

**Fiji Electricity Authority**

**Tender No. MR 27/2016**

**Hydrology Review of Waivaka Hydropower Scheme**

**And Qaliwana - Upper wailoa Diversion Scheme**

**Request for Price**

**March 2016**

Quality Assurance Statement	
<b>Fiji Electricity Authority</b> Private Bag Suva Fiji Tel: 679-3311133 Fax: 679-3311882	<b>Project Manager:</b>
	<b>Prepared by:</b> Mohammed Anees Khan
	<b>Reviewed by:</b> FatiakiGibson
	<b>Approved for issue by:</b> Fatiaki Gibson

Revision Schedule					
Rev. No	Date	Description	Prepared by	Reviewed by	Approved by
1	03 Mar 16	Initial Draft	Anees K	F. Gibson	
2		Final Draft	Anees K	F. Gibson	F. Gibson
3		Final			F. Gibson



**Definitions:**

EOI: Expression of Interest

TOR Terms of reference for the works

Tenderer: The company or consortia that is providing a submission in response to this RFP document

FEA: Fiji Electricity Authority, 2 Marlow Street, Suva, Fiji

Works The project, assignment

## 1. Background

### The Fiji Electricity Authority (FEA)

The FEA is a wholly Government of Fiji owned statutory body that was established under the Electricity Act of 1966. It is supervised by a Board of eight members comprising a Chairman, Deputy Chairman, the Chief Executive Officer of FEA, the Permanent Secretary of Public Utilities, the Permanent Secretary of Finance, and representatives of Business and Consumer Groups. All members are appointed by the Minister of Public Utilities except for the Chief Executive of FEA, who is appointed by the Board with approval of the Minister. The Management team of the FEA consists of Chief Executive, Chief Finance Officer, General Manager Human Relations, General Manager Generation, General Manager Network, General Manager Customer Services, Chief Information Officer, General Manager Major Projects & Strategy and General Manager Commercial.

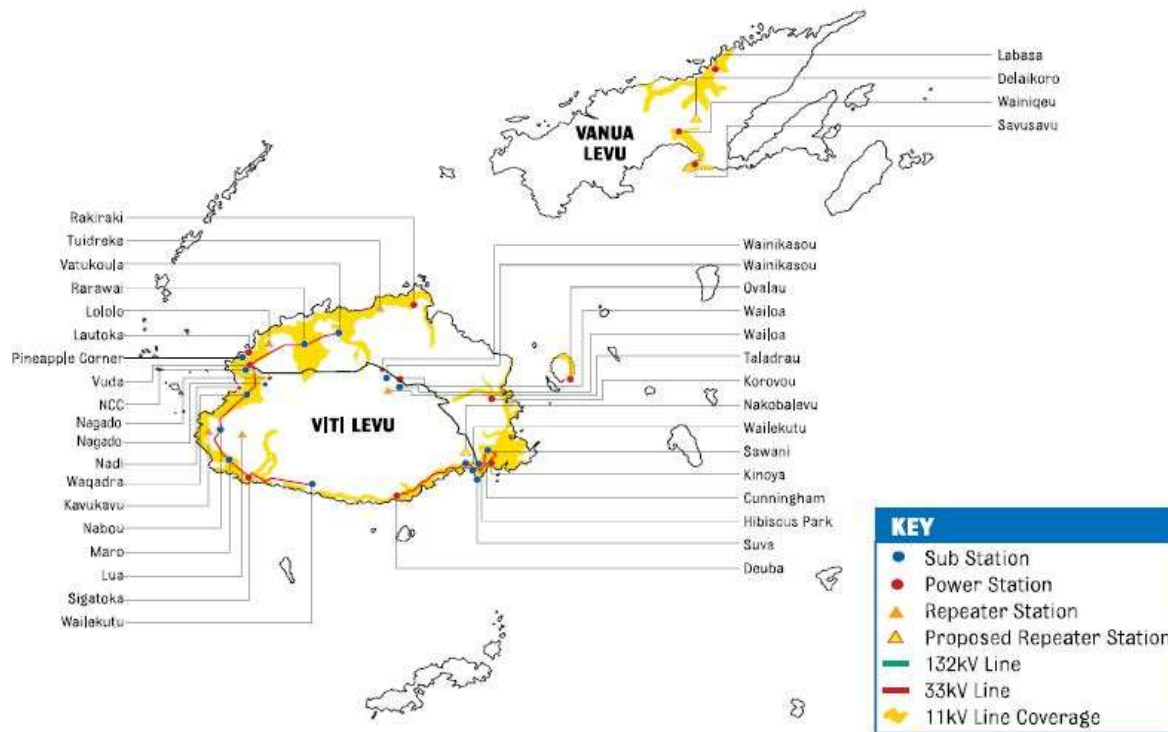
FEA maintains power supply systems on the larger islands Viti Levu, Vanua Levu and Ovalau, which account for some 90% of the country's population. Installed generation capacity is approximately 218MW, comprising 83MW in the Monasavu Hydro Scheme in Viti Levu, 40MW in the Nadarivatu Hydro Scheme, and about 94MW of diesel capacity in 12 stations on the three main islands. Of the diesel capacity 77MW is on Viti Levu which has been supplementing the Monasavu hydro scheme for the Viti Levu Interconnected System (VLIS) which has been reaching maximum demand of 132MW. Transmission is provided by 140km of 132kV lines (connecting Wailoa Power Station to the East and West coasts) and about 266km of 33kV lines. Power distribution is by means of more than 5,000km of 11kV and 415/240V lines.

## 2. Project Overview

### Project Drivers

FEA has embarked upon an ambitious program of development in order to fulfil its strategic objectives. These include development of new generating and power system projects as well as improving reliability and capacity-building for future load growth. The FEA plans to almost double the generation capacity of Fiji over the next five years in order to meet continuing demand growth and intends that this additional capacity will be provided by renewable or at least non-polluting resources.

Recent load and system forecasts conducted both internally and by ADB, have shown that peaking capacity will not be adequate by 2011 if standard operational parameters for spinning reserve are followed. Further the generation capacity planning undertaken by FEA and the resultant least-cost long-term capacity plan to meet system demand indicated that FEA must tap into all potential renewable energy sources, provided they could be economically justified.

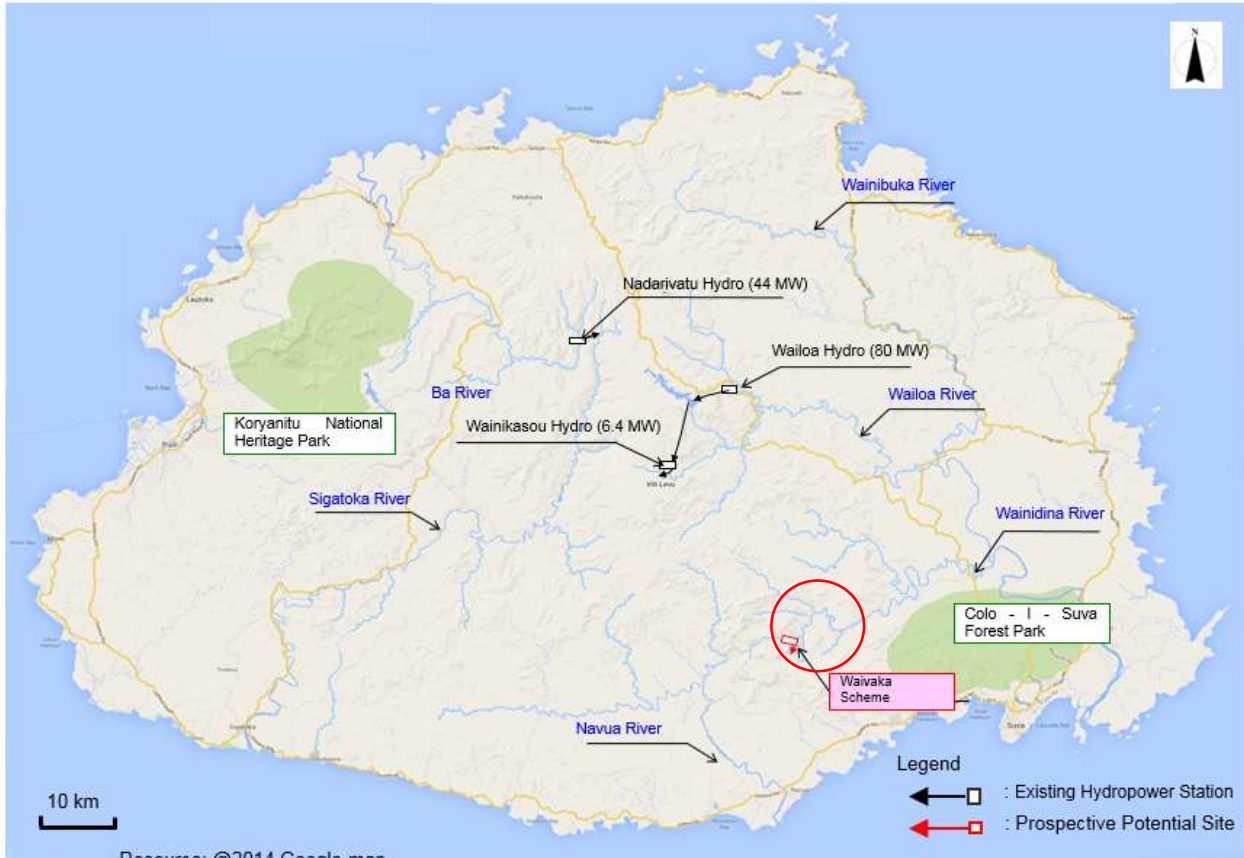


(Source: Power Development Plan (2011-2020), FEA)

## Project Summary

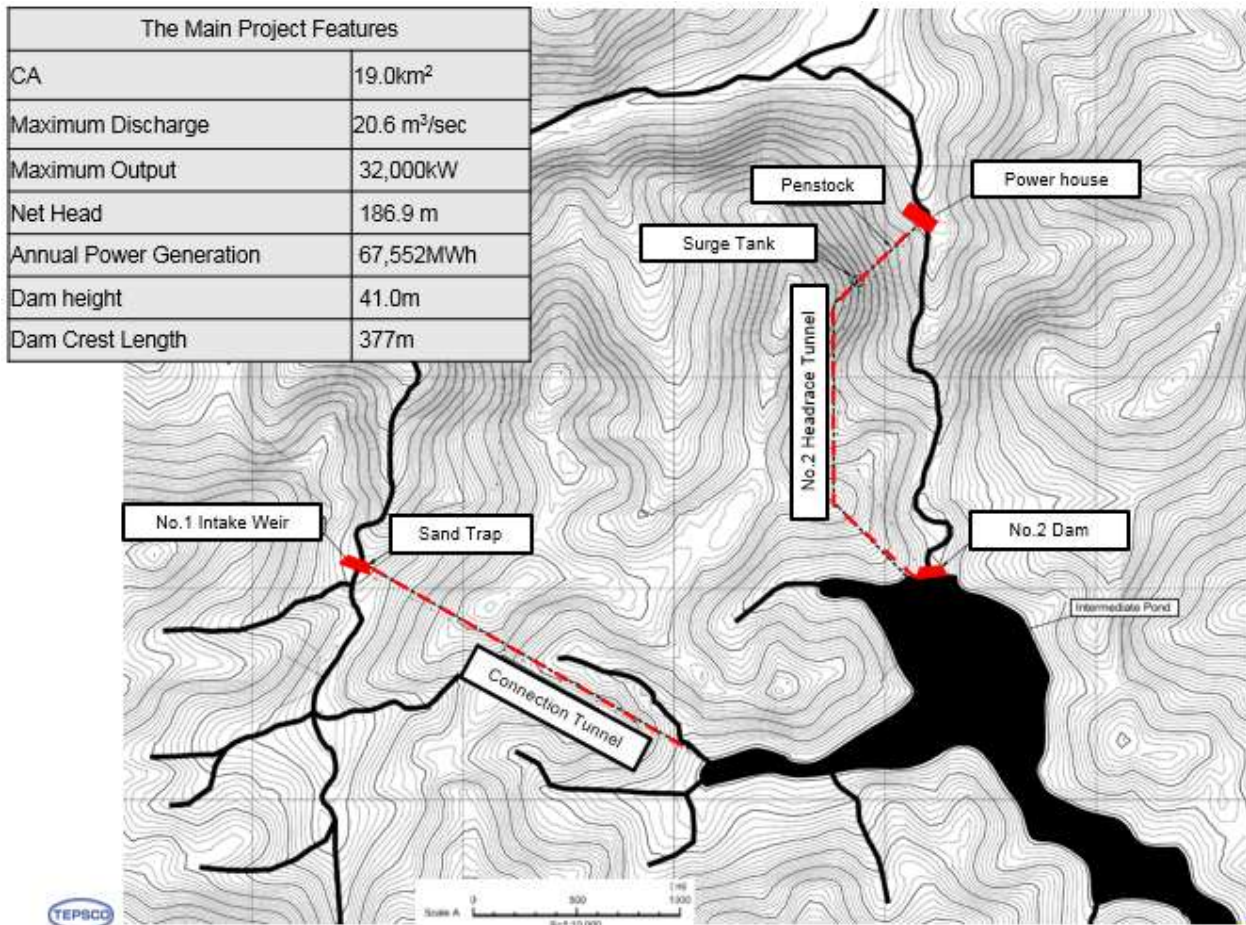
The Japanese International Cooperation Agency [JICA] had carried out an independent feasibility study of hydropower potential at the Waivaka Site. The feasibility study was carried out in conjunction with the Department of Energy, under the Ministry of Works, Transport and Public Utilities. Initial feasibility by JICA shows a potential hydropower scheme at the Waivaka Site with a maximum output of 32MW and Annual Generation potential of about 67.6 GWh.

FEA later engaged a consultant, Montgomery Watson Harza NZ Limited [MWH], to carry out a peer review of the JICA Feasibility Study and guide FEA on the way forward. The MWH review concluded that fatal flaws existed in the hydrological assessment undertaken for the Waivaka Scheme.



*Location of the Waivaka Hydropower Scheme.*





Waivaka Hydropower Scheme Features

Site	Waivaka
Number of Unit	2
Discharge [m <sup>3</sup> /s]	20.6 (10.3/1 unit)
Net head [m]	186.9
Output [kW]	32,000kW 16,000kW x 2
Turbine Type	Vertical Shaft Francis

In light of the above, FEA now wishes to engage the services of a hydrological expert for further review of the hydrological aspect of the Waivaka Feasibility Study. The Hydrological Review Scope shall be extended to include the Qaliwana and Upper Wailoa Diversion Scheme as well.

### ***Objective of the Assignment***

This document sets out the Terms of Reference and Scope of Services for the following parts of engineering consultancy services that FEA requires:

### **Part I: Peer Review of Feasibility**

1. To conduct a thorough review of the hydrological aspects of the JICA feasibility report for integrity and FEA's comfort that there are no inherent flaws in terms of hydrology, energy and capacity estimates with the Capex for the development. (Feasibility report and necessary supporting documents shall be provided upon engagement of services).
2. To use appropriate design codes/standards or guidelines and methods to undertake the hydrological review.
3. This review shall typically be conducted by an independent professional hydrologist/engineer with a level of experience consistent with the nature of the project being reviewed.
4. The review shall be of the complete scheme.
5. To provide FEA, in a report form, with recommendations as necessary, the outcome of the review.
6. The Hydrological review report shall include a preliminary technical description of the scheme and include, but not limited to, discussions on the following:
  - a. Description of the proposed scheme.
  - b. Topographic survey and features,
  - c. Basic and detailed hydrology,
  - d. Geotechnical investigations, if any.
  - e. Scheme components descriptions.
  - f. Energy and economics.
  - g. Discussion on tariff.
7. Any request for additional information, site visit or investigations shall be made well in advance so that submission deadlines are met.

### ***Submission of Reports***

The anticipated timing of reports that shall be submitted by the consultant during the course of the review is listed below.

- The Hydrological Review Report must be submitted by mid June 2016.





- Reports and submissions shall be written in the English Language. Information shall be contained in a single bound document, Two hard copies of this document shall be provided together with one soft copy on CD.

### 3. Request for Prices Submission

#### **Submission Requirements**

The Expression of Interest for the Consultancy Services shall include the following:

1. A covering letter including the complete name and address of the firm(s) performing the project, the principal firm including the name and title of person principally responsible for the project.
2. A detailed methodology including a programme for the works/services. Comments on the TOR can be included to add value to the submission.
3. State a lump sum fee for Parts I and II with detail of hours and rates building up to the Lump Sum.
4. State chargeable rates per site visit and hourly rates of design office work.
5. State hourly rates of personnel resources, if FEA requests to undertake additional work related to this assignment.
6. The reimbursable items shall be indicated in the submission together with estimate of their costs. Refer to table below.
7. Company background and evidence of similar works undertaken by the firm over the last five years including project name, summary of work carried out, contact name and address of clients
8. Background of proposed sub-consultants
9. CV's of personnel that will be engaged in the work including sub-consultants
10. Completed Responsibility matrix as shown below

Each firm is limited ONE RFP submission for the main consultant. However, that firm may be considered for a sub-consultant to a submission by another firm.

#### **Responsibility Matrix – Please use similar template**

Name	Firm	Overall Project Management	Speciality/ Skills Required					
			Hydrologist	Electrical Engineer				



John X	XYZ	X							
Mary Y	ABC		X						

**NOTE:**

- a) Complete the first row with the Specialties required
- b) Complete the first column with the names of Project Key Staff.
- c) One Project Key Staff person may be responsible for more than one Specialty.
- d) Place a mark in the appropriate column relative to the appropriate Project Key Staff and Specialty.

**Estimate of Reimbursable Costs – Please use similar table**

Item No.	Particulars	Quantity	Rate	Sub-Total	VAT	Total
<b>Total</b>						

**4. Contract Conditions**

FIDIC General Conditions of Client Consultant Agreement shall be used.

**5. Insurance**

Certificates of insurance including any Professional Indemnity Insurance cover are to be submitted.

**6. Evaluation Methodology**

RFP submissions will be checked for completeness, firms that fail to submit all information required above may not be considered for award. A 70% weighting shall be given for the firm and personnel background and performance and 30% for the lump sum prices.



## 7. Additional Information to tenderers

### **FEA Project Manager**

The FEA Project Manager for this Assignment shall be

*Mr Mohammed Anees Khan  
Unit Leader - Civil – Major Projects & Strategies  
Navutu, Lautoka*

### **Closing Date**

Submissions close at **04.00 pm (Fiji) Time on 23 March, 2016** at FEA's Suva office. Submissions are to be received at this location in an envelope prior to the specified time and marked:

*Tender MR27/2016  
RFP for Hydrological Review of Waivaka and QUWD Hydropower Scheme  
Secretary Tender Committee  
Fiji Electricity Authority  
2 Marlow Street  
Suva, Fiji*

- Facsimile submissions will not be accepted.
- Late submissions will not be accepted
- All submissions shall be in the English language.
- Electronic copies will be accepted if the hardcopy is received prior to closing date.
- All proposals shall be in a single bound hard copy with one soft copy on CD

### **Costs**

All costs of preparing the submission shall be borne by the tenderer.

### **Enquiries**

All enquiries shall be directed to:

*Tuvitu Delairewa  
General Manager Corporate Services  
2 Marlow Street, Suva*



*Phone: + 679 331 1133  
Facsimile:+ 679 331 1882  
Email: TDelairewa@fea.com.fj*

**Site Visit**

A visit to site can be arranged by FEA, upon request, giving 2 weeks advance notice.

**Notification and Award**

Following FEA board approval, tenderers will be advised, by letter, whether they have been successful or not. Tenderers will be able to debrief with the evaluation team should they so request, however the scoring information will not be released to any of the tenderers at any time.

Notwithstanding any other provision of this document, FEA reserves the right to:

- Accept or reject any proposal
- Seek clarification of any aspect or information provided in a RFP document and to seek further information from any party
- Amend the closing date for submission of RFP or any other date referred to or implied in this invitation for RFP.
- In whole or in part, suspend or cancel this Invitation for RFP process and/or the overall process
- Re-advertise this invitation for RFP.



## **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 23<sup>rd</sup> March, 2016.**

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 23<sup>rd</sup> March, 2016.** - Addressed as



**Tender – MR 27/2016 – Hydrology review of Waivaka Hydropower Scheme and Qaliwana –  
Upper Wailoa Diversion Scheme**

**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 it is dispatched before the closing date and time.**
  
- **Tenders received after 4:00pm on the closing date of Wednesday 23<sup>rd</sup> March, 2016 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.**



**TENDER SUBMISSION CHECK LIST**

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

Tender Number \_\_\_\_\_

Tender Name \_\_\_\_\_

1. Full Company 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 Registration Certificate – Local Bidders Only)**
9. Company Registration Number: \_\_\_\_\_  
**(Attach copy of the Business License)**
10. FNPF Employer Registration Number: \_\_\_\_\_  
**(For Local Bidders only)**
11. Contact Person: \_\_\_\_\_

I declare that all the above information is correct.

Name: \_\_\_\_\_ Position: \_\_\_\_\_ Sign: \_\_\_\_\_

Date: \_\_\_\_\_





**Fiji Electricity Authority  
Hydrology Review  
Request for Price**