

Energy Fiji Limited



MR 17/2022 - Supply of Fluke Test Equipment

Table of Contents

1. Introduction	3
2. Purpose Of Tender.....	3
3. Delivery.....	3
4. Supplier Details.....	3
5. Payment Terms & Requirements	3
6. Technical Specifications And Requirements	4
7. Tender Submission Details	4
8. Closing Date.....	4
9. Tender Evaluation Criteria	5
Appendix 1: Fluke Equipment Specifications	6
A. Fluke 1663 Multifunction Installation Tester	6
B. Fluke 378 FC Non-Contact Voltage True-Rms AC/DC Clamp Meter With Iflex	9
C. Fluke 1AC Voltalert- Pocketsize Non-Contact Voltage Tester	10
Appendix 2: Form Of Tender.....	11

1. INTRODUCTION

Energy Fiji Ltd is a limited liability organization tasked with supplying electricity to over 200,000 customers throughout the main islands of Fiji : Vitilevu, Vanualevu, Ovalau & Taveuni. From generation, transmission, distribution and retail, EFL has over 800 staff, both administrative and technical, to carry out these functions effectively and efficiently through their various tools of trade and necessary equipment.

Regulatory Installation Inspectors are Skilled Electricians who carry out necessary tests through equipment prior to connecting customer installations to the EFL Power Grid which is mostly on the Low Voltage (415V / 240V) end. To carry out their functions effectively under the Electricity Act & in line with International Standards and best practices, they need to be equipped with necessary test equipment.

2. PURPOSE OF TENDER

Energy Fiji Ltd, hereby requests tenders from reputable Fluke Equipment Suppliers for the Supply of:

- 1) Two (2) Fluke 1663 Multi- Function Installation Testers
- 2) Twenty-three (23) Fluke 378FC Multi-meters which come with Iflex CT
- 3) Fifteen (15) Fluke Voltalert1AC Pocket Testers

3. DELIVERY

Delivery of all equipment and accessories shall be to Suva Head Office

4. SUPPLIER DETAILS

Bidders must fill in, as part of their proposal, Form of Tender (attached as Appendix 2)

5. PAYMENT TERMS & REQUIREMENTS

Bidders must be acceptable to and comply with EFL's purchasing requirements and payment terms i.e Goods to be supplied upon provision of EFL Purchase Order. Incoterms shall also be specified clearly in the bid.

100% Payment will be made within 30 days of receipt of items and upon provision of Valid Invoice with bill of lading documents.

Price Validity must be for a period of at least 60 days from the tender closing date

Any supplier requesting for advance payment shall provide EFL with a bank guarantee from EFL preferred commercial banks for the sum of the advance payment amount.

6. TECHNICAL SPECIFICATIONS AND REQUIREMENTS

Technical Specifications are as per Fluke Equipment Specifications and these are attached in Appendix 1

7. TENDER SUBMISSION DETAILS

Bidders are requested to submit electronic copies via TenderLink by registering their interest at: <https://www.tenderlink.com/efl>

This is due to COVID 19 restriction on movements. Therefore, EFL will not accept any hard copy submission to be dropped in the tender box at EFL Head Office in Suva.

For more information or clarification please contact the Supply Chain Office on 3224360/9992400/9987085 or email us on tenders@efl.com.fj

The bidders must ensure that their bid is inclusive of all Taxes payable under Fiji Income Tax Act.

The lowest bid will not necessarily be accepted as the successful bid.

The Tender Bids particularly the "Price" must be typed and not hand written.

Any request for the extension of the closing date must be addressed to EFL in writing three (3) working days prior to the tender closing date.

Tender Submission via email or fax will not be accepted

ALL BIDDERS MUST FILL IN THE TENDER SUBMISSION FORM (APPENDIX 2) AS PART OF THEIR TENDER

8. CLOSING DATE

Closing date of this tender will be Wednesday 16th February, 2022.

Tenders received **after 4:00pm (Fiji Time)** on **Wednesday 16th of February, 2022** will **not be considered**.

9. TENDER EVALUATION CRITERIA

All bids will go through a normal tender evaluation process as per EFL's Tender Policy and Procedures. The successful bidder will be advised of the outcome after completion of the Tender evaluation process, through which they may enter into a short-term agreement during award to delivery process.

The evaluation of the tender submissions will be weighted as such:

No.	Components	Weighting (%)
1	Price	50 %
2	Price Validity Period	10%
2	Payment Conditions.	15 %
3	Delivery Time & Period	15 %
4	Warranties / Special Conditions / Backup Services	10%

APPENDIX 1: FLUKE EQUIPMENT SPECIFICATIONS

A. FLUKE 1663 MULTIFUNCTION INSTALLATION TESTER



Features

- Full featured tester for installation professionals
- Tests to all local regulations and provides test results for complete documentation
- It replaces the existing Fluke 1653.
- Tests continuity at L-N, N-PE inputs
- Tests smooth dc sensitive RCDs (Type B)
- Tests earth resistance, voltage, and frequency
- Offers multiple test voltages: 50 V, 100 V, 250 V, 500 V, 1000 V
- Checks wiring polarity to detect broken N wires
- Measures insulation resistance and loop and line resistance
- Includes Z-max memory for loop tests to support easy evaluation of the highest loop test value
- Provides unique zero adapter for fast, reliable and accurate test lead and mains cord compensation
- Measures motor windings with continuity test
- Calculates prospective earth fault current (PEFC/IK) and prospective short-circuit current (PSC/IK)
- Measures RCD switching time and tripping level (ramp test)
- Measures trip time and current for RCD type A & AC in one test
- Measures RCD variable current
- Provides automatic RCD test sequence
- Includes a phase sequence indicator
- Safety rated CAT III 500V, CAT IV 300V
- Comes with hard carrying case, padded carrying and waist strap, and remote control probe and lead

The Fluke 1663 Multifunction Installation Tester Includes:

- 6x AA (IEC LR6) cell batteries
- C1600 hard carrying case
- Zero adapter
- Heavy duty mains cord
- STD standard test lead set
- Padded carrying and waist strap
- Quick reference guide
- TP165X remote control probe and lead
- User's manual on CD-ROM

Fluke 1663 Multifunction Tester - Specs

- AC voltage measurement
- Range: 500 V
- Resolution: 0.1 V
- Accuracy 45 Hz – 66 Hz: 0.8% + 3
- Input impedance: 360 k Ω
- Overload protection: 660 V rms

Continuity testing (RLO)

- Range (autoranging): 20 Ω / 200 Ω / 2000 Ω
- Resolution: 0.01 Ω / 0.1 Ω / 1 Ω
- Open Circuit Voltage: >4 V

Insulation resistance measurement (RISO)

- Test voltages: 50-100-250-500-1000 V
- Accuracy of Test voltage (at rated test current): +10%, -0%
- Test voltage: 50 V, 100 V, 250 V, 500 V, 1000 V
- Insulation resistance range: 20 MO / 50 MO, 20 MO / 100 MO, 20 MO / 200 MO, 20 MO / 200 MO / 500 MO, 20 MO / 200 MO / 1000 MO
- Resolution: 0.01 MO / 0.1 MO, 0.01 MO / 0.1 MO, 0.01 MO / 0.1 MO, 0.01 MO / 0.1 MO / 1 MO, 0.01 MO / 0.1 MO / 1 MO
- Test current: 1 mA @ 50 k Ω , 1 mA @ 100 k Ω , 1 mA @ 250 k Ω , 1 mA @ 500 k Ω , 1 mA @ 1 MO

Loop and line impedance (ZI)

- Range: 10 Ω / 0.001 Ω / High current m Ω mode
- Resolution: 0.01 Ω / 0.1 Ω / 1 Ω

Prospective earth fault current, PSC test

- Range: 1000 A / 10 kA (50 kA)
- Resolution: 1 A / 0.1 kA
- Computation: Prospective earth fault current (PEFC) or Prospective short circuit current (PSC) determined by dividing measured mains voltage by measured loop (L-PE) resistance or line (L-N) resistance, respectively.

RCD testing, RCD types tested

- RCD Type: AC¹, G²,S³
- Model 1663: A4, AC¹, G²,S³
- Notes: ¹Responds to AC; ²General, no delay; ³Time delay; 4Responds to pulsed signal; 5Responds to smooth DC signal

Tripping speed test (?T)

- Current settings¹: 10-30-100-300-500-1000 mA – VAR, 10-30-100 mA
- Multiplier: x 1/2, x 1, x 5
- Measurement range: RCD Type G: 310 ms, 50 ms; RCD Type S: 510 ms, 160 ms
- Notes: ¹1000 mA type AC only; 700 mA maximum type A in VAR mode; VAR mode not available for type B.

RCD/FI-Tripping Current Measurement/Ramp Test (I?N)

- Current range: 30% to 110% of RCD rated current¹
- Step size: 10% of I?N²
- Dwell time: Type G 300 ms/step, Type S 500 ms/step
- Measurement accuracy: ±5%
- Specified trip current ranges (EN 61008-1): 50% to 100% for Type AC, 35% to 140% for Type A (>10 mA), 35% to 200% for Type A (=10 mA), 50% to 200% for Type B, ²5% for Type B
- Notes: ¹30% to 150% for Type A I?N > 10 mA, 30% to 210% for Type A I?N = 10 mA, 20% to 210% for Type B

Earth Resistance Test (RE)

- Range: 200 Ω / 2000 Ω
- Resolution: 0.1 Ω / 1Ω
- Frequency: 128 Hz
- Output Voltage: 25 V

Others

- Phase Sequence Indication Icon: icon phase sequence indicator, Phase Sequence indicator is active.
- Size (L x W x H): 100mm x 250mm x 125mm
- Weight (incl. batteries): 1.3 Kg
- Battery size, quantity: Type AA, 6 ea.
- Sealing: IP-40
- Safety: Complies with EN61010-1 Ed 2.0 (2001-02), UL61010, ANSI/ISA –s82.02.01 2000 and CAN/CSA c22.2 No. 1010 2nd edition
- Overvoltage: CAT III / 500V; CAT IV 300V
- Performance: EN61557-1 to EN61557-7 Second Edition and EN61557-10 Second Edition

B. Fluke 378 FC Non-Contact Voltage True-rms AC/DC Clamp Meter with iFlex



Specifications as per detailed in

<https://www.fluke.com/en/product/electrical-testing/clamp-meters/378-fc>

C. Fluke 1AC VoltaAlert- Pocketsize Non-Contact Voltage Tester

The portable 1AC II non-contact voltage tester from Fluke are easy to use – just touch the tip to a terminal strip, outlet, or supply cord. When the tip glows red and the unit beeps, you know there's voltage present. Electricians, maintenance, service, safety personnel, and homeowners can quickly test for energized circuits in the workplace or at home and even detect miswires of an electrical outlet.

- The tip glows red and a beeper sounds when voltage is detected
- A loud, easy to hear beeper will sound and the tip will glow red when voltage is detected
- Optionally, the beeper can be disabled for use in quiet environments
- Continuous self-test so you always know it's working
- When the tip blinks red you know it's working properly
- Provides a continual visual indication that the 1AC II is on
- 90 V to 1000 V AC or 200 V to 1000 V AC voltage detection range for wide application use
- Wide voltage detection range allows for use in a broad range of applications
- Also available in a low voltage model from 20 V to 90 V AC for controls circuits

Safety features

10. Rated to CAT IV 1000 V for added protection
11. CE and CSA approved

Additional tool features

- Audible/Silent mode for added convenience in quiet environments
- On/Off button
- Batteries included
- 2 year warranty



APPENDIX 2: FORM OF TENDER

The following information has to be filled by the bidder and submitted with Tender Documents:

1. Company Name: _____
2. Director/Owner(s): _____
3. Postal Address: _____
4. Email Address: _____
5. Phone Number: _____
6. Fax Number: _____
7. Office Location: _____
8. Facsimile & Skype: _____
9. Web Address: _____
10. After Sales Contact details: _____
11. TIN Number (local bidders only): _____
12. Company Registration Number(local bidders only): _____
13. FNPF Employer Registration Number (local bidders only): _____
14. Provide a copy of Valid FNPF Compliance Certificate (Mandatory- Local Bidders only)
15. Provide a copy of Valid FRCS (Tax) Compliance Certificate (Mandatory Local Bidders only)
16. Provide a copy of Valid FNU Compliance Certificate (Mandatory Local Bidders only)
17. Number of Branches & locations: _____
18. Years of Experience & reputation in the market : _____

19. Area of business Specialization: ☐ Manufacturer & Supplier
[Please tick where applicable] ☐ Retailer
☐ Licensed Agent
☐ Others, please specify _____

20. Business Structure :

I hereby, declare that all the above information is correct.

Sign: _____

Name: _____

Position: _____

Date: _____

1. TENDER SUBMISSION

Bidders are requested to upload electronic copies via Tender Link by registering their interest at: <https://www.tenderlink.com/efl>

This is due to COVID 19 restrictions on movements. Therefore, EFL will not accept any hard copy submission to be dropped in the tender box at EFL Head Office in Suva.

This tender closes at 4.00pm (1600hrs) on Wednesday 16th February, 2022.

For further information or clarification please contact our Supply Chain Office on phone **(+679) 3224360** or **(+679) 9992400** or email us on tenders@efl.com.fj

The bidders must ensure that their bid is inclusive of all Taxes payable under Fiji Income Tax Act.

The lowest bid will not necessarily be accepted as the successful bid.

The Tender Bids particularly the “Price” must be typed and not hand written.

Any request for the extension of the closing date must be addressed to EFL in writing three (3) working days prior to the tender closing date.

Tender Submission via email or fax will not be accepted.