour Rate	Total Item Cost
	<b>Adhoc purchases Adhoc purchases</b>					
14.11	4 Core - 2.5mm <sup>2</sup> termination	each	1			
14.12	4 Core - 16mm <sup>2</sup> termination	each	1			
14.13	4 Core - 4mm <sup>2</sup> termination	each	1			
14.14	19 Core - 2.5mm <sup>2</sup> termination	each	1			
14.15	4 Core - 1.5mm <sup>2</sup> termination	each	1			
14.16	Verification of all control and protection circuits and the supply of as-built drawings	sum	1			
14.17	Terminate 500 mm <sup>2</sup> x 1c Cu Cable	each	1			
14.18	Joint 500mm <sup>2</sup> x 1c Cu Cable	each	1			

**PHASE 2: Workshop Transformer Repairs/Refurbishment**

Item	Description	Unit	Qty	Supply Rate	Labour Rate	Total Item Cost
<b>15</b>	<b>On site Testing</b>					
15.1	Electrical Test to be performed					
	a) Induced over voltage	each	1			
	b) Separate source over potential	each	1			
	c) No-load	each	1			
	d) Load losses and impedance voltage	each	1			
	e) No load loss [Copper and Iron losses]	each	1			
	f) Cellulose moisture content	each	1			
	g) Insulation resistance	each	1			
	h) Winding resistance	each	1			
	i) Voltage/Turns ratio and Phase displacement	each	1			
	j) Zero phase Impedance	each	1			
	k) Transformer Tan Delta and Capacitance	each	1			
	l) Magnetising current	each	1			
	m) Noise level test	each	1			
	n) Core ground insulation	each	1			
15.2	Draw oil sample for DGA report	each	1			
<b>16</b>	<b>Liven up and Handover to Rustenburg Local Municipality</b>	each	1			
	<b>TOTAL (PHASE 2)</b>					

**PHASE 3 : Transformer Service/Maintenance**

Item	Description	Unit	Qty	Supply Rate	Labour Rate	Total Item Cost
<b>1</b>	<b>Site Establishment</b>	<b>sum</b>				
1.1.1	Establish site according to sub – clause 4.7.1		1			
1.1.2	Rent 44 ft container Establish site		1			
1.1.3	portable Office 4m x 5m Establish site		1			
1.1.4	Portable flushable toilet		1			
1.2	Allow for complying with all General and Special Conditions of Contract, labour requirements, site establishment , water and sanitary facilities, first aid services, electrical services	month	1			
1.3	Allow for the storage and safe keeping of all materials and equipment including the provision of insurances as stipulated in the Conditions of Contract. Allow for 24 hour security for the duration of the contract.	month	1			
1.4	Allow for marking-up a full set of drawings to show the exact positions of cables, transformer earthing etc. These "As Built" drawings must be handed to the engineer at commissioning of the equipment. Also all maintenance manuals, including all technical literature, test certificates and wiring diagrams as per specification.	sum	1			
1.5	Allow for training for Rustenburg Local Municipality staff during installation and commissioning of complete installation.	no of ppl	10			
1.6	Any additional item(s), not shown in the schedules that the tenderer consider essential and wish to detail and price. (Provide full details)		1			
1.7	Additional Item a					

**PHASE 3 : Transformer Service/Maintenance**

<b>Item</b>	<b>Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Supply Rate</b>	<b>Labour Rate</b>	<b>Total Item Cost</b>
<b>1</b>	<b>Site Establishment</b>					
1.8	Additional Item b					
1.9	Additional Item c					
1.1	Additional Item d					
<b>2.1</b>	<b>Onsite maintenance/service/repairs (work to be done)</b>					
2.1.1	Onsite risk and condition assessment	each	1			
2.1.2	High pressure wash the transformer to remove all oil and dirt from the transformer as well as the plinth	each	1			
2.1.3	Re-gasketing of main tank	each	1			
2.1.4	Re-gasketing of bushings	each	1			
2.1.5	Remove and Install new bushings where required	each	1			
2.1.6	Re-gasketing of tap changer chamber	each	1			
2.1.7	Tap changer service/maintenance	each	1			
2.1.8	Oil purification [regeneration],	each	1			
2.1.9	Oil drainage and top up	each	1			
2.1.10	Radiator fins inspection and maintenance	each	1			
2.1.11	Dehydrating Breather Maintenance/Service	each	1			
2.1.12	Changing of Silica Gel Dessicant	each	1			

**PHASE 3 : Transformer Service/Maintenance**

<b>Item</b>	<b>Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Supply Rate</b>	<b>Labour Rate</b>	<b>Total Item Cost</b>
<b>2.1</b>	<b>Onsite maintenance/service/repairs (work to be done)</b>					
2.1.13	Fans and fan motors service/ maintenance and ensure correct rotation	each	1			
2.1.14	Remove old and install new fans where required	each	1			
2.1.15	Remove old and install new fan motors where required	each	1			
2.1.16	Oil circulation pumps and motors service/maintenance	each	1			
2.1.17	Remove old and install new oil circulation pumps where required	each	1			
2.1.18	Conservator inspection and Service	each	1			
2.1.19	Buchollz Inspection and Service	each	1			
2.1.20	Winding Temperature Indicator Service and test	each	1			
2.1.21	Test, calibrate and adjust the indicators	each	1			
2.1.22	Oil Temperature Indicator Test and Service	each	1			
2.1.23	Spray paint the whole transformer	each	1			
2.1.24	Paint the bushings to match the phases	each	1			

**PHASE 3 : Transformer Service/Maintenance**

<b>Item</b>	<b>Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Supply Rate</b>	<b>Labour Rate</b>	<b>Total Item Cost</b>
<b>2.1</b>	<b>Onsite maintenance/service/repairs (work to be done)</b>					
2.1.25	Installation of drain valves where required	each	1			
2.1.26	Service, test and calibrate the thermometers	each	1			
2.1.27	Service, test and calibrate winding temperature indicators	each	1			
2.1.28	Remove old OTI and replace with new OTI where required	each	1			
2.1.29	Remove old WTI and replace with new WTI where required	each	1			
2.1.30	Remove old buchholz and replace with new buchholz where required	each	1			
2.1.31	Test Internal neutral CT where applicable	each	1			
2.1.32	Service and test magnetic type oil level gauge	each	1			
2.1.33	Remove old and replace with new magnetic type oil gauge where required	each	1			
2.1.34	Supply and install new HV surge arrestor brackets where required	each	1			
2.1.35	Supply and install new MV surge arrestor brackets where required	each	1			
2.1.36	Supply and Install new HV surge arrestors	each	1			

**PHASE 3 : Transformer Service/Maintenance**

<b>Item</b>	<b>Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Supply Rate</b>	<b>Labour Rate</b>	<b>Total Item Cost</b>
<b>2.1</b>	<b>Onsite maintenance/service/repairs (work to be done)</b>					
2.1.37	Supply and install new MV surge arrestors	each	1			
2.1.38	Maintain, service and replace filter of the mobile online moisture removal where required	each	1			
2.1.39	Maintain, service and calibrate online gas monitoring unit where required	each	1			
2.1.40	Remove contaminated crusher stones and replace with new where required	each	1			
2.1.41	Maintenance of the aux/NEC/NEC transformer	each	1			

**PHASE 3 : Transformer Service/Maintenance**

<b>Item</b>	<b>Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Supply Rate</b>	<b>Labour Rate</b>	<b>Total Item Cost</b>
<b>3</b>	<b>On Site tests</b>					
3.1.1	Winding Resistance Test	each	1			
3.1.2	Transformer Turns Ratio Test	each	1			
3.1.3	Phase Displacement	each	1			
3.1.4	Insulation Resistance Test	each	1			
3.1.5	Porality Index (PI)	each	1			
3.1.6	No load losses test	each	1			
3.1.7	Full load losses	each	1			
3.1.8	Zero sequence impedance	each	1			
3.1.9	Induced overvoltage with partial discharge	each	1			
3.1.10	Tan Delta Test	each	1			
3.1.11	Transformer Oil Break Down Test	each	1			
3.1.12	Magnetic Balance Test	each	1			
3.1.13	Draw routine oil sample	each	1			
3.1.14	Dissolve Gas Analysis (DGA)	each	1			
3.1.15	Full set of the above tests 3.1.1 to 3.1.14	set	1			
	<b>TOTAL (PHASE 3)</b>					

**SUMMARY (PHASE 1, PHASE 2, PHASE 3)**

Item	Description	Unit	Qty	Supply Rate	Labour Rate	Total Item Cost
<b>4</b>	<b>Summary Pricing Schedule (Totals carried forward)</b>					
4.1	PHASE 1: Workshop Transformer Assessment	Lt	1			
4.2	PHASE 2: Workshop Transformer Repairs/Refurbishment	Lt	1			
4.3	PHASE 3: Transformer Service/Maintenance	Lt	1			
4.4	Add 15% VAT					
4.5	<b>TOTAL PRICE (For Evaluation Purposes)</b>					

Tender Number: \_\_\_\_\_

Tenderer's Authorized Signatory: \_\_\_\_\_  
Name and Surname
Signature

Name of Company: \_\_\_\_\_