



ENERGY FIJI LIMITED

BIDDING DOCUMENT

MR 97/2023

**SUPPLY OF 33kV UNDERGROUND CABLE
POWER FAULT LOCATOR**

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 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) (5th April, 2023).

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 portable cable fault locating equipment for 33kV underground cable circuits. The device is to be durable and reliable designed for Electrical Utilities able to deliver the following:

- TDR (Time Domain Reflectometer)
- ARC Reflection
- Proof/Burn
- Surge/Thump mode all in one package
- Sheath fault finding
- 2000J of energy output
- 32kV DC voltage for surge/proof/burn/arc reflection
- Fault conversion current of 750mA or greater
- Above functions to be available in a single portable unit

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 33kV
- Insulation of cable being Paper-Lead (PILC) or XLPE
- Conductor size ranging from 35mm² to 300mm² 3core cables or 300mm² to 630mm² single core cable
- Typical circuit length ranging from minimum of 100meters till approximately 15000meters

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.

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		
Semi-Automatic	Unit automatically sets thump voltage to minimize stress applied to cable	

CRITERIA	EFL REQUIREMENTS	BIDDERS PRODUCT DETAILS
	Unit can detect breakdown voltage and display breakdown voltage value	
Safety	User protection from incorrect or faulty ground connection (F-Ohm)	
	Emergency stop button	
Portability	Heavy duty wheel mounted	
Power Options	240V AC at 50Hz	
Energy Output	2000J minimum at any stage	
Voltage Output Range	32kV DC (bidder to state range e.g. 4kV/8kV/16kV/32kV)	
Fault Conditioning	Burning/fault conversion current – minimum 750A	
Housing Enclosure	IP54 minimum, built for rugged environment, rain tight powder coated	
Weight	To be provided by bidder	
Operating Temperature	10° to 50° C	
Storage Temperature	10° to 65° C	
Dimension	W x H x D to be provided by bidder	
Delivery Lead Time	6 weeks maximum after issue of LPO	
Warranty	12months	
Training	Hands on training at EFL Navutu Depot	
Product Detail	Product datasheet and pamphlet to be provided	

TECHNICAL CRITERIA

CRITERIA	EFL REQUIREMENTS	BIDDERS PRODUCT DETAILS
Operating Modes	TDR (time domain reflectometer) For pre-locating cable fault	
	ARC Reflection Method (ARM) Voltage Output Level: 32kV (bidder to state range eg. 4kV/8kV/16kV/32kV)	
	Impulse Current (current waveform analysis) Voltage Output Level: (bidder to state range eg. 4kV/8kV/16kV/32kV)	
	Voltage Decay Voltage Output Level: (bidder to state range eg. 4kV/8kV/16kV/32kV)	
	DC Proof test with resistance readout in Ohms (Ω) Voltage Output Level: (bidder to state range eg. 4kV/8kV/16kV/32kV)	
	Burning/Fault Conditioning Voltage Output Level: (bidder to state range eg. 4kV/8kV/16kV/32kV)	

CRITERIA	EFL REQUIREMENTS	BIDDERS PRODUCT DETAILS
	Direct Surge/Thump Voltage Output Level: 32kV (bidder to state range eg. 4kV/8kV/16kV/32kV)	
	Sheath fault test & pinpointing Voltage Output Level: upto 10kV	
TDR	TDR mode and all pre-location functions to be applicable on 15000meters of cable length	
Energy Output	2000J at any stage (bidder to state range eg. 4kV/8kV/16kV/32kV)	
	Proof test: 0 to 32kV (or greater) continuous	
	Burn Current: 750mA minimum	
Impulse Generator Key Features	Single shot thump in ARM	
	Built-in inductive type ARM filter	
	3 second thump cycle at max output	
	Automatic cable and system discharging	
Display	Transflective TFT color display	
	Sunlight Proof	
	LED Backlit	
	Minimum 10inches for greater viewing clarity	
SMART Features	Automatic test sequence – tells user to press buttons and guides through each step to proof test, prelocate and pinpoint fault	
	Automatic interpretation regarding fault type – open, burnt or short circuit	
	Automatic Adjustment of thump voltage with ability for user intervention for manual control	
	Automatic alphanumeric display of cable and fault distance	
	Insulation resistance test built in (1kV and 5kV option)	
USB Features	Host interface 2.0 version minimum	
	TDR trace export and system upgrade	
PFL HV Output Test Lead Cable	15meters minimum	
PFL Earth Line Lead Cable	5meters minimum	

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 Navutu Depot, and a similar number of participants at the EFL's Kinoya Depot at no extra cost to EFL. 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 (one day) – turning on equipment, features, maintenance, etc.
- Field exercise (two days) – actual setup, cable fault finding, cable testing, etc.

The bidder must account for a supply of Two (2) Laptop (Toughbook) as part of training which shall be handed over to the EFL Engineer (one each in the Central and Western Divisions) 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:

- i7 Processor
- 13" or 15" FHD LED Touchscreen Display (1920 x 1080)
- 512GB Solid State Drive (SSD) Storage
- 8GB Ram
- Windows 10

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 Lautoka Port (Fiji) on CFR basis. The bidder must consider all logistics and costs involved to have the item shipped to **Fiji Lautoka Port**.

8. Period of validity of Goods

8.1 Bids shall remain valid for a period of 90 days 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 90days.

Description	Quantity	Total Price (CFR) to Lautoka Port
Underground Cable Power Fault Locator with two Laptops as specified in Section 5 above with 12 month warranty	1	
Training at Navutu and Kinoya Depot	1 at Navutu Depot 1 at Kinoya Depot	

*Please state currency

The above table is to be filled and submitted with the bid. Failure to submit price as per CFR terms may result in the bid being rejected for evaluation and award. PLEASE STATE CURRENCY.

10. Optional Accessories

All optional accessories 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.

Accessory Description	Quantity	Total Price (CFR) to Lautoka Port
1.	1	

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	
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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>

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 05th April, 2023.

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. Bidders are to clearly state the percentage of VAT that is applicable to the bid prices.

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.