

REPUBLIC OF RWANDA



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RWANDA WATER RESOURCES BOARD

REQUEST FOR EXPRESSIONS OF INTEREST (REOI)

INDIVIDUAL CONSULTANT (International)

COUNTRY: RWANDA

Program: Muvumba Multipurpose Water Resources Development Program

Section: WATER SECTOR

Project ID No: P-RW-EA0-015

Position: Independent Dam Panel of Experts (IDPE): Hydrologist

Employer: Rwanda Water Resources Board

Deadline for submission: 25th January 2023 at 15h00 Kigali Time

A. Introduction

1. The Government of Rwanda received financing from the African Development Bank toward the cost of the Muvumba Multipurpose Water Resources Development Program and intends to apply part of the agreed amount for this loan to payments under the contract for the recruitment of Independent Dam Panel of Experts (IDPE) consisting Dam Design and Safety Specialist, Geologist and Hydrologist.
2. The Program consists construction of 39.5m high embankment dam that will impound 55 million cubic meter of water in Karama, Gatunda and Rukomo sectors that will supply water for domestic and livestock use, irrigation of 10,320 ha area and for production of annual energy of 6,939 MWh through a hydropower scheme with installed capacity of 1000 KW (500x2) to be installed at downstream end of the outlet works. The dam and reservoir will also serve as flood control and for fishing.
3. The program, under its components, has an Independent Dam Safety Panel of Experts (IDSPE) comprising Dam Safety and Design Engineer (Chair of the Panel), Hydrologist and Geologist/ Geotechnical Engineer.

4. The Rwanda Water Resources Board (RWB) is the Executing Agency of the program and is looking to recruit a Hydrologist who will be member of the panel.

B. Independent Dam Panel of Experts (IDPE)

5. The purpose of the Panel is to advise RWB on matters related to dam safety and other critical aspects of the dam and its appurtenant structures, the catchment area, the reservoir rim and associated works such as power facility, river diversion during construction through reviewing technical designs, design modification proposals, construction methodologies and procedures, construction period flood management approaches and other similar technical works to maintain the safety of the dam and appurtenant structures during construction and for sustainable operation. The panel is most importantly expected to advise and guide the client, contractor and consultant on specific challenges and risks to be faced during the construction period and propose mitigation measures.
6. RWB will contract the services of the panel, provide administrative support for the panel's activities and arrange for timely panel meetings (physical and virtual), site visits and reviews, which will continue through the investigation, design, construction, initial filling and start-up phases of the dam. For any design review, proposed solutions and Panel meetings, the Panel will provide a technical report comprising key recommendations approved by the IDSPE Chairperson. Following the filling of the reservoir and start-up of the dam and barring significant difficulties, RWB will disband the Panel.

C. Individual Consultant (Technical Assistant) IDSPE-3: Hydrologist [International]

7. The Expert will review any study, analysis, designs, design modifications or construction method statements originated either by the contractor or consultant and provide review outputs and recommendations. The expert, along with the panel, will visit the project at regular intervals, observe the ongoing construction and propose solution to any challenge encountered and ensure the activity is in compliance with dam safety measures and precautions.
8. The expert will carry out the following tasks but not limited to:
 - a) Review and validate consultant's or contractor's hydrological analysis using state-of-art models on the hydrology and water resources study such as HEC-HMS and others.
 - b) Attend a joint workshop with other panelists, the RWB and stakeholders to present and discuss hydrological issues, procedures, methodology/standards, proposals to be used by consulting firms and contractors of the project;
 - c) Review feasibility studies, detailed designs, design reviews made during implementation period, any design modifications to be made during construction supervision; with respect to:
 - i. the hydrological conditions; based on availability of rainfall data of stations in the catchment and other available hydro-meteorological data, river flow/catchment run-off, to estimate the water to be stored in the reservoir for multipurpose use, covering the demand;
 - ii. the downstream condition /hazards and required safety level /flood return period,
 - iii. dam break analysis and emergency preparedness plan;
 - iv. estimation of the inflowing design flood and reservoir attenuated outflow for determining the spillway capacity;

- v. optimized reservoir operations;
- vi. adequacy of live and dead storage considering hydrological variability (including climate considerations), required water supply reliability and sediment handing;
- vii. the soil erosion level of the catchments, sediment yield, as well as different measures such as sediment management plan;
- viii. flood management during construction period, river diversion techniques, diversion closure techniques and others.
- ix. reviewing study and analysis on climate change impact,
- x. review the proposed instrumentation to monitor the reservoir water level, river flow etc.
- xi. Enhance RWB staff technical skills on hydrology and water resources;

D. Selection criteria:

9. The applicant need to have the following minimum requirements on academic background, skills, knowledge and experience:
 - Master’s degree in Hydrology, Water Resources Management, Water Resources engineering or related field of study
 - Having minimum of 20 years’ professional experience in the field of hydrology and water resources management
 - Specific experience as member of dam safety panel of experts on large dam construction projects is an added advantage
 - Fluent in verbal and written use of the English Language
 - Have a sound technical report writing skills
10. Only Consultants from Regional and Non-Regional Member Countries of the African Development Bank are eligible to apply. The consultant will be selected as individual consultant in accordance with the African Development Bank, Procurement Policy for Bank Group Funded Operations, October 2015, which is available on the website: <http://www.afdb.org> .

E. Duration of the assignment

11. The services will be rendered over a period of (5) years from contract signature date. The Consultant’s contract will be renewable yearly based on the satisfactory contract performance in accordance with responsibilities of hydrologist expert expected from the expertise level of the panel of experts.

F. Remuneration

12. A time-based or other appropriate contract will be used for the consultancy service. Remuneration will be based on: (i) agreed upon unit rates multiplied by the actual time/dates spent by the staff in executing the assignment, and (ii) the reimbursable costs for the missions (excluding the consultancy Fee).
The Director General, Rwanda Water Resources Board (RWB) is the designated and responsible representative of the Client.

G. Application process

13. Interested Consultants are invited to apply by submitting the following application documents:
- a) Resume/Curriculum Vitae (CVs) in English and supporting documents translated into English by legal firms;
 - b) Cover Letter outlining how the applicant's experience, skills, qualifications, and professional background fit with the requirements and the intent to apply (expression of interest); in maximum of one-page.
14. Expressions of interest must be submitted by electronically (in respect of the deadline) or physically and must be received not later than **25th January 2023 at 15h00 Kigali Time**, at the following address:

Attention to:

Dr. Emmanuel RUKUNDO

The Director General

Email address : tender.afdb@rwb.rw

For physical submission:

Attention to:

Rwanda Water Resources Board (RWB)

Dr. Emmanuel RUKUNDO

Director General

P.O Box 6213, Kigali, Rwanda

Nyarugenge Pension Plaza building, KN 3 Avenue

Tel: +250781958885

In the Office of SPIU Procurement Specialist

“Specifically mentioning the title: EOI Independent Dam Panel of Experts (IDPE) – Hydrologist”

Any questions and requests for clarifications may be sent to:

Dr. Emmanuel RUKUNDO

Director General

Nyarugenge Pension Plaza building, KN 3 Avenue

P.O. Box 6213 Kigali/Rwanda

Email address: info@rwb.rw with copy to tender.afdb@rwb.rw, emmanuel.rukundo@rwb.rw