



KENYA ELECTRICITY GENERATING COMPANY LIMITED

**KGN-GDD-096-2018
TENDER FOR SUPPLY OF WORKSHOP TOOLS AND EQUIPMENT FOR
GEOTHERMAL DEVELOPMENT DIVISION**

5th November, 2018

In accordance with the **TENDER FOR SUPPLY OF WORKSHOP TOOLS AND EQUIPMENT FOR GEOTHERMAL DEVELOPMENT DIVISION**, KenGen hereby issues Addendum No.2

ADDENDUM NO.2: ADDITIONAL SCOPE

- I . **Schedule E-** True RMS Digital Multi-meter & AC/DC Clamp Meter –as per below Technical Specifications and Price Schedule.

SECTION V:

TECHNICAL SPECIFICATIONS

The bidder must meet the following Technical Specifications:

1. All the goods supplied shall be new and genuine
2. The delivery completion period shall be within Four **(4) months** after the date of signing the Contract. Delivery must be for a complete schedule. Partial delivery shall not be accepted.
3. Each schedule quoted for must be **COMPLETE** in order to qualify as responsive.
4. **Certificate of Warranty:** A certificate of warranty for all the goods offered must be submitted. The warrant shall be against defective design, defective quality material supplied, manufacturing defects, poor workmanship etc covering a minimum period of 12 months from the date of installation and commissioning. The Tenderer have right to offer warrant more than 12 months.
5. The tools as is shown in schedule **E** should consist of the following minimum requirements

(a) True RMS Digital Multi-meter

The multi-meter should have the following features

- Manual and automatic ranging
- Display hold and auto hold
- Frequency and capacitance measurements
- Resistance, continuity, and diode measurements
- Temperature measurement
- Min-max-average recordings
- Ergonomic case with integrated protective holster
- Backlight for work under low and dim lighting
- Should come with a carry case for the multi-meter and its support accessories
- The meter should be a true RMS type meter capable of measuring nonlinear electrical signals
- Battery powered

The meter should be able to measure the following quantities and meet or exceed the following measurement standards

Type Of Measurement	Standard and quality of Measurements
Voltage DC	Accuracy: $\pm (0.09\% + 2)$
	Max Resolution: 0.1 mV
	Range: 1000 V
Voltage AC	Accuracy: $\pm (1.0\% + 3)$
	Max Resolution: 0.1 mV
	Max Test Voltage: 1000 V
Current DC	Accuracy: $\pm (1.0\% + 3)$
	Max Resolution: 0.01 mA
	Max Test Current : 10 A
Current AC	Accuracy: $\pm (1.5\% + 3)$
	Max Resolution: 0.01 mA
	Max Test Current : 10 A
Resistance	Accuracy: $\pm (0.9\% + 1)$
	Max Resolution: 0.1 Ohms
	Max Test Resistance : 50 Mega Ohms
Capacitance	Accuracy: $\pm (1.2\% + 2)$
	Max Resolution: 1 nano-farads
	Max Test Capacitance: 10 milli-farads
Frequency	Accuracy: $\pm (0.1\% + 1)$

	Max Resolution: 0.01 Hz
	Max Test Frequency : 100 kHz
Temperature	Accuracy: $\pm (1.0\% + 10)$
	Max Resolution: 0.1 °C
	Testable Temperature Range : -40 °C to 400 °C

Safety Specifications:

Overvoltage category: EN 61010-1 to 1000 V CAT III, EN 61010-1 to 600 V CAT IV

Agency approvals: UL, CSA, TUV listed

(am) True RMS AC/DC Clamp Meter

The clamp meter should have the following features:

- The meter should be a true RMS type meter capable of measuring nonlinear electrical signals
- The meter should be able to measure AC and DC up to 1000 A via its main jaw/clamp
- The meter should have a flexible clamp/current probe accessory to facilitate measurement of AC and DC up to 3000 A.
- The meter should be able to measure AC and DC voltages up to 1000V
- The meter should be able to perform frequency measurement up to 500 HZ via it main jaw and flexible clamp
- The meter should be able to test capacitance up to 1000 micro-farads, resistance upto 60 kilo-ohms,
- The meter should have a feature to record min, max, average and inrush current in test signals automatically
- Battery powered

The meter should be able to measure the following quantities and meet or exceed the following measurement standards

Type Of Measurement	Standard and quality of Measurements
AC Current Via Body Jaw	Accuracy: 2.5 % \pm 5 digits (10 Hz to 100 Hz)
	Accuracy: 2.5 % \pm 5 digits (100 Hz to 500 Hz)
	Max Resolution: 0.1 A
	Range: 999.9 A
	Crest Factor (50 Hz/ 60 Hz) : 3 @ 500 A, 2.5 @ 600 A
AC Current Via Flexible Current Probe	Range: 3000 A
	Resolution: 0.1 A (\leq 600 A) , 1 A (\leq 3000 A)
	Accuracy: 3% \pm 5 digits (5 Hz to 500 Hz)

	Crest Factor (50 Hz/60 Hz) : 3.0 at 1100 A, 2.5 at 1400 A, 1.42 at 3000 A
DC Current	Range: 999.9 A
	Resolution: 0.1 A
	Accuracy: 2% ± 5 digits
AC Voltage	Range: 1000 V
	Resolution: 0.1 V (≤ 600 V) , 1 V (≤ 1000 V)
	Accuracy: 1.5% ± 5 digits
DC Voltage	Range: 1000 V
	Resolution: 0.1 V (≤ 600 V) , 1 V (≤ 1000 V)
	Accuracy: 1% ± 5 digits
DC Voltage (mV Range)	Range: 500 mV
	Resolution: 0.1 mV
	Accuracy: 1% ± 5 digits
Frequency Via Jaw	Range: 5.0 Hz to 500.0 Hz
	Resolution: 0.1 Hz
	Accuracy: 0.5% ± 5 digits
	Trigger Level: 5 Hz to 10 Hz, ≥ 10 A, 10 Hz to 100 Hz, ≥ 5 A, 100 Hz to 500 Hz, ≥ 10 A
Frequency Via Flexible Current Probe	Range: 5.0 Hz to 500.0 Hz
	Resolution: 0.1 Hz
	Accuracy: 0.5% ± 5 digits
	Trigger Level: 5 Hz to 20 Hz, ≥ 30 A, 20 Hz to 100 Hz, ≥ 20 A, 100 Hz to 500 Hz, ≥ 30 A
Safety Compliance Standards	<p>CAN/CSA-C22.2 No. 61010-1-04 ANSI/UL 61010-1:2004 ANSI/ISA-61010-1 (82.02.01):2004 EN/IEC 61010-1:2001 to 1000V Measurement Category (CAT) III 600V Measurement Category (CAT) IV Pollution Degree 2 EN/IEC 61010-2-032:2002 EN/IEC 61010-031:2002+A1:2008</p>

Agency Approvals: UL, CSA, TUV listed

**SECTION VI:
PRICE SCHEDULES FOR GOODS**

SCHEDULE E: TRUE RMS DIGITAL MULTI-METER & AC/DC CLAMP METER

No	Description	Unit	Qty	Unit Price	Total Price
1	True RMS Digital Multi-meter	Set	15		
2	True RMS AC/DC Clamp Meter	Set	15		
Sub-Total					
Discount (%) if any					
Local Taxes e.g. Duty, VAT, GoK fees, etc					
Other Charges e.g. transport, handling, etc					
Total Cost Delivery Duty paid (DDP) Cost to Olkaria					
Country of Origin					
Currency of Tender					
Delivery period (in months)					

Tenderer's name (Company) _____

Signature & Rubber-stamp _____ Date _____

SUMMARY OF PRICE SCHEDULES

SCHEDULE	DESCRIPTION	CURRENCY	AMOUNT
A	Supply of Mechanical Tools		
B	Supply of Workshop Machines & Equipment		
C	Supply of Air Plasma Cutting Machine		
D	Supply of Hydraulic Press and Trolley jacks		
E	True RMS Digital Multi-meter & AC/DC Clamp Meter		
TOTAL TENDER PRICE (to be transferred to Tender Form)			

Tenderer's name (Company) _____

Signature & Rubber-stamp _____ Date _____

ACKNOWLEDGEMENT OF ADDENDUM NO. 2

We, the undersigned hereby certify that the addendum is an integral part of the document and the alterations set out in the addendum has been incorporated in the tender proposal.

Signed _____

Tenderer _____