REVISED MONITORING PLAN

for the

Vaturu and Wainikasou Small Scale Hydro Project
(both located on Viti Levu, Fiji and bundled as a single CDM Project)

CDM Project Number 0089

The project was implemented by

Sustainable Energy Limited (SEL)

2 Marlow Street, Suva, Fiji.

A Joint Venture between Fiji Electricity Authority and Pacific Hydro Pty Ltd

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Pacific Hydro Pty Ltd ABN 31 057 279 508 Level 10, 474 Flinders Street, Melbourne Victoria 3000 Australia
Telephone +61 3 9620 4400 Facsimile +61 3 9620 4433 Email enquiries@pacifichydro.com.au www.pacifichydro.com.au

1. Introduction

This paper describes the proposed new Monitoring Plan for the Vaturu and Wainikasou power plants in Fiji (CDM project number 0089). It is intended to supersede the current Monitoring Plan as set out in the Project Design Document (PDD), dated July 2005.

2. Data to be Monitored

The relevant change in the existing PDD is isolated to table 4 in section D.3 (page 15), in which the Recording Frequency should be changed from *daily* to *monthly*. The revised table should be shown as follows:

ID #	Data Type	Data Variable	Data Unit	Measured, Calculated or Estimated	Recording Frequency	Proportion of the Data to be Monitored	How will the data be archived?	For how long is archived data to be kept?	Comment
D3.1	electricity	electricity generation of the project delivered to the grid	MWh	M	*monthly*	100%	electronic & paper	during the whole Crediting Period + 2 years	this item will be measured by meters and recorded on the electricity bill by the distribution company

3. Energy Meter Reading Process

The sections below outline the procedure for recording the data to be monitored.

3.1. Recording of Energy Meters

Each power station is supplied with a Meter Reading Log Book, which is used to record the energy meter readings.

All 10 fields of the log book (refer to Exhibit 1 below) are to be completed and signed off by the person taking the particular set of readings. Comments should be added as necessary.

3.2. Personnel Taking Readings

Readings are to be taken by any of the Technicians or Team Leaders from the Renewable Generation team of the Fiji Electricity Authority (FEA).

3.3. Frequency of Taking Readings

The energy meters are to be read and recorded on the last day of every month. These readings are to be verified by the Renewable Generation Team Leaders before forwarding to the Unit Leader – Generation Renewable for approval, billing and reporting of monthly energy generation.

3.4. Archiving of Readings

Readings are recorded in the log book and also stored electronically as a spreadsheet. Electronic monthly energy generation bills are forwarded to FEA for payment, to Sustainable Energy Limited for information, and are also stored on file.

4. Calibration and Quality Assurance of Meters

The sections below outline the Quality Assurance procedures set up to ensure accurate capture of generation data (the export and import of energy).

4.1. Description of Meters Used on Site

Both the Vaturu and Wainikasou hydroelectric plants utilise Landis and Gyr meters to record generation data, which have the following characteristics:

	Vaturu (export)	Vaturu (import)	Wainikasou
Meter Number	HM00023	58759687	HM00003
Make	Landis and Gyr	Landis and Gyr	Landis and Gyr
Type	ZFD405CT44.0607	ZMC405CT645Rsr.48.4	ZFD405CT44.0607
Volts	3 x 240 V	3 x 240 V	3 x 240 V
Amps	5 A	5 A	5 A
Accuracy	Class 0.5	Class 0.5	Class 0.5

4.2. Description of the Quality Assurance Procedure

The meters at both hydroelectric plants are regularly tested for accuracy by FEA.

FEA's Metering Section tests the meters for accuracy at both hydroelectric plants every 6 months using its own technicians who have been trained by Landis and Gyr in the operation and maintenance of such metering equipment. Any calibration, maintenance and repairs is also undertaken by the Metering Section.

All test results are stored on paper for traceability.

Exhibit 1: Energy Meter Reading Log

ENERGY METER READING LOG

Station:
Log Start Date:

Date	Time	Energy Export (kWh)				Energy Import (kWh)				Remarks	Taken By
		Meter Number	Initial Reading	Final Reading	Monthly Export	Meter Number	Initial Reading	Final Reading	Monthly Import		
carry over from previous log											