



## **Fiji Electricity Authority**

### **Tender Document for Supply of Power Quality Analyzer**

#### **Complete with Accessories**

#### **(Tender #: MR 106/2017)**

**Tender Closing Date:** 1600hrs, Wednesday, 26<sup>th</sup> April, 2017.

# Invitation to Bid MR 106/2017

## SUPPLY OF EQUIPMENT- POWER QUALITY ANALYZER COMPLETE WITH ACCESSORIES FOR FIJI ELECTRICITY AUTHORITY

Fiji Electricity Authority (“FEA”) invites Bids from eligible, qualified and reputable companies for the **Supply of Power Quality Analyzer complete with Accessories.**

Interested bidders, please address your queries or questions in writing at the address given below

Mr. Abdul Nasim,  
Unit Leader Strategic Procurement, Inventories and Properties  
Supply Chain Office,  
2 Marlow Street, Private Mail Bag,  
Suva  
or email: [Abduln@fea.com.fj](mailto:Abduln@fea.com.fj)

### SECTION I - INSTRUCTIONS TO BIDDERS

***Notes to Bidders:** This section provides detailed information necessary for Bidders to prepare their Bids, in accordance with the requirements specified by the FEA. It also provides information on Bid submission, opening, evaluation and the award of contract.*

#### **1. Scope**

1.1 The entity of the FEA specified above invites Bids for the Supply of Power Quality Analyzer complete with Accessories as described in the Bidding Document.

#### **2. Eligibility of Bidders**

2.1 This bidding is open to all eligible companies

2.2 FEA in its sole unfettered discretion, disqualify or otherwise determine ineligible any potential Bidder that the FEA believes is, has been or will be, whether directly or indirectly, engaged in criminal or any other unethical behavior, financially unsound, or otherwise unfit in the FEA's opinion to participate in the bidding exercise.

2.3 In its Bid, the Bidder shall indicate the origin of Good proposed.

2.3 A Bidder shall not be eligible to participate in this bidding or in the performance of the contract under consideration if such Bidder:

- Is bankrupt or being wound up, is having its affair administered by the courts, has entered into an arrangement with creditors, has suspended business activities, is the subject of proceedings concerning those matters or is in any analogous situation arising from a similar procedure provided in national legislation or regulations.

- Has been subject of a judgment which has the force of judicator for fraud, corruption, involvement in a criminal organization or any other illegal activity detrimental to the financial interests of FEA.
- Is guilty of misrepresentation in supplying the information required as a condition of participation in this bidding exercise or fail to supply this information.
- Is subject to a conflict of interest.

### **3. Bid Prices**

- 3.1 The Bidder shall indicate on the appropriate Price Schedule the unit prices (where applicable) and total Bid Price of the offered goods.
- 3.2 The Bidder's separation of price components will be solely for the purpose of facilitating the comparison of Bids by FEA and will not in any way limit the FEA's right to contract on any of the terms offered.
- 3.3 All non-exempt duties, taxes and other levies payable by the Contractor under the Contract/Purchase Order, or for any other cause shall be included in the rates, prices and total Bid price submitted by the Bidder.

### **4. Bid Currency**

- 4.1 Unless otherwise specified in Section II, the unit rates and Prices shall be quoted by the Bidder entirely in FJD.

### **5. Period of Validity of Goods**

- 5.1 Unless otherwise specified in Section II, 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 FEA as non-compliant.
- 5.2 In exceptional circumstances, FEA shall may solicit the Bidders' consent to an extension of the period of validity. The request and the responses thereto shall be made in writing.

**SECTION II – TENDER SPECIFICATIONS**

1. Failure to submit the required technical specifications will automatically result in the disqualification of the tender bid.
2. Power Quality Analyzer complete with Accessories

**A. Description**

Specifications		Bidders Remarks
	Voltage	Current
Input Channels	4 (isolated)	4
Measuring Range (RMS)	A, B & C channels: 0-600 VAC GND channel: 0 - 60 VAC	0-3000 Amp
Frequency Range	50Hz nominal (42.5Hz - 57.5Hz) 60Hz nominal (51.0Hz – 69.0Hz)	50Hz nominal (42.5Hz - 57.5Hz) 60Hz nominal (51.0Hz – 69.0Hz)
Instrument Accuracy	A, B & C channels: ±0.4% reading ±1 lsd GND channel: ±1% reading ±1	±0.4% reading ±1 lsd
System Accuracy	±0.4% reading ± 1 lsd	1% reading ±1lsd (0.5M Current probes)
Resolution Logged Data	A, B, C & GND channels: 0.01 Volt	0.01 Amp
Resolution Display	0.1 Volt	0.1 Amp
Voltage & Current Unbalance	Standard: IEC61000-4-30	
Waveform Capture	Duration: 400ms Triggers: Half cycle RMS dV/dt	
RMS Capture	Half Cycle RMS 50Hz - 5s to 30s configurable 60Hz - 5s to 25s configurable	
Sag / Swell Capture	Half Cycle RMS	
Circuit Connections	Star/Wye, Delta, Delta, Split Phase, Single Phase, Generic Independent Measurement.	
Display	Graphic LCD 128 x 64bits	
Power Consumption	Maximum 12 VA (10 W typical) from Phase A	
Power Source Main	Phase A to Neutral 60 – 600 Volts AC 50 and 60 Hz	
Power Source Backup	6 V 0.5 Ah Rechargeable Sealed Lead Acid (not user replaceable)	

RTC Battery	3 V 950 mAh Li-Manganese Dioxide / Organic Electrolyte (not user replaceable)	
Ambient Temperature	-20°C to +60°C (-4°F to +130°F) Note: standby battery is disabled when ambient temperature exceeds +45°C (113°F)	
Nominal AC Phase to Phase Voltage	600 Volts	
Nominal AC Phase to Neutral Voltage	600 Volts	
Nominal AC Phase to Ground (earth)	600 Volts	

The following are the accessories that must come with the power quality analyzer kit:

**Note: The table only provides details for one kit, the accessories below must come with all the 10 kits.**

Accessories	Bidders Remarks
<b>Supplier should also provide:</b>	
1. Mounting plate and nylon safety strap	
2. Data and power supply cable	
3. 2 channel voltage lead - measures Phase A and Ground (earth) with respect to Neutral. Power cable for GPO connection. Suitable for CAT II 300V environments.	
4. 4 channel voltage lead - measures A, B, C & Ground (earth) with respect to Neutral using 5 fused voltage clamps. Safety rating CAT IV 600 V	
5. 4 channel voltage lead - measures A, B, C, & Ground (earth) with respect to Neutral using 5 fused banana plugs. Safety rating CAT IV 600 V	
6. 4 Flexible current probes	
7. Instruction Manual	
8. Software CD	
9. Carry bag	

Other requirements	Bidders Remarks
<b>Supplier should also provide:</b>	
10. Calibration Certificate of instrument along with the traceability	
11. Standard International Guarantee /Warranty certificate	
12. Service center information.	
13. Quoted price should have a validity of 3 months	
14. Instruction Manual	

15. Bidder to provide following information along with technical data in their technical bid <ul style="list-style-type: none"> <li>• Physical dimensions of the instrument.</li> <li>• Weight of the instrument.</li> <li>• Weight of the instrument with accessories</li> <li>• List of the customers to whom they have supplied the quoted model.</li> </ul>	
16. Bidder must be able to provide back-up service/ repair and recalibration	
17. Bidder shall provide for hands-on training on the use of the equipment to FEA Technicians and Engineers on site	

**B. Carrying Facility and Dimension**

There shall be a transport case for each unit. It must be of hard and rugged material with carrying handles and locking facility. The interior of the cases shall have shock proof material for the units such as foam layer.

The Power Quality Analyzer must be at least of the dimension 230mm x 120mm x 90mm and the case must cater for these dimensions together with the storage of cables

1. Bidders remark on below dimension of the units.

	Length	Width	Height
<b>Power Quality Analyzer</b>			

2. Bidders remark on below dimension of the Transport Cases.

	Length	Width	Height
<b>Power Quality Analyzer Carrying Case</b>			

**Note:** State if Provided or Not Provided

**C. Weight**

The weight of the test equipment's shall be light enough for one person to lift, carry and load it easily. The weight must be at least minimum of 3kgs and maximum of 7kgs.

Bidders Remarks on below weights of the units.

	<b>Power Quality Analyzer (only)</b>	<b>Power Quality Analyzer Case (only)</b>
<b>Weight (Kg)</b>		

**E. Standards**

The power quality analyzer should have the standard of **IEC61000-4-30** in the following:

- Logged parameters (V, A, Min/ Max, Freq, TPF, DPF, kW, KVA, kVAR)
- Frequency (+/- 0.02Hz)

The power quality analyzer should have the standard of **IEC61000-4-7** in the following:

- Total harmonic distortion (THD-F & THD-R)
- Harmonics (up to 48<sup>th</sup> , magnitudes & angles)
- Inter-harmonics ((up to 48<sup>th</sup>)

The power quality analyzer should have the standard of **IEC61000-4-15** in the following:

- Flicker (Pst & Plt) – (10min Pst, 2hr Plt, logged every 10min)

**F. Instrument Type**

The power quality analyzer should be of **IEC61000-4-30** standard instrument type.

**G. Memory Capacity**

The memory capacity of the power quality analyzer shall be a minimum of 15MB to maximum of 8GB.

**H. Communications**

The power quality analyzer should use USB 1.1 for local operations and RS232 for remote operations.

**I. Protection Class**

The power quality analyzer should be of **AS 60529-2004 - IP66** standard in protection class. The power quality analyzer must have the capability to be used in all weather conditions and must be protected by the standards of **AS 60529-2004 - IP66**.

**J. Safety**

The power quality analyzer shall be of IEC 61010-1 2001, pollution degree 3 and Measurement Category of IV 600 Volts (Double Insulation or Reinforced Insulation, Altitude up to 2000 m)

**2. Included Accessories**

The following items shall be included in the package:

All cables shall be insulated to respective IEC standard.

Accessories	Bidders Remark
All necessary cables	

**3. Total Bid**

Equipment	Quantity	Unit Price VIP	Total Price VIP
	(FJD)	(FJD)	(FJD)
Power Quality Analyzer complete with Accessories	10		
<b>Total</b>			

*Note: All prices should be expressed in FJD.*

**4. General Information**

<b>1</b>	Name and Address of the Bidder:	
<b>2</b>	Contacts:	
<b>3</b>	Telephones:	
<b>4</b>	Fax:	
<b>5</b>	E-Mail:	
<b>6</b>	Mobile No:	
<b>7</b>	Name of Chief Executive Office and Telephone No:	
<b>8</b>	Sales Tax/Commercial Tax/CST nos.	
<b>9</b>	Service Tax No.	
<b>10</b>	Income Tax No.	

Name of Authorized Person	
Signature of the Bidder	
Company Stamp	
Date	



## **Tender Submission - Instruction to bidders**

It is mandatory for Bidders to upload a copy of their bid in the TENDER LINK Electronic Tender Box no later than 1600hrs, Wednesday 24<sup>th</sup> May, 2017.

To register your interest and tender a response, view 'Current Tenders' at:

<https://www.tenderlink.com/fea>

For further information contact The Secretary Tender Committee, by e-mail

[TDelairewa@fea.com.fj](mailto:TDelairewa@fea.com.fj)

In additional, hard copies of the tender, one original and one copy must be deposited in the tender box located at the FEA Head Office, 2 Marlow Street, Suva, Fiji no later than new time and date to be inserted - Addressed as

**Tender – MR 106/2017 – Supply of Power Quality Analyzer Complete with Accessories**

**The Secretary Tender Committee  
Fiji Electricity Authority  
Head Office  
Suva  
Fiji**

**Hard copies of the Tender bid will be accepted after the closing date and time provided a soft copy is uploaded in the e-Tender Box and it is dispatched before the closing date and time.**

Tenders received after **closing time** 1600hrs, Wednesday 24th May, 2017

- Will not be considered.
- Lowest bid will not necessarily be accepted as successful bid.

**It is the responsibility of the bidder to pay courier chargers and all other cost associated with the delivery of the hard copy of the Tender submission.**