

**FIJI ELECTRICITY AUTHORITY**



**TENDER SPECIFICATIONS**

**TENDER**

**TENDER NO: MR 136/2018**

**Supply of Condition Monitoring Devices**

## Section I - Invitation for Tenders

Fiji Electricity Authority is inviting bids for the **Supply of Condition Monitoring Devices**.

Interested bidders may obtain Tender Document at the:

Supply Chain Office  
Fiji Electricity Authority  
Head Office  
2 Marlow Street, Suva  
Contact: 322 4360 / 999 1587

All tenders shall submit all documents required including spares pricing as per price template.

During evaluation of tenders, the Authority will invite a tenderer or tenderers for discussions, presentations and necessary clarification before awarding of the contract

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## SECTION II: Instruction to Tenderers

### Introduction

#### 1. Eligible Tenderers

- 1.1 This Invitation for Tenders is open to all tenderers. The successful tenderer shall complete the supply of goods by the intended completion date specified in the tender document.
- 1.2 Tenderers shall not be under a declaration of ineligibility for corrupt and fraudulent practices.

#### 2. Cost of Tendering

- 2.1 The Tenderer shall bear all costs associated with the preparation and submission of its tender, and Fiji Electricity Authority, will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the tendering process.

### The Tender Document

#### 3. Contents

- 3.1 The tender document comprises the document listed below and addenda issued in accordance with Clause 5 of the Instructions to Tenderers
  - a) Invitation for Tenders
  - b) Instructions to Tenderers
  - c) General Conditions of Contract
  - d) Special Conditions of Contract
  - e) Technical Specifications and Price Schedules f)  
Tender Form
- 3.2 The Tenderer is expected to examine all instructions, forms, terms, and specifications in the tender document. Failure to furnish all information required by the tender document or to submit a tender not substantially responsive to the tender document in every respect will be at the tenderer's risk and may result in the rejection of its tender.

The following are the mandatory submission of a successful tender bid;

- Pricing Schedule
- Program of Works
- Company Profile (Max 2 pages in standard A4)
  - Work History - Project/ Work done with referee, FEA work history.
  - Company background
  - Bidder available resources e.g. Manpower, Machines & Equipment.
  - OHS Policies or Plan
- Fiji Revenue & Customs Service (FRCA) compliance
- Fiji National Provident Fund (FNPF) compliance
- Signed checklist declaration (Appendix 5.1)

Failure to submit required documents may affect bid compliance even make it non-compliance.

#### ***4. Clarification of Tender Document***

- 4.1 A prospective tenderer requiring any clarification of the tender document may notify:

Mr.Tuvitu Delairewa in writing: General  
Manager Corporate Services Fiji  
Electricity Authority  
2 Marlow Street, Suva Fiji  
Phone: 679 322 4185  
Email: [TDeலைwa@fea.com.fj](mailto:TDeலைwa@fea.com.fj)

#### ***Amendment of Tender Document***

- 5.1 At any time prior to the deadline for submission of tenders, Fiji Electricity Authority, for any reason whether at its own initiative or in response to a clarification requested by a prospective tender, may modify the tender document by amendment.
- 5.2 All prospective tenderers that have received the tender document will be notified of the amendment in writing and will be binding on them.
- 5.3 In order to allow prospective tenders reasonable time to take the amendment into account in preparing their tenders, Fiji Electricity Authority at its direction, may extend the deadline for the submission of tenders.

### **Preparation of Tenders**

#### ***5. Language of Tender***

- 5.1 The tender prepared by the tenders, as well all correspondence and document relating to the tender exchanged by the tender and Fiji Electricity Authority, shall be written in English.

#### ***6. Document Comprising the Tender***

- 7.1 The tender prepared by the tenderer shall comprise the following components:
- a) A tender Form and Price Schedule completed in accordance with Clauses 8, 9 and 10 below; refer to Schedule A for Price Schedule template

#### ***7. Tender Form***

- 8.1 The tenderer shall complete the Tender Form and the Price Schedule furnished in the tender document, indicating the goods to be supplied, a brief description of the goods their country of origin, quantity and prices.

#### ***8. Tender Prices***

- 9.1 The tenders shall indicate on the appropriate Price Schedules the unit prices and the total tender price of the goods it produces to supply under the contract
- 9.2 For local suppliers, prices indicated on the Price Schedule shall be Delivered and Duty Paid (DDP) to Fiji Electricity Authority Stores, Kinoya.

- 9.3 For foreign suppliers, prices indicated on the Price Schedule shall be Delivery Duty Unpaid (DDU) to Suva Port, Fiji Islands for sea freight and Nadi Airport, Fiji Islands for airfreight.
- 9.4 Bidders are requested to submit prices for both delivery modes Air freight and Sea freight.
- 9.5 Prices quoted by the tenderer shall be fixed during the tender's performance of the contract and not subject to variation on any account. A tender submitted with an adjustable price quotation will be treated as non-responsive and will be rejected, pursuant to Clause 21.

## ***9. Tender Currencies***

- 10.1 Prices shall be quoted in Fijian Dollars or in other freely convertible currency.

## ***10. Good's Eligibility and Conformity to Tender Documents***

- 11.1 The tenders shall furnish, as part of its tender, documents establishing the eligibility and conformity to the tender documents of all goods, which the tenderer proposes to supply under the contract.
- 11.2 The documentary evidence of the eligibility of the goods shall consist of a statement in the Price Schedule of the country of origin of the goods offered, which shall be confirmed by a certificate of origin issued at the time of shipment.
- 11.3 The documentary evidence of conformity of the goods to the tender documents may be in the form of literature, drawings and data, and shall consist of:
- a) A detailed description of the essential technical and performance characteristics of goods;
  - b) A clause-by-clause commentary on Fiji Electricity Authority's Technical Specifications demonstrating substantial responsiveness of the goods to those specifications, or a statement of deviation and exceptions of the Technical Specifications.

## ***11. Validity of Tenders***

- 12.1 Tenders shall remain valid for 90 days. A tender valid for a shorter period shall be considered as non-responsive.
- 12.2 In exceptional circumstances, Fiji Electricity Authority may solicit the tenderer's consent to an extension of the period of validity. The request and the response thereto shall be made in writing (email). A tenderer granting the request will not be required nor permitted to modify the tender.

## ***12. Format and Signing of Tender***

- 13.1 The tenderer shall prepare an original and **two (2) copies** of the tender, clearly marking "**ORIGINAL TENDER**" and "**COPY OF TENDER**" as appropriate. In the event of any discrepancy between them, the original shall govern.
- 13.2 The original and copy of the tender shall be typed or written in indelible ink and shall be signed by the tenderer or a person or persons duly authorized to bind the tenderer to the contract.
- 13.3 The tender shall have no interlineations, erasures, or overwriting except as necessary to correct errors made by the tenderer, in which case such corrections shall be initialled by the person or persons signing the tender.

## Submission of Tenders

### *13. Sealing and Marking of Tenders*

- 13.1 The tenderer shall seal the original and copies of the tender in separate envelopes, duly marking the envelopes as “ORIGINAL” and “COPY”. The envelopes shall then be sealed in an outer envelope.
- 13.2 The inner and outer envelopes shall:
- a) Be addressed to:  
The Secretary Tender Committee  
2 Marlow Street  
Suva  
FIJI.  
Phone: 679 3224 185  
Facsimile: 679 331 1882  
Email: [TDelairewa@fea.com.fj](mailto:TDelairewa@fea.com.fj)
  - b) Bear the following Identification,  
“MR 136/2018 - Supply of Condition Monitoring Devices”
- 13.3 The inner envelopes shall also indicate the name and address of the tenderer to enable the tender to be returned unopened in case it is declared “late”.
- 13.4 If the outer envelope is not sealed and marked as required by Clause 15.2, Fiji Electricity Authority will assume no responsibility for the tender’s misplacement or premature opening.

### *14. Deadline for Submission of Tenders*

- 14.1 Tenders must be received by Fiji Electricity Authority on **Wednesday 4<sup>th</sup> April, 2018**  
**no later than 4:00pm.**
- 14.2 Fiji Electricity Authority may, at its discretion, extend this dead line for the submission of tenders by amending the tender document in accordance with clause 5, in which case all rights and obligations of Fiji Electricity Authority and tenderers previously subject in the deadline will thereafter be subject to the deadline as extended

### *15. Modification and Withdrawal of Tenders*

- 15.1 The tenderer may modify or withdraw its tender after the tender’s submission, provided that written notice of the modification, including substitution or withdrawal of the tenders, is received by Fiji Electricity Authority prior to the deadline prescribed for submission of tenders.
- 15.2 The tenderer’s modification or withdrawal notice shall be prepared, sealed, marked, a dispatched in accordance with the provisions of Clause 15. A withdrawal notice may also be sent by cable, but followed by a signed confirmation copy, postmarked no later than the deadline for submission of tenders.
- 15.3 No tender will be modified after the deadline for submission of tenders.
- 15.4 No tender will be withdrawn in the interval between the deadline for submission of tenders and the expiration of the period of tender validity specified by the tenderer on the Tender Form.



## Opening and Evaluation of Tenders

### *16. Opening of Tenders*

- 16.1 Fiji Electricity Authority will open all tenders with the presence of Fiji Electricity Authority nominated Tender Committee, without presence of the bidder's representative.
- 16.2 Each member of the tender committee will initial tender pages of the tender documents and record total price tendered before submitting to the Tender Evaluation Committee for further evaluation.

### *17. Clarification of Tenders*

- 17.1 To assist in the examination, evaluation and comparison of tenders Fiji Electricity Authority at its discretion, may ask the tenderer for a clarification of its tender. The request for clarification and the response shall be in writing, and no change in the prices or substance of the tender shall be sought, offered, or permitted.

Any effort by the tenderer to influence Fiji Electricity Authority in its decision on tender evaluation tender comparison or contract award may result in the rejection of the tenderer's tender.

### *18. Preliminary Examination*

- 17.1 Fiji Electricity Authority will examine the tenders to determine whether they are complete, whether any computational errors have been made, whether the documents have been properly signed, and whether the tenders are generally in order.
- 17.2 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected. If the tenderer does not accept the correction of the errors, its tender will be rejected. If there is a discrepancy between words and figures, the amount in words will prevail.
- 18.3 Fiji Electricity Authority may waive any minor informality or non-conformity or irregularity in a tender which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any tenderer.
- 17.4 Prior to the detailed evaluation, pursuant to Clause 21, Fiji Electricity Authority will determine the substantial responsiveness of each tender to the tender document. For purposes of these paragraphs, a substantially responsive tender is one, which conforms to all the terms and conditions of the tender document without material deviation Fiji Electricity Authority's determination of a tender's responsiveness is to be based on the contents of the tender itself without recourse to extrinsic evidence
- 17.5 If a tender is not substantially responsive, it will be rejected by Fiji Electricity Authority and may not subsequently be made responsive by the tenderer by correction of the nonconformity

### *19. Evaluation and Comparison of Tenders*

- 19.1 Fiji Electricity Authority will evaluate and compare the tenders, which have been determined to be substantially responsive, pursuant to clause 18
- 19.2 Fiji Electricity Authority's evaluation of a tender will exclude and not take into account any allowance for the price adjustment during the period of execution of the contract, if provided in the tender.
- 19.3 Fiji Electricity Authority's evaluation of a tender will take into account, in addition to  
The tender price and the price of incidental services, the following factors:
  - a) Compliance to Instruction to Tenderers pursuant to Clauses 1.1 and 1.2;
  - b) Compliance to the tender requirements pursuant to Clauses 11, 12 and 13;
  - c) Compliance to the technical specifications;
  - d) Compliance with Section E notes 1, 2,3,4,5, 6, 7 and 8;

- e) Tender validity of not less than 90 days;
- f) Delivery period offered in the tender. The delivery period should not exceed 8 weeks (Two month) after the date of signing the Contract;
- g) Documentary proof of successful delivery of similar assignment deviation in payment schedule from that specified in the Special Conditions of Contract
- h) Documentary proof of successful delivery of similar assignment.

## ***20. Contacting Fiji Electricity Authority***

- 20.1 Subject to Clause 18, no tenderer shall contact Fiji Electricity Authority on any matter relating to its tender, from the time of the tender opening to the time the contract is awarded.
- 20.2 Any effort by a tenderer to influence Fiji Electricity Authority in its decisions on tender evaluation, tender comparison, or contract award may result in the rejection of the tenderer's tender.

## **Award of Contract**

### ***21. Award Criteria***

- 21.1 Subject to Clauses 9, 21 and 25 Fiji Electricity Authority will award the contract to the successful tenderer(s) whose tender has been determined to be substantially responsive and has been determined to be the lowest **evaluated** tender.

### ***22. Fiji Electricity Authority's Right to Vary Quantity***

- 22.1 Fiji Electricity Authority reserves the right at the time of contract award to increase or decrease the quantity of goods originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions.

### ***23. Fiji Electricity Authority's Right to accept or reject any or All Tenders***

- 23.1 Fiji Electricity reserves the right to accept or reject any tender, and to annul the tendering process and reject all tenders at any time prior to contract award, without thereby incurring any liability to the affected tenderer or tenderers or any obligation to inform the affected tenderer or tenderers of the grounds for its action.

### ***24. Notification of Award***

- 24.1 Prior to the expiration of the period of tender validity, Fiji Electricity Authority will notify the successful tenderer in writing that its tender has been accepted.

### ***25. Signing of Contract***

- 25.1 At the same time as Fiji Electricity Authority notifies the successful tenderer that its tender has been accepted, Fiji Electricity Authority will send the tenderer the Contract document incorporating all agreements between the parties.
- 25.2 Within five (5) working days of receipt of the Contract document, the successful tenderer shall sign and date the contract and return it to Fiji Electricity Authority

### ***26. Corrupt or Fraudulent Practices***

26.1 Fiji Electricity Authority requires that tenderers observe the highest standard of ethics during the Procurement process and execution of contracts. In pursuance of this policy, Fiji Electricity Authority:-a) Defines, for the purposes of this provision, the terms set forth below as follows:

- I. "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution; and

II. “fraudulent practice” means a misrepresentation off acts in order to influence a procurement process or the execution of a contract to the detriment of Fiji Electricity Authority, and includes collusive practice among tenderers (prior to or after tender submission) designed to establish tender prices at artificial non-competitive levels and to deprive Fiji Electricity Authority of the benefits of free and open competition;

b) Will reject a proposal for award if it determines that the tenderer recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question

c) Will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded any contract if it at any time determines that the firm has engaged incorrupt or fraudulent practices in competing for, or in executing, a contract.

26.2 Furthermore, tenderers shall be aware of the provision stated in the General Conditions of Contract.

## **Section III: General Conditions of Contract**

### **1. Definitions**

- 1.1 In this Contract, the following terms shall be interpreted as indicated:
- a) “The Contract” means the agreement entered into between Fiji Electricity Authority and the Supplier, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein
  - b) “The Contract Price” means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations.
  - c) “The Supplier” means the individual or firm supplying the goods under this Contract.
  - d) “The Goods” means all of the equipment, machinery, and/or other materials, which the Supplier is required to supply to Fiji Electricity Authority under this Contract.

### **2. Application**

- 2.1 These General Conditions shall apply in all Contracts made by Fiji Electricity Authority for the procurement of goods.

### **3. Country of Origin**

- 3.1 For purposes of this Clause, “origin” means the place where the Goods were manufactured or produced.
- 3.2 The origin of the Goods is distinct from the nationality of the Supplier.

### **4. Standards**

- 4.1 The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications.

### **5. Use of Contract Documents and Information**

- 5.1 The Supplier shall not, without Fiji Electricity’s prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of Fiji Electricity Authority in connection therewith, to any person other than a person employed by the Supplier in the performance of the Contract.
- 5.2 The Supplier shall not, without Fiji Electricity Authority’s prior written consent, make use of any document or information enumerated in Clause 5.1 above.
- 5.3 Any document, other than the Contract itself, enumerated in Clause 5.1 shall remain the property of Fiji Electricity Authority and shall be returned (all copies) to Fiji Electricity Authority on completion of the Supplier’s performance obligations under the Contract if so required by Fiji Electricity Authority.

## **6. Patent Rights**

- 6.1 The Supplier shall indemnify Fiji Electricity Authority against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof in Fiji.

## **7. Packing**

- 7.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract.
- 7.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract.

## **8. Delivery and Documents**

- 8.1 Delivery of the Goods shall be made by the Supplier in accordance with the terms specified by Fiji Electricity Authority in its Schedule of Requirements and the Special Conditions of Contract.
- 8.2 The supplier shall provide both Air Freight Charges and Sea Freight Charges

## **9. Insurance**

- 9.1 The Goods supplied under the Contract shall be fully insured against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery in the manner specified in the Special Conditions of Contract.

## **10. Warranty**

- 10.1 The Supplier warrants that the Goods supplied under the Contract are new, unused, of the most recent or current models and they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Supplier further warrants that all Goods supplied under this Contract shall have no defect, arising from design, materials, workmanship, or from any act or omission of the Supplier, that may develop under normal use of the supplied Goods in the conditions prevailing in the country.
- 10.2 This warranty shall remain valid for twelve (12) months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the Contract.
- 10.3 Fiji Electricity Authority shall promptly notify the Supplier in writing of any claims arising under this warranty
- 10.4 Upon receipt of such notice, the Supplier shall, within a period of 30 days, and with all reasonable speed, repair or replace the defective Goods or parts thereof, without costs to Fiji Electricity Authority.
- 10.5 If the Supplier, having been notified, fails to remedy the defect(s) within the period specified in 10.4 above, within a reasonable period, Fiji Electricity Authority may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which Fiji Electricity Authority may have against the Supplier under the Contract.

## **11.Payment**

- 11.1 The method and conditions of payment to be made to the Supplier under this Contract shall be specified in Special Conditions of Contract.
- 11.2 Payments shall be made promptly by Fiji Electricity Authority as specified in the Contract.

## **12.Prices**

- 12.1 Prices charged by the Supplier for Goods delivered under the Contract shall not, with the exception of any price adjustments authorized in Special Conditions of Contract, vary from the prices quoted by the Supplier in its tender.

## **13.Assignment**

- 13.1 The Supplier shall not assign, in whole or in part, its obligations to perform under this Contract, except with Fiji Electricity Authority's prior written consent.

## **14.Subcontracts**

- 14.1 The Supplier shall notify Fiji Electricity Authority in writing of all subcontracts awarded under this Contract if not already specified in the tender. Such notification, in the original tender or later, shall not relieve the Supplier from any liability or obligation under the Contract.

## **15.Termination for Default**

- 15.1 Fiji Electricity Authority may, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, terminate this Contract in whole or in part:
  - a) If the Supplier fails to deliver the Goods within the period(s) specified in the Contract, or within any extension thereof granted by Fiji Electricity Authority.
  - b) If the Supplier fails to perform any other obligation(s) under the Contract
  - c) If the Supplier, in the judgment of Fiji Electricity Authority has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.
- 15.2 In the event Fiji Electricity Authority terminates the Contract in whole or in part, it may procure, upon such terms and in such manner, as it deems appropriate, Goods similar to those undelivered, and the Supplier shall be liable to Fiji Electricity Authority for any excess costs for such Goods

## **16.Liquidated Damages**

- 16.1 If the Supplier fails to deliver the Goods within the period(s) specified in the Contract, Fiji Electricity Authority shall, without prejudice to its other remedies under the Contract

## **17.Resolution of Disputes**

- 17.1 Fiji Electricity Authority and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

- 17.2 If, after thirty (30) days from the commencement of such informal negotiations both parties have been unable to resolve amicably a Contract dispute, either party may require that the dispute be referred for resolution to formal mechanisms. These mechanisms include, but are not restricted to, conciliation by a third party, adjudication in an agreed national or international forum, and/or international arbitration.

### ***18. Language and Law***

- 18.1 The language of the Contract and the law governing the Contract shall be English language and the Laws of Fiji respectively unless otherwise stated.

### ***19. Force Majeure***

- 19.1 The Supplier shall not be liable for forfeiture of termination for default if and to the extent that it's delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure

## Section IV: Special Conditions of Contract

### *1. Definitions*

The Purchaser is Fiji Electricity Authority, **2 Marlow Street, Private Mail Bag, Suva**, and includes its legal representatives, successors or assigns.

### *2. Application*

The following Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the General Conditions of Contract.

### *3. Proof of Successful Completion of Previous Similar Contracts*

Tenderers shall provide proof of successful completion within the stipulated delivery period of similar contracts undertaken in the past.

### *4. Delivery Period*

The Goods shall be delivered within 8 weeks after the date of contract award. Delivery must be for a complete schedule. Partial delivery shall not be accepted.

### *5. Payment Terms and Conditions*

#### **Local Suppliers**

Fiji Electricity Authority's payment terms are 30 days upon receipt of certified invoices and delivery notes confirming that the invoiced material has been delivered and are in accordance with the contract. Payment shall be made through Fiji Electricity Authority's cheque or telegraphic transfer for the amount of contract. The terms shall be:-

- I. Strictly Delivered and Duty Paid (DDP) to Fiji Electricity Authority Kinoya Stores, Suva.



## **Foreign Suppliers**

- I. Payment shall be through an LC under the following conditions:-
- II. Payment shall be effected upon presentation of a complete set of documents to the advising bank as will be stipulated in the Letter of Credit
- III. The Supplier shall be required to meet all LC bank charges incurred country; while Fiji Electricity Authority will meet those incurred in Fiji.
- IV. Any extension and or amendment charges and other costs that may result in the Supplier's delays, requests, mistakes or occasioned howsoever Supplier shall be to the Supplier's account.
- V. The number of LC extensions shall be limited to a maximum of two (2) only but not exceeding one quarter (3 months) each, at the cost of the Supplier.
- VI. Should the Supplier require a confirmed LC, then all confirmation and any related charges levied by both the Supplier's and Fiji Electricity Authority's bank shall be to the Supplier's account.
- VII. The LC shall be opened only for the specific order within the validity period of the contract.
- VIII. LCs shall be partial for partial deliveries or full for one delivery as contract.
- IX. The Supplier shall be required to submit a Proforma Invoice for each schedule for use in the placement of order and opening of the LC. The Proforma Invoice shall be on total Cost and Freight (CFR) basis showing the charges separately from the Free on Board (FOB) cost. Fiji Electricity Authority will meet freight Insurance cost

## **Advance Payment**

Any advance payment will require a bank guarantee.

## **6. Prices**

Prices shall be fixed during the Supplier's performance of the Contract and not subject to variation on any account.

## Section V: Scope of Work

### Supply of:

#### **1. Vibrational Measurement Devices**

##### **A. Hand Held Vibration Measurement Tool for Routine Checks (Total Qty: 18)**

A portable IP 64 or above rated kit to be based in each power station of renewable and thermal, which is quick and easy to set up with ergonomic design that alerts and prompts danger also providing increased diagnostic confidence with measuring velocity, enveloped acceleration and temperature simultaneously saving valuable time.

##### Display Units

- Metric or Imperial
- Temperature in Celsius of Fahrenheit
- Velocity in mm/s RMS
- Language in English for user convenience

##### **Technical Data**

Vibration Pickup	
Internal	Integrated piezoelectric acceleration
External	Accepts a standard 100mV/g constant current accelerometer
Temperature Sensor	Internal infrared temperature sensor
Measurements:	
Velocity:	Range: 0,7 to 65,0 mm/s (RMS) (0.04 to 3.60 in./s (equivalent Peak)), meets ISO 10816-3
	Frequency: 10 to 1 000 Hz, meets ISO 2954
Enveloped acceleration	Range: 0,2 to 50,0 gE
Temperature:	Range: -20 to +200 °C (-5 to +390 °F) Infrared temperature accuracy: 2 °C (4 °F) Distance: Short range, maximum 10 cm (4 in.) from target
Operating temperature range	In use: -10 to +60 °C (15 to 140 °F) While charging: 0 to 40 °C (30 to 105 °F)
Storage temperature:	
Less than one month	-20 to +45 °C (-5 to +115 °F)
More than one month, but less than six months:	-20 to +35 °C (-5 to +95 °F)
Humidity:	95% relative humidity, non-condensing
Drop test:	At least 2 m (6.6 ft.)
Battery Life	Max of 10 Hrs before charging again

With external sensor	Up to 55% less battery life
Supported external sensor:	Any standard accelerometer with 100 mV/g sensitivity constant current
External sensor power:	24 V DC at 3,5 mA
Charger specifications:	240v, 50Hz Output 5 DC regulated 3 to 4 hrs full charge

### **B. Static Vibration Tool for Plant (Total Qty: 5)**

The device (for Northern, Western, Central, Wailoa/Wainikasau and Nadarivatu) to collect, store, analyse and distribute machinery status monitoring information to a local network or wide area network. The device should obtain status data of critical machinery as well as balance of plant equipment. The digital monitoring systems should quickly and easily integrated into the system.

Key features:

- Integrates all of machine running monitoring data into one system
- Measures static variables and process variables
- Integrates process inputs
- User-friendly system with touch panel
- Software alarms used for indication of machine status
- Data collection done automatically or with alarm
- Configurable of software
- Integrate plant condition monitoring and process data into one database.
- User-friendly interface for instant data analysis with minimum training.
- Maximum flexibility and expandability of the software system with object oriented modular design.
- Transient data collection, dynamic data collection and process data collection
- 24 hour notification through on site alarms, operator interface and even SMS messaging on GPRS mobile
- Multiple trigger modes: alarm trigger, band alarm trigger, time trigger, speed trigger, and manually trigger.
- Multiple real-time plots: waveform, waveform with DC Coupling, spectrum, shaft XY vibration, shaft XY vibration with DC Coupling, trend, shaft centreline, bode, polar, bar graph, etc.

The user interface that displays the machine condition graphs.

#### **Standard condition monitoring plot:**

- Machine-train graphical interface with real-time status
- Machine graphical interface with real-time measurement point overall and status
- Trend plot of historical data with single or multiple points
- Real-time alarms, alarm list
- Real-time overall vibration and status table view

- Real-time trend plot, simulate recorder
- Print any viewing windows

**Bar graph:**

Each channel accepts up to 16 status parameters; such as OK, Alert, Danger, Trip-multiply.  
This information is user-configurable. For displays

- Trend plot with historical and real-time
- Alarm list
- Status list
- Bar graph
- Process data view
- Print the plot as you seen
- Save plot as .bmp format
- X, Y with their baselines and phase reference on one plot
- Zoom in, zoom out
- Harmonics
- Sideband
- Plot group on measurement point, waveform, spectrum and on shaft XY vibration

**Technical Specifications**

<b>Frequency Response (+/- 3db)</b>	0.1 - 100 Hz 0.5 - 100 Hz 2 - 4,000 Hz 10 - 20,000 Hz
<b>Measurement Range</b>	Acceleration (PK or RMS): 0 - 20g Velocity (PK or RMS): 0 - 100 mm/sec (0 - 4 in/sec) Displacement (PK-PK): 0 - 20 mm (0 - 800 mil)
<b>Unit of Measurement</b>	Peak Peak-peak RMS AVER
<b>Waveform and Spectrum</b>	Resolution depends on customer configuration. Maximum spectrum resolution is 12,800 lines.
<b>Operating System</b>	Windows 8 or Above
<b>Data Storage Capacity</b>	Unlimited by software. Limited by hardware storage capacity only

## 2. Temperature Detection and Thermographic Devices

### a. Hand Held Infrared Thermometer (Total Qty: 18)

A hand held digital device to be based in each power station to identify the real hot spots during routine checks for the critical moving parts of the plant. Kit with auto shut down feature to optimise battery life with colour display of the temperature trends.

#### Technical Data

Temperature range using infrared	-60 to +625 °C (-76 to +1 157 °F)
Environmental limits	Storage -20 to +65 °C (-4 to +149 °F) 10 to 95% R.H.
Response time (90%)	<1 000 ms
Display	LCD
Displayed resolution	0,1 °C/F from -9.9~199.9, otherwise 1 °C/F
Distance to spot size	16:1
Spectral response	8-14 µm
Emissivity	Adjustable
Measurement modes	Max temperature
Laser wavelength	635-650 nm
Laser	Class 2
Maximum laser power	1 mW
Battery lifetime	Up to 18 Hrs
Switch off	Automatic 15 s after trigger is released

### b. Infrared Thermal Camera (Total Qty: 5)

A thermal detector and a visual camera which is suitable for many mechanical and electrical maintenance inspection applications. Detection of a wide range of temperature difference which should make the thermal camera suitable for many proactive maintenance programmes.

#### Key Features:

- Visual and audible temperature limit alarm function to alert the user about abnormal conditions
- Automatic hot and cold spot cursors quickly pinpoints the extremes in a scene.
- Up to five moveable temperature cursors/areas with individual emissivity settings for analysing complex scenes.
- Temperature difference of two cursors to be displayed on screen enabling quick and easy temperature comparisons.
- Isotherms, temperature gradients and area analysis boxes for advanced scene analysis.
- A Built-in emissivity tables allow easy emissivity value setting.

- Selectable colour pallets for ease of use.
- Fully radiometric thermal and visual images are to be stored on the micro SD card provided.
- Images can be voice annotated for later reviewing with the PC software.
- Video output function allows the live image to be shown on an external display, useful when showing to a group of people.
- Supplied with two standard camcorder batteries and an independent charger, enabling a long field usage time.
- Rugged construction and, with an IP 54 rating, enabling use almost anywhere.
- Comprehensive PC software suite for an unlimited number of users enables advanced image analysis and professional report writing.

### Technical Data

Thermal detector (FPA)	384 x 288 uncooled FPA micro bolometer
Display	3.5 in. colour LCD with LED backlight, 11 colour palettes, thermal or visual Image
Thermal sensitivity	NETD $\leq$ 60 mK (0.06 °C) at 23 °C (73 °F) ambient and 30 °C (86 °F) scene temperature
Field of view (FOV)	25 x 19°
Spectral range	8–14 microns
Theoretical spatial resolution IFOV	1.15 mrad
Measureable spatial resolution IFOV	3.46 mrad
Accuracy	The greater of $\pm 2$ °C or $\pm 2\%$ of reading in °C
Visual camera	2.0 Megapixel digital camera or above
Laser pointer	Built-in class 2 laser
Frame rate and image frequency	9 Hz
<b>Measurement</b>	
Standard mode	-20 to +180 °C (-4 to +356 °F)
High temperature mode	100 to 600 °C (212 to 1 112 °F)
Measurement modes	Up to 4 movable spots. Up to 3 movable areas and 2 movable lines (maximum, minimum and average temperatures). Automatic temperature difference. Hot and cold spots. Visual and audible alarms. Isotherms.
Emissivity correction	User selectable 0.1 to 1.0 in steps of 0.01 with reflected and ambient temperature compensation. Emissivity can be individually adjusted on each cursor.
<b>Image storage</b>	
Medium	16 GB Micro SD card
Voice annotation	Input via built-in microphone for up to 60 seconds clip per image
Computer requirements	Laptop (16 GB ram & 1TB I7 processor with Windows 8 or above operating system)

<b>Connections</b>	
PC connection	Mini USB connector for image export to PC software (Cable provided)
External DC input	12 V DC Input connector (DC Charger not provided)
Video output	Mini-jack output for live image viewing
Mounting	Handheld and tripod mounting
<b>Battery and power</b>	
Battery	Rechargeable and field replaceable
Operation time	Up to 4 hours continuous operation with 80% brightness
Power adapter	External 240 V, 50Hz AC battery compact charger with Australian plugs

### 3. Shaft Alignment Tool (Total Qty: 2)

A shaft alignment tool (one for Northern and one for Vitilevu), which can be easily learnt and used for alignment learners and compact applications. With the focus on the core alignment task, the tool to incorporate with PC and tablet (Android & IOS inclusive) software's and intuitively guides the user through shaft alignment process. The tool should allow the use of proximity sensors, enabling accurate and reliable shaft alignment at affordable budget. The software to give alignment report for a complete overview which can be stored and shared via emails.

#### Technical Data

Sensors and communication	20 mm (0.8 in.) PSD with line laser Class 2 Inclinometer $\pm 0.1^\circ$ ; Bluetooth 4.0 LE
System measuring distance	0,07 to 5 m (0.23 to 16.4 ft.)
Measuring errors	$<1\% \pm 10 \mu\text{m}$
Housing material	Anodized Aluminium front and PC/ABS plastic back cover
Operating time	Up to 8 hours, rechargeable Li-ion battery fast charging: 10 min. charging for 1h usage
Fixture	2× V-brackets with chains, width 15 mm (0.6 in.)
Shaft diameters	20mm to 600mm
Max. coupling height 1)	45 mm (1.8 in.) with standard rods plus 120 mm (4.7 in.) per set of extension rods
Operating temperature	0 to 45 °C (32 to 113 °F)
IP rating	IP 64
Calibration certificate	Supply with 2 years validity
Alignment method	Alignment of horizontal and vertical shafts, 3 position measurement 9 -12 -3, automatic measurement, measurement (with min. 40° rotation), soft foot



## Schedule VI – Price Schedule

FIJI ELECTRICITY AUTHORITY



### Supply of Condition Monitoring Devices for FEA’s Generation Department

Item	ITEM DESCRIPTION	Total Quantity	UNIT PRICE VEP (\$) Currency _____	TOTAL PRICE VEP (\$) Currency _____
1	a. Vibration Measurement Tool – Hand Held	18		
	b. Vibration monitoring – logging & recording (hardware, software & installation)	5		
2	a. Infrared Thermometer	18		
	b. Thermal Camera	5		
3	Shaft Alignment Tool	2		
4	Laptop (with vibration monitoring and Thermal Camera software installed)	5		
5	Training			
6	Warranty (12 months)			
7	Freight (AIR)			
	<b>TOTAL (VEP)</b>			
	<b>VAT 9%</b>			
	<b>TOTAL (VIP) (Note: VIP only if in FJD)</b>			

## Schedule VII – Appendix

### **1. Notes applicable to Schedules**

- a. The Goods to be supplied must be genuine.
- b. Relevant descriptive literature of the Goods showing conformity to technical specification shall be provided with the bid.
- c. If there is a discrepancy between words and figures, the amount in words shall prevail. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit and quantity, the unit price shall prevail, and the total price shall be corrected.
- d. The delivery period shall be within one (1) months after the date of signing the contract. Delivery must be for a complete schedule. Partial delivery shall not be accepted.
- e. Tenders shall provide proof of successful completion (within the stipulated delivery period) of similar undertaken in the past two years.
- f. The supplier is required to provide training to relevant personal at FEA and shall allow the cost of production and delivery of training material in the tendered prices.
- g. Bidders are required to provide certifications of all the product calibration and standard international Guarantee/ Warranty certificate.
- h. FEA financial terms are applicable for these works.
- i. Any advance payment will require a bank guarantee.
- j. FEA uses FIDIC Contract documents for its contracts.
- k. Failure to submit required documents may affect bid compliance. Failure to submit mandatory items as stated in Compliance Checklist will result in non-compliance.

## 2. Compliance Checklist Declaration

I \_\_\_\_\_ of \_\_\_\_\_ located at \_\_\_\_\_ confirm that the bid submitted for the following tender [Status]: \_\_\_\_\_ is \_\_\_\_\_ complies to the mandatory bidder submission as stated in Sub Clause 2.6;

	Yes	No	Comments
Price Schedule			
Company Profile			
Detailed Scope of Work			
Exclusion or Amendment for Tender Specification			
Program [preferred Gantt Chart]			
Shipping Term (if Applicable)			
Payment Term			
Price Validity [preferred 180 days]			

Note that these submissions are mandatory submission for a successful tender bid. This declaration must be signed and submit as well.

Name: \_\_\_\_\_

Position: \_\_\_\_\_

Company: \_\_\_\_\_

Sign Off: \_\_\_\_\_

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 **4:00pm, on Wednesday 4<sup>th</sup> April, 2018**

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 **4:00pm, on Wednesday 4<sup>th</sup> April, 2018** - Addressed as

### **Tender – MR 136/2018 Supply of Condition Monitoring Devices**

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

- **Hard copies of the Tender bid will also be accepted after the closing date and time provided a soft copy is uploaded in the e-Tender Box and hard copy is dispatched to courier before the closing date and time. Please note courier submission date should be forwarded to FEA with your bid.**

Tenders received after **4:00pm** on the closing date of **Wednesday 4<sup>th</sup> April, 2018**

- 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 including any Duties/Taxes. Hard copies of the Tender submission via Post Box will not be considered.**