



DEPARTMENT OF RESOURCES & DEVELOPMENT

Federated States of Micronesia
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*Office of the
Secretary*

May 13, 2024

MEMORANDUM

To: Secretary, Department of Finance and Administration

From: Secretary, Department of Resources and Development

Subject: Acquisition of Rainfall Gauges & River Flow Gauges

The Clean Energy Project- Project Readiness Financing is an ADB funded project implemented by the Division of Energy, Department of Resources and Development (DoRD). The CEP-PRF project will assist FSM address challenges it faces in providing clean energy and drinking water in the four main states as well as in the smaller lagoon and outer islands.

At this time, the CEP-PRF Project is requesting RFQ for the following items listed:

Total Quantity	Item Description/ Specification	Place of delivery, installation and Commissioning
5	Automatic Rain Gauge meets the specifications of the World Meteorological Organization (WMO) with Data logger and software.	Catchment of Lehnmesi, Sniphen & Nanpil rivers
4	Non-contact river flow meter for continuous measurement comprising surface velocity radar sensor and water level radar sensor. Package should include power supply from a Solar PV and battery bank & installation.	Lehnmesi river (2 locations), Sniphen river & Nanpil river

Note: Detailed scope of work is listed in Attachment 1

Due to limited period to procure these units, I am requesting your assistance to expedite the procurement of these units. We ask the RFQ announcement to be posted on 15th May, 2024 and close on 12th June 2024

Any queries regarding this request please let us know.

Thank you,

Elina P. Akinaga



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Request for Quotation:

Automatic Rain Gauges (5 nos.) and Non-contact river flow meter (4 nos.)

ADB Clean Energy Project- Project Readiness Financing (PRF)

Open: 15th May, 2024

Close: 12th June, 2024 at 5pm Pohnpei Time

1. General

The Division of Energy, Department of Resources and Development (DoRD), through the Clean Energy Project- Project Readiness Financing (PRF) (hereinafter referred to as "government") hereby solicits Quotations from interested parties (hereinafter referred to as "applicant") to **supply of automatic rainfall gauges and supply and installation of river flow gauges** to use in the Energy and Water projects in the Federated State of Micronesia (FSM). Suppliers can provide quotations for **one or both category** of equipment.

2. Eligibility

A company that is a certified contractor and can enter into a contract with the Government. The company should be able to provide and complete listed items.

- a) The supplier has a manufacturing facility or is an authorized distributor or agent of a manufacture of Global Position Supply (GPS) equipment. As evidence, you must also attach a document such as catalogues, data sheets, list of agents, service providers specially in the Pacific etc. which highlights your experience as a supplier and/or manufacture to similar products. Meeting the specifications stated in this **Request for Quotation**.
- b) If you/your firm, however, falls under any of the following conditions, your proposal shall not be considered:
 - i. you/your firm are/is not a citizen/national of an ADB member country, or
 - ii. you/your firm have/has been associated with the firm that prepared the design and specifications, or engaged in the preparation of the Project for which the contract that is subject of this request for quotations was identified, or
 - iii. you/your firm are/is owned by the Purchaser, or
 - iv. you/your firm are/is currently sanctioned or temporarily suspended by the Asian Development Bank for a violation of its **ADB's Anticorruption Policy** (1998, as amended to date), or
 - v. the importation of goods or services from your country or any payment to persons or entities in your country is prohibited in compliance with a decision of the United Nations Security Council under Chapter VII of the Charter of the United Nations.

3. Item Description/Specification

Quantity (nos.)	Item Description & Specification
5	<p>1) <u>Rain Gauge with Data logger and software</u> (Just supply of instruments only, no installation scope)</p> <p>Rain Gauge supplying should meet the standards 2004/108/EG; EN61326-1:2013. The design should be proven tipping bucket mechanism or similar mechanism for simple and effective rainfall measurement.</p> <p><u>Specifications of Rain gauge</u></p> <ul style="list-style-type: none"> • Recordable precipitation: water • Material: Base plate stainless steel; Collecting bucket Polyethylene; UV resistant • Collecting Area: 200 cm² • Recordable precipitation amount: 400mm • Measuring range: 1-50mm/min • Resolution: 0.1 mm per tip • Accuracy: ±0.1 mm or ±1 % of measured value • Output: Magnetic reed switch (N.O.), rating 24VAC/DC 500mA • Operating Temperature: -20 C to +60 C • Relative humidity: 0-100 %; non condensing • Mounting: Clamp using 3 bolts • Other: Leveling adjustment, and Intake screen • Protection: IP 65 <p><u>Specifications of Data logger and software</u></p> <p>Data logger should be compatible to use with the above rain gauge and should be able to log readings at a one-minute resolution and should have storage capacity for five years. Flash memory of the Data logger should be minimum 4 MB. Logger should be powered with suitable power supply arrangement. Data logger should include a battery monitor LED. The electronics within the logger should be protected from moisture. Should have a USB mini connector port for easier data retrieval.</p> <p>Software should be Windows based software package that will run on Windows XP or later which will configure and download data from the Data logger. Data should be displayed in both text and graphical formats & should be able to export into Microsoft Excel.</p>
4	<p>2) <u>Non-contact river flow meter</u></p> <p>Should be capable of Flow measurement using velocity- cross section method and calibration of the real time monitoring and data logging. Once river flow is calibrated and input to the equipment, flow measurement & recording should be done automatically 24x7 for the given interval.</p>

	<p><u>Specifications- River flow meter</u></p> <ul style="list-style-type: none"> • Velocity: 0.03 m/s – 20 m/s • Velocity accuracy: ± 0.01 m/s • Power input: DC 6-30V; 12 V • Operating temperature: -30C to +60C • Protection: IP68 • Data interface: RS-485, Modbus protocol <p><u>Specifications- Mounting structure, power supply & software</u></p> <p>River flow gauges are to be installed in three rivers in FSM, Lhenmesi, Nanpil and Senpin. Attachment 2 below shows the information on the three sites and their google locations. Supplier is expected to mount this river flow gauges in a suitable mounting structure supplied and installed by him. Calibration of the river flow gauges together with utility engineers will have to done by the supplier. Window based software should be provided by the supplier for data monitoring and analysis.</p>
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4. Format of Bid Submission

Applicant may submit a bid in a sealed envelope with the following information provided:

- a. Name and Address
- b. Telephone, Fax, or Email address
- c. Copy of Company Business License and certification
- d. A signed cover letter from the responsible officer
- e. Data sheet, catalogue and standards & certifications related to the item.
- f. Warranty terms and draft warranty certification.
- g. Rain gauges: Cost of the items to FSM.
River gauges: Cost of supplying and installation/ calibration of gauges with a breakdown.
- c) Delivery schedule including the installation & calibration of river flow gauges
- d) List the scope of work expected from DoRD during the installation and calibration of the river flow gauges with time line.

5. Submission

Bid must be received at the address below:

Ms. Elina P. Akinaga,
Secretary
Department of Resource and Development
FSM National Government
P.O. Box PS-12
Palikir, Pohnpei 96941
Phone: 691 320 2646/5133
Email: fyarofaisug@rd.gov.fm or tonykalupahana@rd.gov.fm

Quotations can also be sent via email to the above-mentioned email. Quotations must be submitted no later than 12th June, 2024, 5pm Pohnpei Time. All bidders will be notified of the time and place of bid opening.

Attachment 1

SUPPLY AND DELIVERY SCHEDULE

Item		Description	Unit	Quantity	Unit Price	Total Price	Delivery Schedule
1		Automatic Rain Gauge meets the specifications of the World Meteorological Organization (WMO) with Data logger and software.	Nos.	5			
2	2.1	Non-contact river flow meter for continuous measurement comprising surface velocity radar sensor and water level radar sensor.	Nos.	3			
	2.2	Package should include the <u>mounting structures</u> and <u>power supply from a Solar PV and battery bank.</u>	Sets.	3			
	2.3	Systems should be installed by the supplier in the locations specified in the Attachment 2.	Sets.	3			
	2.4	Calibration of the equipment and training of the utility engineers is a part of the scope.	Sets.	3			

Note:

1. Price should include the duty and taxes.
2. Bidders may be quoted to one or both category of equipment.
3. Installation of river flow gauges (item 2.3) is encouraged to include to the offer. But if it is excluded for any reason, you may do so but remaining items 2.1, 2.2 & 2.4 are compulsory.

Attachment 2

SITE DETAILS: APPLIES ONLY FOR THE RIVER FLOW GAUGES

River Flow Gauges should be installed and calibrated by the supplier in the three rivers and details of the locations with photos are given below.

1) Nanpil site:

Google location: (6°55'15.68"N, 158°12'7.86"E)

River flow gauging location of the Nanpil site is just 150m upstream of the Nanpil reservoir which is used to generate power as well as use as the intake for the Central Water supply system.

Width of the stream at the site where river flow gauge is installed is 20 m. As there is no permanent structure is available extending to the middle of the stream, a cantilever support structure should be built by the supplier to mount the equipment.

Figure 1: Nanpil reservoir



Figure 2: Site location (photo)



More photos and videos of the site can be found from the link below.

https://drive.google.com/drive/folders/1_ljAnsJl-XBGs_NDgXt7xRWjWVLzpGXC?usp=drive_link

2) Lhenmesi site:

Lhenmesi is the main river in Pohnpei with highest hydro power potential. So, two river flow gauges are planned to be installed, one on the bridge at the main road and the other in the forest.

2.1 Lehenmesi bridge river gauges

Google location: (6°49'28.49"N, 158°10'18.34"E)

Figure 3: Site location of Lhenmesi bridge



Figure 4: Photos of Lhenmesi bridge (upstream)



More photos and videos of the site can be found from the link below.

https://drive.google.com/drive/folders/1xEG-V11ZrdRjFCEk4gXG46xMTAotX5pJ?usp=drive_link

2.2 Lehenmesi – inside Forest

Google location: (6°50'25.50"N, 158°11'15.79"E)

Second river flow gauge will be installed inside the forest and exact GPS location is given below. Location is about 200m down of the famous Lehnpaipohn waterfall. As there is no permanent structure extending to the middle of the stream is available in the vicinity of this location, a cantilever support structure should be built by the supplier to mount the equipment and power supply system.

Access is only by foot inside the forest. Some photos and videos are available from the link below.

https://drive.google.com/drive/folders/1BTsrSECrhzYkjtQl-u7sYC2CNJRXo6c0?usp=drive_link

Figure 5: Site location of Lhenmesi Forest

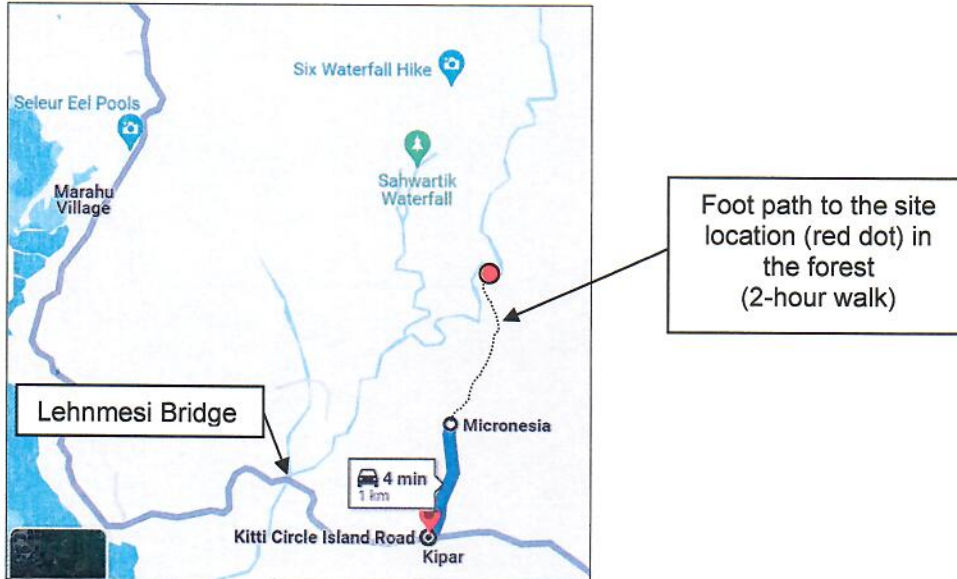
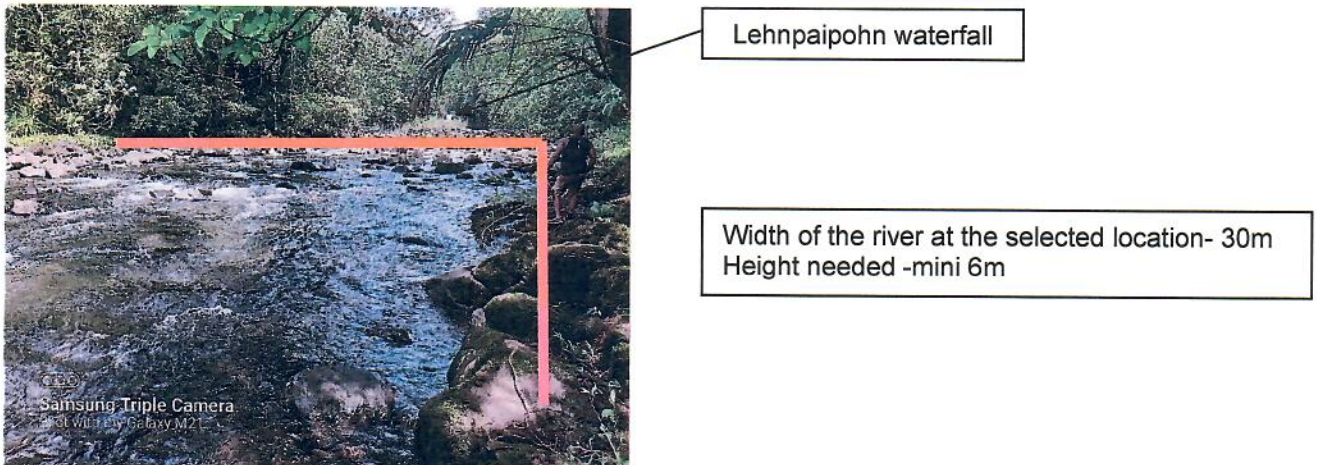


Figure 6: Photos of Lhenmesi forest site



2.3 Senpin site:

Google location: (6°52'37.46"N, 158°16'29.98"E)

Senpin is the third largest river in Pohnpei. Width of the stream at the site where river flow gauge is installed is 17m. As there is no permanent structure extending to the middle of the stream is available in the vicinity of this location, a cantilever support structure should be built by the supplier to mount the equipment and power supply system. Special attention should be taken to the ways and means the maintenance of this river flow gauge is done.

Figure 7: Site location of Senpin river

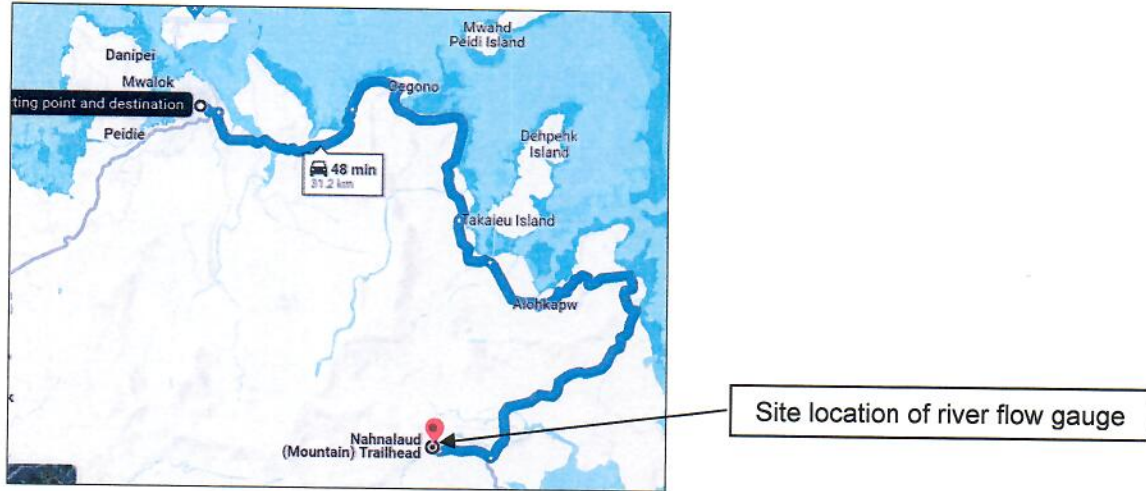


Figure 8: Photos of Senpin flow gauge site across



More photos and videos of the site can be found from the link below.

https://drive.google.com/drive/folders/12DZbR2bRWVaMYOH2gMNYDLeO9sD6F-qz?usp=drive_link