CENTLEC

Reg No 2003/011612/30

CD18/2023

SUPPLY, DELIVERY, TRAINING, CALIBRATION AND SERVICING OF TRANSFORMER OIL DIELECTRIC STRENGTH TESTER.

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1. STATEMENT OF INVITATION

CENTLEC (SOC) Ltd. Municipal Entity distributing electricity in Mangaung and other Municipalities invites suitable bidders to bid for the supply, delivery, training, service and calibration on a transformer oil dielectric tester for a period of thirty-six (36) months

2. MINIMUM REQUIREMENTS

Any omission of the below listed items would render an automatic disqualification

2.1 Supply unique security personal identification number (PIN) from SARS for TAX compliant status or an original Tax Clearance Certificate.

2.2 Supply municipal services (water, sanitation, rates and electricity) clearance certificate or Lease Agreement with a current Bill and rates clearances, or Current Bill of Account not owing more than 90 days. In a case where the services are paid by the Landlord, the signed lease agreement and statement of account must be submitted by the bidder.

2.2.1 In an event, that the Bidder utilizes prepaid services (e.g. Water or electricity) a valid municipal clearance certificate(s) must still be provided.

2.3 Submit proof of registration on the National Treasury Centralized Supplier's Database.

2.4 A valid letter of good standing from the Compensation Commissioner, Department of Labour or other recognized authorities.

3. DEFINITIONS AND ABBREVIATIONS

3.1. SANS:- South African National Standard
3.2. SLA:- Services Level Agreement
3.3. kV:- Kilo Volt
3.4. MVA:- Mega Volt Ampere
3.5. Pt:- Power Transformer
3.6. Ct:- Current Transformer
3.7. SOP:- Standard Operating Procedures
3.8 ECSA:- Engineering Council of South Africa
3.9 RSA:- Republic of South Africa
3.10 kV rms:- Kilo Volt route mean square
3.11 Ah:- Amp Hour
3.12 µs:- Micro seconds
3.13 °C:- Degree Celsius
3.14 HV:- High Voltage

4. SCOPE OF WORK

This bid calls for the supply and delivery of a 80kV dielectric strength oil tester, to measure the electrical breakdown strength of insulating transformer oil, the maintenance, training and calibration services.

5. TECHNICAL SPECIFICATION

5.1. SPECIFICATION OF THE 80kV DIELECTRIC STRENGTH OIL TESTER

5.1.1 SERVICE CONDITIONS

Ambient temperature:	-10°C to +55°C
Storage temperature:	-20°C to +60°C
Relative humidity:	Non-condensing
Altitude height:	1800m

5.1.2 SPECIFICATION

The 80kV dielectric strength oil tester must measure the electrical breakdown strength of insulating liquids automatically. Test sequences must be accomplished easily and automatically in compliance with all international and national standards. (See standards in table1)

The high precision of the 80kV dielectric strength oil tester must be based on a tried and tested; and very accurate test voltage measurement principle performed directly on the HV part of the device, as well as the permanent monitoring of the voltage slew. The short switch-off time after a breakdown must counteract the contamination of the oil sample, thus ensuring reliable reproducibility of the measurement results.

The 80kV dielectric strength oil tester must be designed for mobile use and for daily continuous operation. The robust and sophisticated design must guarantee safe and failure-free operation for several hundred thousands of oil sample measurements.

The 80kV DIELECTRIC STRENGTH OIL TESTER must comply with the following:

5.1.2.1 Test voltages up to 80kV rms
5.1.2.2 Reliable, reproducible measurement results across multiple measurements due to short switch-off time < 10µs
5.1.2.3 Clear breakdown detection by means of very precise measurement principle performed directly in the HV part and RBM technology
5.1.2.4 Easy creation of user-specific test sequences
5.1.2.5 Built-in sensor for measuring the temperature of the insulating liquid
5.1.2.6 Precise adjustment of standard electrode distances

5.1.2.7 Automatic self-test with HV output voltage test each time you start
5.1.2.8 Comprehensive safety concept, including high voltage shutdown through hood contacts.
5.1.2.9 Ergonomic operating unit with oil-proof membrane keyboard, easy to read LCD colour display and integrated printer.
5.1.2.10 Automatic reading of measurement results and creation of measurement logs in PDF format or as text file with oil tester data management software. The software must not be rental and CENTLEC must be the owner thereof after purchasing the unit.
5.1.2.11 Customized layout of measurement logs / reports.
5.1.2.12 Fully automatic testing of the breakdown strength in compliance with international and national standards
5.1.2.13 Reliable, reproducible measurement results using the latest measurement technology.
5.1.2.14 Designed for mobile use on site as well as for daily continuous operation.

5.1.3 ACCESSORIES (Standard delivery must include)

5.1.3.1 Glass test vessel, 0.4 liter made of glass or synthetic material according to IEC 60156 ASTM D1816 or ASTM D877.
5.1.3.2 Magnetic stirrer.
5.1.3.3 Lifting stick for magnetic stirrer.
5.1.3.4 Setting gauge, 2,5mm.
5.1.3.5 Integrated plain paper printer, paper roll for printer, 57 mm width, Ø 30 mm.
5.1.3.6 Ink ribbon (black) for printer.
5.1.3.7 Transport case with carrying strap.
5.1.3.8 Mains supply cord.
5.1.3.9 User manual.
5.1.3.10 Face pin wrench for disassembling the test vessel.

5.1.4 ACCESSORIES (Optional)

5.1.4.1 Oil Tester Data Management Software

5.1.5 COMPLIANCE WITH SPECIFICATION

Table 1: Compliance list. (24 Items)

NO.	DESCRIPTION	SPECIFIED REQUIREMENT	YES / NO
1	Input voltage	220– 240 V AC (50/60 Hz) or DC 12 V	
2	Power consumption	Max. 70 VA	
3	Rechargeable battery (option)	Lead-acid battery, 2 x 6 V / 6.5 Ah Self-supporting operation	
4	Battery life (option)	Approx. 8 hours (self-sufficient operation)	
5	Display	LCD colour display (320 x 240)	
6	Data interface	USB 2.0	
7	Printer	Matrix printer, 24 characters 57 mm plain paper	
8	Ambient temperature (operational)	-10°C to +55°C	
9	Storage temperature	-20°C to +60°C	

10	Humidity	Non-condensing	
11	Dimensions (W x H x D)	476 x 372 x 340 mm (closed) 476 x 635 x 420 mm (open)	
12	Weight	Approx. 27 kg (without battery) Approx. 29 kg (with battery)	
13	Degree of protection	IP 32	
14	Safety and EMC	CE-compliant in accordance with Low Voltage Directive (2006/95/EG) and EMC Directive (2004/108/EG)	
15	Software available in	**English**	
16	Output voltage	0 - 100 kV rms symmetrical	
17	Voltage slew rate	0.5 - 10 kV/s	
18	Switch-off time	< 10 µs	
19	Voltage slew monitoring	Real Breakdown Monitoring (RBM)	
20	Accuracy	0 – 80 kV ±1 kV	
21	Resolution	0.1 kV	
22	Internal temperature recording of the oil sample	0 - 99°C	
23	Temperature resolution	1°C	
24	Test standards	BS EN 60156, CEI EN 60156, IEC 60156:1995, NF EN 60156, SABS EN 60156,	
25	User-specific test sequences	10 Tests	
26	ACCESSORIES (Standard delivery must include)	• Glass test vessel, 0.4 liter made of glass or synthetic material according to IEC 60156 ASTM D1816 or ASTM D877 • Magnetic stirrer • Lifting stick for magnetic stirrer • Setting gauge, 2,5mm • Integrated plain paper printer, paper roll for printer, 57 mm width, Ø 30 mm • Ink ribbon (black) for printer • Transport case with carrying strap • Mains supply cord • User manual • Face pin wrench for disassembling the test vessel	
27	ACCESSORIES	• Oil Tester Data Management Software	

6. HEALTH AND SAFETY REQUIREMENTS

Must comply with safety requirements as specified above (5.1.3.1) and must automatically switch off the power supply when opening the safety guard cover.

7. SPECIAL CONDITIONS OF THE CONTRACT

7.1 All items must be delivered at 30 Rhodes Avenue, Oranjesig Bloemfontein.

7.2 The bidder must provide operator training to CENTLEC (SOC) Ltd. personnel on the Software and how to use the unit for the duration of the contract.

7.3 Indicate the calibration and service time frames (intervals) of the unit and indicate cost thereof in the pricing schedules. This must include collecting and delivery (transport) of the unit.

7.4 The successful bidder must supply the tester unit, complete with the calibration certificate and the proof of test standards on technical specifications.

7.5 The successful bidder will be expected to enter into a Service Level Agreement with CENTLEC for a period of thirty-six (36) months.

8. EVALUATION CRITERIA

All proposals submitted will be evaluated in accordance with the criteria set out in the policy of Supply Chain Management of CENTLEC (SOC) Ltd.
The most suitable candidate will then be selected. Please take note that CENTLEC (SOC) Ltd is not bound to select any of the bidders submitting proposals.
Furthermore, technical competence is the principal selection criteria, CENTLEC (SOC) Ltd will evaluate the technical criteria first, and will only look at the price and specific goals if it is satisfied with the technical evaluation. Please take note that CENTLEC (SOC) Ltd is not bound to select any of the bidders' submitting proposals, lowest price and has the right to appoint more than one bidder.

8.1 TECHNICAL EVALUATION CRITERIA:

Table 2 – Evaluation criteria

No.	Criteria	Description	Points
8.1.1.	Compliance to technical specification	Provide proof of compliance of table 1 with the submission For all the item = **30 points** Incomplete table **= 0 points**	30
8.1.2	After sale services	Submit a letter of commitment for all after sales services as required. (Service of tester and the calibration.) = **10 points**	10
8.1.3.	Local South Africa operational capability and economic investment	Does the bidder have an established local office in (CENTLEC distribution area) = **10 Points** If not, but within RSA = **5 points**	10
8.1.4	Training for CENTLEC (SOC) Ltd. Personnel.	Submit a letter of commitment for the training by an accredited trainer authorized by the manufacturer to CENTLEC (SOC)Ltd personnel for the duration of the contract.= **30 points**	30
8.1.5	Capability	A minimum of two (2) signed reference letters on company's letterhead confirming previous services related to the scope of work. Two (2) letters = **10 points** Three (3) letters or more = **20 points**	20
	TOTAL		100

A bidder who gets a minimum of 85 points and above will qualify to the next stage. Individual tenders would have to be evaluated according to the preferential point system. The bidder must score minimum points as follows:
Item 8.1.1 – 30 points
Item 8.1.2 – 10 points
Item 8.1.3 – 5 points
Item 8.1.4 – 30 points
Item 8.1.5 - 10 in the Evaluation Criteria.

8.2. PRICE AND PREFERENTIAL POINTS SCORING – STAGE 2 (Price and Specific Goals requirement)

All Bidders that have passed the technical evaluation threshold of 85 points would also be scored based the 80/20 principle where 80 Points is for the Price and 20 points for specific goals as per the detail given below.

8.3 Points awarded for price

A maximum of 80 Points is allocated for price on the following basis:

Where $Ps = 80[1 - \frac{\text{Pt} - \text{P min}}{\text{P min}}]$

Ps = Points Scored for comparative price of bid under consideration
Pt = Comparative Price of bid under consideration
P min = Comparative Price of lowest acceptable bid

8.4 Points awarded for Specific Goals Requirement

In terms of Regulation 3.(1) An organ of state must, in the tender documents, stipulate— (a) the applicable preference point system as envisaged in regulations 4, 5, 6 or 7; (b) the specific goal in the invitation to submit the tender for which a point may be awarded, and the number of points that will be awarded to each goal, and proof of the claim for such goals in accordance with the table below;

Table 3: Specified Goals for Preferential Point System

Specified Goals	Points Allocation
50% Black owned	10
50% Women owned	5
50% Youth owned <35 years	5
Total Points	**20**

9. PRICING SCHEDULES

9.1 Pricing for spare items on unit: **Excluding VAT.**

Table 4: Spares

Item	Unit of measurement	Price in Rand	Delivery time
Service and Calibration (including transport)	Each		
Transport case	Each		
Setting gauge, 2.5 mm	Each		
Face pin wrench for disassembling the test vessel	Each		
Paper roll for printer, 57 mm width, Ø 30 mm	Per box		
Ink ribbon (black) for printer	Per box		
Magnetic stirrer	Each		

9.2 Pricing of Complete Unit (Tester): **Excluding VAT.**

Table 5: Complete Unit

Item	Unit of measurement	Price in Rand	Delivery time
Complete Transformer Oil Dielectric Strength Testing Unit (80kV) including transport and delivery	Each		
Pre-installed Oil Tester Data Management Software	Package (owned by CENTLEC (SOC) Ltd. After the sale.		

10. CONTACT DETAILS

10.1 For any further technical information regarding the document contents please contact Mr Piet Niemann, e-mail piet.niemann@centlec.co.za. Such queries must be done in writing, the email address provided serves for this purpose. The answer to one question will be sent to all the other prospective bidders that have bought the bid documents.

10.2 For Supply Chain Related questions, Please contact Ms. Palesa Makhele at 051 412 2753 or at Palesa.Makhele@centlec.co.za.