



Fiji Electricity Authority

Installation of Hydrometric Stations

Request for Prices

August 2017

Quality Assurance Statement	
Fiji Electricity Authority Private Bag Suva Fiji Tel: 679-3311133 Fax: 679-3311882	Project Manager: Mohammed Anees Khan
	Prepared by: Mohammed Anees Khan
	Reviewed by: Uate Biutanaseva & Vuate Karawalevu
	Approved for issue by: Mohammed Anees Khan

Revision Schedule					
Rev. No	Date	Description	Prepared by	Reviewed by	Approved by
1	3 August 17	Initial Draft	M.A. Khan	U. Biutanaseva V. Karawalevu	
2	4 August 17	Review & Final Draft			M. A. Khan
3					

Definitions:

RFP: Request for Proposals

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

HEP: Hydro Electric Scheme

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 Infrastructure and Transport, the Permanent Secretary of Economy, and representatives of Business and Consumer Groups. All members are appointed by the Minister of Infrastructure and Transport 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 Officer, Chief Finance Officer, General Manager Human Relations, General Manager Generation, General Manager Network, General Manager Systems Planning and Control, 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, Taveuni and Ovalau, which account for some 90% of the country's population. Installed generation capacity is approximately 215MW, comprising 83MW in the Monasavu Hydro Scheme and 44MW in the Nadarivatu Hydro Scheme in Viti Levu 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 152MW. 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 9,000km of 11kV and 415/240V lines.

2. Project Overview

2.1 Project Drivers and Summary

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 Nadarivatu Renewable Energy Project is complete and feasibility studies are underway for potential hydropower schemes in the Qaliwana and Upper Wailoa Catchments and Upper Navua River areas. A construction project for the raising of the Wainisavulevu Weir has recently been completed in December 2014.

As part of this ambition program, this project that will see the installation of Flow and Rain Gauge Stations for the Nadarivatu HEP Scheme, Qaliwana and Upper Wailoa Diversion Scheme, Wainisavulevu and Wainikasou Hydropower Scheme and Taveuni Hydro Scheme, to help in collecting sufficient hydrometric data to help in developing a forecast model to estimate inflows to the Nadarivatu, Qaliwana, Somosomo (Taveuni) and Monasavu Dams, with the intention to assist with the operation of the Hydro Electric Power schemes.

Rainfall and flow monitoring stations have been identified under the respective feasibility studies within the tributaries to help in developing this intention, of flow forecasting. Also part of the project is the need to have a specialist flow forecasting model that that will also contribute to the operation of Nadarivatu Dam, Qaliwana Dam and Somosomo Dam.

3.0 Installation Areas and Requirements

The following outlines the installation area and type of installation required to collect hydrometric data for rainfall and flow forecasting:

Monasavu Intake:

- Location: Monasavu.
- Type of Installation:
 - Water Level.
 - Temperature gauge.
 - Pressure gauge.
- Land Status: currently under lease by FEA.

Monasavu Peak:

- Location: Monasavu.
- Type of Installation:
 - Rainfall gauge.
- Land Status: currently under lease by FEA.

Mount. Tokaravutia:

- Location: near Monasavu.
- Type of Installation:
 - Rainfall gauge.
- Land Status: FEA will acquire land before installation begins.

Wainisavulevu Weir:

- Location: Wainisavulevu (near Monasavu).
- Type of Installation:
 - Rainfall gauge.
- Land Status: currently under lease by FEA.

Nadarivatu Weir:

- Location: Nadarivatu.
- Type of Installation:
 - Rainfall gauge.
- Land Status: currently under lease by FEA.

Nadarivatu Camp Site:

- Location: Nadarivatu.
- Type of Installation:
 - Rainfall gauge.
- Land Status: currently under lease by FEA.

Navai Village:

- Location: Navai, near Monasavu.
- Type of Installation:
 - Rainfall gauge.
 - Water Level.
 - Temperature gauge.
 - Pressure gauge.
- Land Status: currently under development lease by FEA, intention to extend.

Waibogi Village:

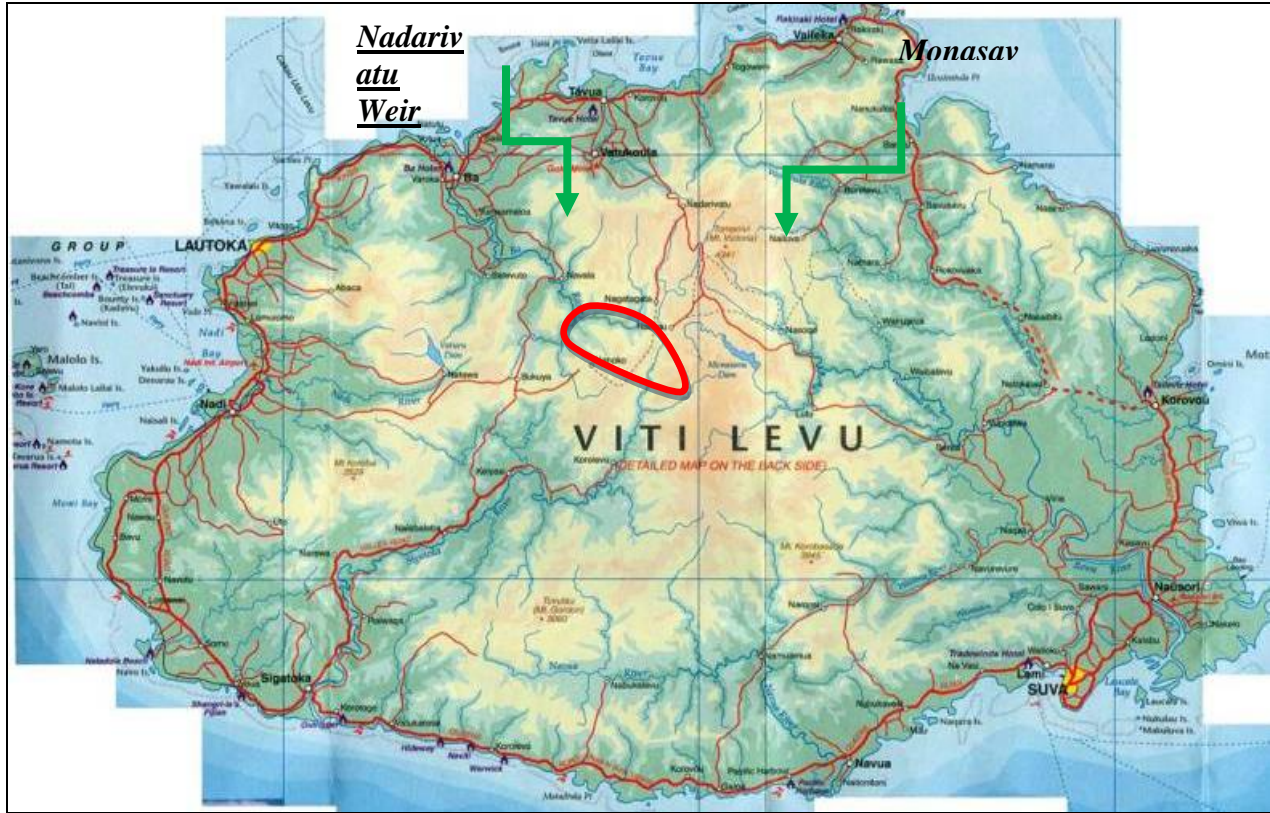
- Location: Navai, near Monasavu.
- Type of Installation:
 - Rainfall gauge.
 - Water Level.
 - Temperature gauge.
 - Pressure gauge.
- Land Status: currently under development lease by FEA, intention to extend.

Mount. Tamaniivi:

- Location: Navai, near Monasavu.
- Type of Installation:
 - Rainfall gauge.
 - Temperature gauge.
 - Pressure gauge.
- Land Status: currently under development lease by FEA, intention to extend.

Somosomo Weir:

- Location: Navai, near Monasavu.
- Type of Installation:
 - Rainfall gauge.
 - Water Level.
 - Temperature gauge.
 - Pressure gauge.
- Land Status: currently under lease by FEA.



Vitilevu Map



Taveuni Map

The hydrometric stations are expected to be telemetered back to the National Control Center and respective HEP control room using either GPRS, VHS radio or another appropriate communication method.

The ground installations are expected have the following features:

- Equipment mounted on steel framed structures, strong enough to withstand/resist Category 5 Cyclone.
- Steel frame to have nut and bolt fastening system, in case it needs to be relocated to another location in the future.
- All steel used to be galvanised, or have appropriate rust protection coating.

Additionally, FEA will provide accommodation for the suppliers/contractors personnel at their Monasavu Depot for the duration of installations in the Monasavu, Wainisavulevu and Nadarivatu Areas.

4.0 Project Objective

The primary objective of the installations of the hydrometric stations at the above mentioned locations is to measure inflows into Qaliwana River for the proposed Qaliwana Dam and the Upper Wailoa Diversion Scheme, inflows into the Wainisavulevu Weir, Korolevu Weir and Somosomo Weir.

Additional objectives are as follows:

- To propose a user friendly and reputable flow forecasting model to estimate inflows through rainfall-runoff model to assist in the operation of Nadarivatu HEP Scheme, Wainisavulevu/Wainikasou HEP Scheme and the Somosomo HEP in Taveuni.
- To explore and determine an in-house quality management system with third party audit to carry out auditing of data on a pre-determined time basis.
- To determine the staffing level and qualification to manage this system for FEA.
- To determine a data capture methodology and archiving system where data can be transmitted, collected, validated and stored for further analysis.
- To determine, describe and propose mitigating factors for vulnerability of the proposed system to natural hazards, including the frequency, magnitude and distribution of cyclone, flood and earthquakes.
- To provide an analysis of any environmental impact, which are likely to directly or indirectly affect the environment through the proposed installations.
- To explore the possibility of running certified training workshops/courses on the proposed system for FEA staff who will be involved from the installation to the commissioning of the project.
- The cost involved in acquiring all software for modelling and monitoring.
- Offsite material requirements.
- Required work force from the tenderer and opportunity for local community workers.

5.0 Scope of Works

This section sets out the Scope of Works for the Installation of Hydrometric Stations, as detailed in Section 3 above. The scope of work for this project is defined along the following tasks which shall be undertaken:

- 5.1 To provide a flow forecasting model software and this shall include all related cost involved.
- 5.2 To propose and describe an efficient method of Data quality Management that can be used for Nadarivatu, Wainikasou and Somosomo HEP Schemes.
- 5.3 To prepare a full capital cost estimate for the installations of Hydrometric Stations project and construction timetable, including complete technical specifications, conceptual drawings, a Bill of Quantities showing best estimates of quantities.
- 5.4 To determine the land area requirements for installations of the stations, especially for the areas of which land is yet to be acquired.

- 5.5 To prepare a preliminary drawing for the layout of the stations with all structures included.
- 5.6 To identify any possible environmental and social-economical impacts and provide mitigating factors.

6.0 Request for Price (RFP) Submission

The Request for Proposal for the Installation of Hydrometric Stations shall include the following:

- 6.1 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.
- 6.2 A detailed technical proposal with standards, specifications, methodology and indicative drawings or sketches including a programme for the works/services. Comments on the TOR/Scope of Works can be included to add value to the submission.
- 6.3 State a lump sum fee for the entire works/services, and clearly identifying the breakdown of costs according to the locations mentioned in Section 3.
- 6.4 State hourly rates of personnel resources, if FEA requests to undertake additional work related to this assignment.
- 6.5 Company background and evidence of similar works undertaken by the firm(s) over the last five years including project name, summary of work carried out, contact name and address of clients.
- 6.6 Background of proposed sub-consultants/contractors, if any.
- 6.7 CV's of personnel that will be engaged in the work including sub-consultants/contractors.
- 6.8 Completed Responsibility matrix as shown below.

7.0 Responsibility Matrix

The responsibility matrix shall define key personnel who will be involved directly and indirectly with the proposed hydro project.

Responsibility Matrix – Please use similar template

Name	Firm	Overall Project Management	Speciality/ Skills Required						
			Hydrologist						
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.

8.0 Contract Condition

FIDIC General Conditions of Client Consultant Agreement or Conditions of Contract for Construction shall be used. The bidder can propose an alternate if deemed necessary.

9.0 Insurance

The consultant shall be required to provide Certificates of insurance including any Professional Indemnity Insurance cover.

10.0 Evaluation Methodology

The RFP submissions shall be checked for completeness, firms that fail to submit all information required above may not be considered for award. A 55% weighting shall be given for the firm and personnel background and performance and 45% for the lump sum price for both Stages 1 and 2.

11.0 Additional Information

FEA Project Manager

The FEA Project Manager for this Assignment shall be

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

12.0 Closing Date

Submissions close at **1200hrs (Fiji) Time 23rd August 2017** at FEA's Suva office. Submissions are to be received at this location in an envelope prior to the specified time and marked:

*Tender MR 207/2017
RFP - Installation of Hydrometric Stations
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 two complete and bound hard copies with one soft copy on CD

13.0 Costs

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

14.0 Enquiries

All enquiries shall be directed to:

*Tuvitu Delairewa
General Manager Commercial
2 Marlow Street, Suva
Phone: + 679 331 1133
Facsimile:+ 679 331 1882
Email: TDelairewa@fea.com.fj*

15.0 Site Visit

A visit to site can be arranged by FEA, upon request, giving 1 weeks advance notice.

16.0 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 the RFP document and to seek further information from any party
- Amend the closing date for submission of the RFP or any other date referred to or implied in this Request for Proposals
- In whole or in part, suspend or cancel this RFP process and/or the overall process
- Re-advertise this 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 23rd August, 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

In addition, 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 23rd August, 2017**- Addressed as

Tender – MR 207/2017 Installation of Hydrometric Stations
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 23rd August, 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 including any Duties/Taxes. Hard copies of the Tender submission via Post Box will not be considered.**