



**Ministry of Water and Sanitation**



**Lilongwe Water Board**

**REQUEST FOR PROPOSAL  
(CONSULTING SERVICES – FIRMS SELECTION)**

**Country:** Malawi  
**Assignment Title:** Consultancy Services for the Study and Control of Algae Blooms in Kamuzu Dams I and II in Malingunde and control of odor and taste at Treatment Works I and II in Lilongwe City  
**Reference No.:** LWB-SCAB-2024-CS-QCBS

**1.0 Introduction:** The Lilongwe Water Board (LWB) is a water utility company which was established in 1947 and reconstituted under the Water Works Act Number 17 of 1995. The mandate of LWB is to supply potable water and provide sewerage services to the residents of Lilongwe city and surrounding areas in the Republic of Malawi. The water supplied to the city comes from Lilongwe River with raw water storage facilities, Kamuzu Dams I and II located at Malingunde about 25 kilometers from intake points.

**2.0 Objective of the Assignment:** The main objective of the study is to analyze algae occurrence in the reservoirs and their impact on water treatment at treatment works 1 and II, review the treatment processes and their effectiveness to remove smell and odor, design solutions, and provide recommendations for sustainable long-term management of algae in the reservoirs of Kamuzu Dams I and II. The consulting services (“the Services”) include the following specific objectives:

- Assess and identify the specific types of algae present in the water sources causing taste issues.
- Characterize the algae in terms of its growth patterns, seasonal variations, and potential impact on water quality both at the dams and treatment works.
- Evaluate any potential health risks associated with the identified algae, including the production of taste and odor compounds.
- Assess organic precursors that may be released by algae and could pose a health risk.
- Develop customized treatment (Short and Long) strategies to mitigate taste and odor issues caused by algae.
- Recommend appropriate water treatment technologies and methodologies to control algae growth and remove taste- and odor-causing compounds.
- Implement monitoring programs to continuously assess water quality and the presence of algae.
- Establish protocols for routine monitoring and early detection of algae blooms.
- Ensure that the water treatment methods comply with national and international regulations governing water quality and safety.
- Optimize existing water treatment processes to effectively manage algae-related taste challenges while maintaining overall treatment efficiency.
- Develop long-term strategies for sustainable algae management, considering factors such as climate change, land use, and nutrient runoff.

**3.0 Scope of Work:** The scope of the assignment will include but is not limited to:

- a. Conducting a comprehensive survey to analyze algae levels, distribution, and environmental factors influencing their proliferation.
- b. Assessing the risks associated with algae, including the production of organic precursors and impact on water treatment processes at Treatment Works 1 and II.
- c. Review current water treatment processes at Treatment Works I and II

- d. Developing engineering designs for control of odor and taste arising from algae proliferation at the treatment plant
- e. Recommending appropriate chemical and or biochemical treatments and dosages for algae control and removal, considering environmental impact.
- f. Implementing a continuous monitoring program for algae levels and establishing an early warning system

#### **4.0 Duration of Assignment**

The assignment shall be completed within a period of One Hundred Twenty (120) calendar days. The assignment is expected to start in June 2024.

The detailed Request for Proposal (RFP) for the assignment can be accessed for free at the following website: <https://www.lwb.mw/tenders/> Or can be collected from the address specified below. The Lilongwe Water Board now invites eligible consulting firms (“Consultants”) to submit their Proposals on Consultancy Services for the Study and Control of Algae Blooms in Kamuzu Dams I and II in Malingunde and Control of Odor and Taste at Treatment Works I and II in Lilongwe City.

#### **5.0 Firm’s Experience and Qualifications**

Interested Consultants should provide information demonstrating that they have the required qualifications and relevant experience to perform the Services. The selection criteria shall include but not limited to.

1. Core business area should include Phycology, Limnology, Chemistry, Environmental/Chemical engineering, Process Engineering, Water Quality Management, and related fields to ensure a holistic and scientifically sound approach to algae control and ensure effective water treatment processes.
2. Relevant similar experience, which should specifically include the below:
  - (a) Extensive experience in water treatment and quality management, with a focus on algae-related challenges.
  - (b) Proven track record of successfully leading similar consultancy projects.
  - (c) In-depth knowledge of algae biology, ecology, and the various species that can impact water quality.
  - (d) Expertise in the identification, monitoring, and control of algae in drinking water sources.
  - (e) Experience in ensuring compliance with relevant regulatory standards.
3. Technical and Managerial capability of the firm. The firm shall provide the detailed CVs of the following key staff: *Team Leader, Limnologist, Phycologist, Water Quality Specialist/Organic Chemist, Environmental Engineer, Regulatory Specialist, Process Engineer. (Please refer to the Request for Proposal document for the required qualifications and experience of the above listed experts).*
4. Experience in the Sub-Saharan Africa region.

The methodology for the evaluation of proposals will be Quality and Cost Based Selection (QCBS).

#### **6.0 Bidding Procedure**

Bidding will be conducted through the International Competitive Bidding (ICB) procedures and in full compliance with the Public Procurement and Disposal of Assets Act No. 27 of 2017 of the Republic of Malawi and Public Procurement Regulations (Government No. 24 of 2020).

Consultants may associate with other firms to enhance their qualifications but should indicate clearly whether the association is in the form of a joint venture and/or a sub-consultancy. In the case of a

joint venture, all the partners in the joint venture shall be jointly and severally liable for the entire contract, if selected.

Further information can be obtained at the address below during office hours *i.e.*, 08:00 to 16:30 hours.

#### **7.0 Submission Procedure**

The proposal shall be submitted in two parts in separate sealed envelopes clearly indicating Technical and Financial Proposals marked with: “**Consultancy Services for the Study and Control of Algae Blooms in Kamuzu Dams I and II in Malingunde and Control of Odor and Taste at Treatment Works I and II in Lilongwe City**” be deposited in the tender box on or before **Friday, 03<sup>rd</sup> May, 2024 at 14:00 hours local time**. Electronic bidding will not be permitted, and late proposals shall be rejected.

(a) Address where bids/proposals will be deposited:

**The Chairperson  
Internal Procurement and Disposal of Assets Committee  
Lilongwe Water Board  
Madzi House  
Off Likuni Road  
P.O. Box 96  
Lilongwe  
MALAWI**

(b) Address where Technical Proposal opening will take place:

**Main Boardroom  
Madzi House, First Floor  
Off Likuni Road  
Lilongwe  
MALAWI**

(c) Address where Request for Proposal document will be inspected and collected:

**Lilongwe Water Board  
Procurement and Disposal Unit Offices  
Off Likuni Road  
P O Box 96  
Lilongwe  
MALAWI**  
E-mail: [procurement@lwb.mw](mailto:procurement@lwb.mw)