



ENERGY FIJI LIMITED

BIDDING DOCUMENT

MR 228/2021

**SUPPLY OF 3kV PORTABLE CABLE FAULT
LOCATION SYSTEM FOR LOW VOLTAGE
CABLES**

Section 1. Instructions to Bidders

- 1. Scope of Bid** Energy Fiji Limited (hereinafter referred to as "the Employer"), wishes to receive bids for Supply of 1 only 3kV Underground Cable Power Fault Locator as specified in this bidding documents (hereinafter referred to as "PFL").
- 2. Eligible Bidders** This Invitation to Bid is open to bidders who have sound financial and technical background and have expertise in supplying such equipment with arrangement for servicing/repairing or facilitating for such.
- 3. Qualification of the Bidder** To be qualified for award of Contract, bidders shall submit all relevant documents, brochures, details and filled evaluation criteria document which shall be providing sufficient detail to confirm the bidder's capability to fulfil the contract.
- 4. Cost of Bidding** The bidder shall bear all costs associated with the preparation and submission of its bid and the Employer will in no case be responsible or liable for those costs.
- 5. Deadline for Submission of Bids** Bids must be received by the Employer at the address specified above no later than 1600 hours (Fiji Time) (24th November, 2021).

The Employer may, at its discretion, extend the deadline for submission of bids by issuing an addendum, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will thereafter be subject to the deadlines extended.
- 6. Late Bids** Any bid received by the Employer after the deadline for submission of bids prescribed will be rejected.
- 7. Modification and Withdrawal of Bids** The bidder may modify or withdraw its bid after bid submission, provided that written notice of the modification or withdrawal is received by the Employer prior to the deadline for submission of bids.
- 8. Employer's Right to Accept any Bid and to Reject any or all Bids** The Employer reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids, at any time prior to award of Contract, without thereby incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders of the grounds for the Employer's action.

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1. General Description

This tender is to purchase a new 3kV portable fault locating system for 415V underground cable circuits. The device is to be durable and reliable designed for Electrical Utilities able to deliver the following:

- Dual-stage capacitor surge discharge: 500 J @ 3 kV
- Compact and lightweight, small than 35kg
- Battery and AC line operation; field-replaceable battery
- Automatic end of cable and distance to fault indication
- Up to 94 mA current
- F-OHM safety feature to ensure safe connections
- Interface for remote EMERGENCY OFF box
- At least 7 inch, High Brightness colour display for outdoor visibility
- TDR (Time Domain Reflectometry) method of pre-location of low resistive faults
- ARM (Arc Reflection) method of pre-location for flashover faults
- Fault pinpointing up to 3kV for Ground Faults and High Resistive Faults
- Sheath testing and sheath fault locating
- DC Hi-Pot test up to 3kV

The circuit parameters for Energy Fiji Limited (EFL) include but not limited to the following as mentioned below which the PFL will be connected to are:

- Circuit system voltage ranging till 415V
- Insulation of cable being Paper-Lead (PILC), PVC or XLPE
- Conductor size ranging from 16mm² to 300mm² 3core cables or single core cables
- Typical circuit length ranging from minimum of 10meters till approximately 1000meters (1km) or more

The supplier is to supply One Unit as per the specification below and shall include sufficient information and supporting documentation in order to determine compliance with this specification without further necessary inquiries. A hands-on training on the Power Fault Locator (PFL) must also be provided at EFL's depot in Kinoya (dependent on COVID-19 restrictions). An option for online/virtual training must also be offered in the event face-to-face training is not possible.

2. Specifications and Evaluation Criteria

Note to bidders: Please submit a copy the table below with your products details (in the BIDDERS PRODUCT DETAILS column) in comparison to what is required by EFL. Failure to submit the mandatory technical specifications in the table below will automatically result in the disqualification of the tender bid.

GENERAL CRITERIA

CRITERIA	EFL REQUIREMENTS	BIDDERS PRODUCT DETAILS
Model Number		
Brand		
Website link of product		

TECHNICAL CRITERIA

CRITERIA	EFL REQUIREMENTS	BIDDERS PRODUCT DETAILS
	TDR (time domain reflectometer)	
	For pre-locating cable fault	
	ARC Reflection Method (ARM)	
	Voltage Output Level: 3kV	
	(bidder to state range eg. 3kV)	
	DC Proof test/ Hi-Pot test with resistance readout in Ohms	
Operating Modes	(Ω)	
	Voltage Output Level:3kV	
	(bidder to state range eg. 3kV)	
	Burning/Fault Conditioning	
	Voltage Output Level:3kV	
	(bidder to state range eg. 3kV)	
Operating Modes	Direct Surge/Thump Voltage Output Level:3kV (bidder to state range eg. 3kV)	
	Sheath fault test & pinpointing Voltage Output Level: upto 3kV	
TDR	TDR mode and all pre-location functions to be applicable on 7 km of cable length (bidder to state maximum range eg. 7km)	
	Sampling Rate to be 100 Mhz (bidder to state range offered)	
	Resolution to be 0.8 m @ 80 m/ μ s (bidder to state resolution offered in m and m/ μ s)	
	Phase to neutral, phase to phase, phase to armor; on screen comparison of at least 250 pairs (bidder to state number of pairs eg. 250)	
ARM	ARM- Arc Reflection Method to offer 2 stage operation: 0 – 1.5 kV & 0 - 3 kV (bidder to state 2 voltage ranges of ARM method)	
Energy Output	Minimum of 500J at 3 kV (bidder to state energy range eg. 500J at 3kV DC)	
	Proof/ Hi-Pot test: 0 to 3kV only	
	Burn Current: 95mA minimum at 3kV DC	
Surge	0 - 1.5kV & 3.0 kV @ 500 J	
Impulse Sequence	5 – 10 Seconds and Single Shot option	
Display	Minimum 7 inches	
	TFT Color LCD with minimum 1280 x 800 pixel	

SMART Features	Automatic test sequence – tells user to press buttons and guides through each step to proof test, relocate and pinpoint fault	
	Automatic interpretation regarding fault type – open, burnt or short circuit	
	Automatic alphanumeric display of cable and fault distance	
Memory	Storage of at least 100 traces	
USB Features	Host interface 2.0 version minimum	
	TDR trace export and system upgrade	

CRITERIA	EFL REQUIREMENTS	BIDDERS PRODUCT DETAILS
Cables	PFL HV Output Test Lead to be 35 -40 meters minimum *With 1 additional clamp/grip/adapter to suit cable lead termination as spare or backup.	
	PFL Earth Line Lead to be 35 -40 meters minimum *With 1 additional clamp/grip/adapter to suit cable lead termination as spare or backup.	
	PFL AC Supply lead set to be 35 -40 meters minimum *With 1 additional clamp/grip/adapter to suit cable lead termination as spare or backup.	
	3 reel cable rack for vehicle mounting	
	Laptop	11 th gen i7 Processor, minimum of 13" FHD LED Touchscreen Display (1920 x 1080), minimum of 512GB Solid State Drive (SSD) Storage, minimum 8GB Ram, Windows 10/11
Test and Calibration Certificate	To be made available for the Cable Fault Locating System	

3. Warranty

12-month warranty on the PFL unit is to be provided. The warranty shall start from the point the item has been received by EFL and confirmed operational and defect free **after a hands-on training**.

4. User Operation Manual

A user manual is to be provided for each function, usage detail and onscreen options is to be provided with the PFL unit. Where possible, virtual training software and media copies (video/cd) are to be provided to enable easier understanding of the equipment.

5. Training

Bidders are to provide training for an approximate of 15 participants in Fiji at EFL's Kinoya Depot and include the cost training. Training shall be provided within 4 weeks after receiving the PFL by EFL. The details of the hands-on training must be provided in the tender bid which may include:

- Classroom exercise – turning on equipment, features, maintenance, etc.
- Field exercise – actual setup, cable fault finding, cable testing, etc.

An option for virtual training must also be given for the approximate 15 participants in the event travel to Fiji is prohibited due to COVID-19.

6. Operating Conditions

The equipment will be used at tropical (fairly humid, rainy and hot) conditions with temperatures ranging from 10 to 50 Degrees Celsius. The nominal frequency of electrical reticulation in Fiji is 50Hz. The equipment shall be water resistant, dust resistant as specified in the criteria tables above.

7. Delivery

All items shall be delivered to Suva Port (Fiji) or Nadi Airport on CIF basis. Bidder must state shipping method – airfreight or sea. Whichever method the bidder chooses they must ensure the delivery is within 6 weeks as stated in the specification. The bidder must take into account all logistics and costs involved to have the item shipped to Fiji.

8. Period of validity of Goods

8.1 Bids shall remain valid for a period of 180days after the deadline for the receipt of Bids. A bid valid for a shorter period shall be rejected by EFL as non-responsive.

8.2 In exceptional circumstances, EFL may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing.

9. Bid Currency

Unless otherwise specified, the unit rates and prices shall be quoted by the bidder's country of origin.

The following table must be filled and then returned with the bid. The prices must be valid for a minimum period of 180days.

Description	Quantity	Total Price (CIF)	Shipping Method
3kV Portable Underground Cable Power Fault Locator with all accessories and 12month warranty	1		

Note: bidder must state if price is for airfreight to Nadi airport or sea freight to Suva Port.

Shipped to Location (circle one option): Nadi Airport / Suva Port

Description	Quantity	Training Package Price
Face-to-face Training cost inclusive of all training material/equipment/software at EFL Kinoya Depot, Kinoya (Central Division)	1 set (estimated for 15 Participants)	
Online/Virtual Training cost inclusive of all training material/equipment/software either downloadable or hard material sent with main unit	1 set (estimated for 15 Participants)	

For Foreign/Overseas Supplier, any On-Shore or Virtual training work with incur a withholding Tax of 15% e.g. commissioning, training etc..

The bid price for training should therefore be INCLUSIVE of Withholding Tax.

Failure to submit price as per CIF terms may result in the bid being rejected for evaluation and award.

PLEASE STATE CURRENCY: _____

10. Accessories

The bidder must account for a supply of One (1) Laptop as part of cable fault locator package (mandatory) which shall be handed over to the EFL Engineer who will utilize the laptop for software upgrades, downloading of data from the fault locator equipment and other analysis work. Laptop spec, model, and image or link to the product must be submitted with bid which shall comprise of the following minimum specifications:

- 11th Gen i7 Processor
- Minimum of 13" FHD LED Touchscreen Display (1920 x 1080)
- Minimum of 512GB Solid State Drive (SSD) Storage
- Minimum of 8GB Ram
- Windows 10/11

All optional accessories (**exclusive** of that which is specified in this tender specification) are to be stated in the bid with delivery prices per unit item. It shall be EFL discretion to either purchase or forego the optional accessories stated. Picture references must be provided for clarity in choosing the accessory.

Prices are to be submitted in a table similar to below format. If the optional accessories are chosen, then they will form part of the package to be supplied together with the main underground cable fault locator equipment.

Optional Accessory Description	Quantity	Total Price (CIF)	Shipping Method
1.	1		Same as 3kV main equipment

11. Company Information

1.	Name of Bidding Company	
2.	Contact Person Name	
3.	Telephone	
4.	Fax	
5.	Email	
6.	Mobile	
7.	Name of Company CEO/Director	
8.	Sales Tax/ Commercial Tax/ CST Nos.	
9.	Service Tax No.	
10.	Income Tax No.	

1.	Name of Authorized Person for bidding	
2.	Signature of Authorized Person	
3.	Company Stamp	

TENDER CHECKLIST

The Bidders must ensure that the details and documentation mention below must be submitted as part of their tender Bid

Tender Number _____

Tender Name _____

1. Full Company / Business Name: _____

(Attach copy of Registration Certificate)

2. Director/Owner(s): _____

3. Postal Address: _____

4. Phone Contact: _____

5. Fax Number: _____

6. Email address: _____

7. Office Location: _____

8. TIN Number: _____

(Attach copy of the VAT/TIN Registration Certificate - Local Bidders Only (Mandatory))

9. FNPF Employer Registration Number: _____ **(For Local Bidders only) (Mandatory)**

10. **Provide a copy of Valid FNPF Compliance Certificate (Mandatory- Local Bidders only)**

11. **Provide a copy of Valid FRCS (Tax) Compliance Certificate (Mandatory Local Bidders only)**

12. **Provide a copy of Valid FNU Compliance Certificate (Mandatory Local Bidders only)**

13. Contact Person: _____

I declare that all the above information is correct.

Name: _____

Position: _____

Sign: _____

Date: _____

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 24th November, 2021.

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.