

REQUEST FOR EXPRESSIONS OF INTEREST

Country : MYANMAR
Project : Ayeyarwady Integrated River Basin Management (AIRBM) Project
Credit No. : IDA 55590 MM
Project ID : P146482
Assignment Title : **Senior River Engineer (Hydraulic Structural Engineer)**
Reference No : **C 3.15a**

The Republic of the Union of Myanmar, has received financing from the World Bank toward the cost of the Ayeyarwady Integrated River Management (AIRBM) Project. Directorate of Water Resources and Improvement of River Systems (DWIR), under Ministry of Transportation and Communications, is the implementing agency of the AIRBM through the Project Management Unit (PMU) established under the supervision of the secretary of NWRC and DG of DWIR, and intends to apply part of the proceeds for consulting services.

The Project Management Unit now invites expressions of interest from qualified candidate for **Senior River Engineer (Hydraulic Structural Engineer)** position.

Consultant Responsibilities and Qualification Requirement

The consultant will be responsible for the following tasks:

1. Provide Technical Leadership and Advice for Component 3 activities related to river engineering: The Consultant shall work closely with the International Navigation Advisor and International Hydraulic Modeling Specialist of C3, under the direct supervision of the Component 3 Director, to achieve the outcomes and objectives of the Component 3 as described in Section 2 of this TOR.
2. Serves as Member of the Project Advisory Team: As shown in Annex A, there are seven members of the PMU Advisory Team. The consultant is expected to primarily support Component 3 of the Project, but will also help ensuring the overall quality and integration of the Project as and when necessary under the direction of the Project Director.
3. Procurement, Contract Management and Supervision: The Consultant shall assist the PMU and the Component 3 Director, in matters related to procurement and contract management, including but not limited to:
 - Prepare or provide technical inputs on TORs and Requests for Proposals (RfP) of consultancy contracts and technical specifications of civil works and goods contracts
 - Assist evaluation teams and prepare evaluation reports
 - Provide technical advice for contract negotiations
 - Prepare correspondence for the World Bank and DWIR
 - Review and evaluate all reports under Component 3.

- Supervise consultancy contracts and civil works and goods contracts with respect to time management, products and quality control and ensure compliance with respect to contractual requirements.
- Coordinate with the relevant Project Officers to ensure proper communication on technical aspects to the Consultant. Manage that the Project Officers are in control of their tasks.

4. Project Reporting, Budgeting, and Management: The Consultant shall closely work with the International Navigation Advisor to assist the PMU and the Component 3 Director, in matters related to project reporting, preparation of implementation planning, development of procurement plans, formulation of work plans, review of financial management reports, etc.

4. Consultant Experience Requirements

The Consultant shall meet the following minimum qualifications:

- Master degree in civil engineering / water resources engineering / hydraulic structural engineering
- The expert is expected to have at least;
- 10 years experience in river management projects (from a technical angle) – preferably dealing with complex hydraulic and morphodynamic river systems.
- 10 years experiences in river training works – especially design and supervision of infrastructure works such as construction of groynes, spurs, dikes and dredging works;
- 5 years experiences in Project and Contract Management in integrated and technically complex projects.
- Experiences in working with international funding organization (World Bank, ADB, etc.,)
- Comprehensive knowledge in geomorphology and sediment transport, and watershed management.
- Knowledge of river modeling (morphology and hydraulics) as a tool for channel design, determining design conditions for river and bank stabilization works, river hydraulics;
- Excellent computer skills (MS Word, Excel, Powerpoint, etc.);
- Proficiency with Computer Aided Design and Drafting programs such as AUTOCAD, or other Engineering software;

- Preparing engineering designs, plans, specifications, quantity take-offs, cost estimates, and comprehensive design reports for all of the above features;
- Good written and spoken English language skills

Interested consultants must provide their updated curriculum vitae, indicating personal and technical skills, qualifications and experience in similar assignments. The services are expected to be carried out over a period of 12 months with the possibility of extension. The location of the services will be the PMU office in Yangon, Myanmar with regular site visits to Mandalay and Nyaung Oo.

An individual consultant will be selected in accordance with procedures set out in the Consultant Guidelines.

The attention of interested consultants is drawn to paragraph 1.9 of the World Bank's Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers dated July 2014 ("Consultant Guidelines"), setting forth the World Bank's policy on conflict of interest.

Further information and a copy of the detailed Terms of Reference (TORs) can be obtained at the address below during working days from 09:00 to 17:00 hours.

Expressions of interest must be delivered in a written form to the address below in person, or by mail, or by e-mail on or before **27th March, 2020, 5:00pm (Local Time)**.

AIRBM Project, Project Management Unit
Attn: Mr. Aung Myo Khaing, Component 3 Director
No.400, Directorate of Water Resources and Improvement of River Systems, DWIR Campus,
Lower Pazundaung Road, Pazundaung Township, Yangon, Myanmar.
Phone: +95- 9-095150213
Email: component3director@airbm.org;

With a copy to following e-mail addresses:
ms.thin.thin.swe.15@gmail.com; yewinko9@gmail.com

**MINISTRY OF TRANSPORT AND COMMUNICATIONS: DIRECTORATE OF
WATER RESOURCES AND IMPROVEMENT OF RIVER SYSTEMS**

AYEYARWADY INTEGRATED RIVER BASIN MANAGEMENT PROJECT

TERMS OF REFERENCE FOR

C3.15A-SENIOR RIVER ENGINEER (HYDRAULIC STRUCTURAL ENGINEER)

Duration of assignment: The Consultant will receive a one year time-based contract with an estimated input of five months. The contract may be renewed on an annual basis depending on the Consultant's performance and Project requirements.

General Scope of Services: Provide technical advice especially on hydraulics, river morphology and river management including river regulating/training works, dredging, etc. to Component 3 Director and the Project Management Team. The Consultant will also support Contract Management and Procurement for Component 3 activities. The Consultant shall serve as a member of the Project's Technical Advisory Team.

1. Background

The Myanmar government has received a US\$100 million credit from the World Bank for the Ayeyarwady Integrated River Basin Management Project (AIRBMP). The objective of the project is to help Myanmar develop the institutions and tools needed to enable informed decision-making in the management of Myanmar's national water resources and to implement integrated river basin management on the Ayeyarwady, while immediately enhancing the river's productivity with "low/no regrets" investments in the hydro-meteorological observation system and services (to support agricultural productivity and water-related disaster risk management) and in navigation enhancements (to promote sustainable transportation) on the Ayeyarwady. The project would also support a prompt and effective response to potential crises and emergencies. The project will be implemented over the period 2015-2020. A detailed description of the project can be found in the World Bank's Project Appraisal Document.¹

The AIRBMP consist of three main components plus a contingency component to allow for rapid reallocation of funds in case of emergency (e.g. extreme weather event). The components are briefly described below:

- a) Component 1: Water Resource Management Institutions, Information & Capacity Building
- b) Component 2: Hydromet Observation and Information Systems Modernization
- c) Component 3: Ayeyarwady River Navigation Enhancements

2. Component 3 Description

¹ See <http://documents.worldbank.org/curated/en/2014/11/20394428/myanmar-ayeyarwady-integrated-river-basin-management-project>

The Ayeyarwady River has historically been the main transport artery of the nation but the river's navigability is deteriorating. This deterioration appears to be caused primarily by heavy sediment loads. The annual estimated sediment load in the Ayeyarwady/Chindwin system is roughly 400 million tons making it the fifth most sediment laden river in the world. Sedimentation is perceived to be increasing as a consequence of natural processes as well as human activities such as mining and deforestation in the upstream watersheds. Impacts are seen in increasingly braided channels and sand bars that affect the river morphology and present hazards to inland transport, particularly at night when visibility is compromised and during the low water season (15 November to 15 May) when least available depth for navigation is marginal. The government has identified 46 points of constriction along the river that requires management intervention.

AIRBMP Component 3 aims at enhancing safe navigation in the Ayeyarwady by conducting physical and non-physical improvements. Component 3 consists of the following subcomponents:

Subcomponent 3.1 Structural Improvements: This sub-component will support river enhancement works to be implemented to achieve feasible waterway dimensions in a sustainable manner to allow barges of 1000 DWT year round. This sub-components activities will include: (a) implementation of microprojects which are comprised of small, temporary, and reversible navigation enhancement interventions aimed at providing a safer and more reliable navigation channel in the Ayeyarwady River, (b) implementation of Sub-project 1 for enhancement of Mandalay waterways to provide a safe navigation channel to and from the Mandalay port, (c) preparation of engineering design and ESIA & ESMP for Stretch 1 between Mandalay and Nyaung-U (near Bagan).

Subcomponent 3.2 Operational Improvements: This sub-component will support more efficient and safe shipping of goods and passengers by improving the waterway operations, by introducing state-of-the-art facilities for night-time navigation, and upgraded hydrographic services. The activities of this sub-component will include (a) the purchase and installation of aids to navigation with buoys and beacons to enable night time navigation on the Mandalay – Yangon section of the Ayeyarwady River and design and build, and operation of the multi-purpose buoy handling Vessel; (b) preparation of hydrographic surveys and charts in the Ayeyarwady River section between Mandalay and Yangon by purchasing topo-hydrographic survey equipment, survey vessels, satellite images and maps; and (c) the purchase of dredging equipment required for Ayeyarwady River works.

Subcomponent 3.3 Institutional Strengthening and Implementation Support: This sub-component will support (a) Component 3 implementation costs, and (b) capacity building, training and communications and awareness raising activities related to the Project-sponsored river improvements and new information, regulations and procedures. Also, this sub-component will include the formulation of the Resource Management and Operations Plan (RMOP) to portray and analyze the present situation of the waterway transport system, assess the resources and capacity under DWIR, define what the requirements are for improved Ayeyarwady Navigation, and respectively design a detailed RMOP.

3. Project Management Structure

Department of Water Resources and River Improvements (DWIR) and NWRC Secretariat: The project falls under the general auspices of the National Water Resources Committee (NWRC). The Director General of DWIR serves as the Secretary of the NWRC Secretariat. Component 3 of the Project is the direct responsibility of DWIR. The Director General/Secretary's dual role should help to ensure coordination among different entities.

Project Management Unit (PMU): A PMU has been established under DWIR/NWRC Secretariat, and is led by a Project Director. The general structure of the PMU is presented in Annex A. The Project Director will be responsible for project management and technical coordination, as well as procurement and financial management, monitoring and evaluation, and compliance with environmental and social safeguards for all project components. Financial management and procurement functions will be undertaken by existing staff of DWIR, with additional support from consultants to be hired under the project as needed. The PMU offices is located together in Yangon, with satellite offices at DWIR and DMH in Nay Pyi Taw.

Component 3 Management: The PMU includes a section specifically responsible for implementing the component. This section is led by the Component 3 Director, who is a Director of DWIR, and has overall leadership for implementation and serves as the primary management link with the PMU. The Component 3 Director has been assisted by a small group of professionals who also form part of the PMU. A part-time International Navigation Advisor and a full-time International Hydraulic Modeling Specialist to Component 3 are already on board.

4. Consultant Assignment Objectives and Scope

There is a need for a senior river engineer to assist the Component 3 Director and Project team manage all projects related to river regulating studies and works², and prepare and manage upcoming procurement activities in the field of river management and navigation enhancement works. It was thus decided to advertise for a two-year position for a Senior River Engineer with expertise in river management, river training works and hydraulics and morphology in a high sediment laden river like the Ayeyarwady River.

The overall scope of the assignment is to provide services to support and assist the Component 3 Director to deliver the river engineering outcomes in C3 in a timely manner and in conformity with the requirements of the Government of Myanmar as well as the World Bank. General tasks, including the following:

1. Provide Technical Leadership and Advice for Component 3 activities related to river engineering: The Consultant shall work closely with the International Navigation Advisor and International Hydraulic Modeling Specialist of C3, under the direct supervision of the

² two large Consultancy Contracts on river improvement works for Stretch 1 (Engineering and Environmental & Social)

Component 3 Director, to achieve the outcomes and objectives of the Component 3 as described in Section 2 of this TOR.

2. Serves as Member of the Project Advisory Team: As shown in Annex A, there are seven members of the PMU Advisory Team. The consultant is expected to primarily support Component 3 of the Project, but will also help ensuring the overall quality and integration of the Project as and when necessary under the direction of the Project Director.

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 - 5 years experiences in Project and Contract Management in integrated and technically complex projects.

- Experiences in working with international funding organization (World Bank, ADB, etc.)
- Comprehensive knowledge in geomorphology and sediment transport, and watershed management.
- Knowledge of river modeling (morphology and hydraulics) as a tool for channel design, determining design conditions for river and bank stabilization works, river hydraulics;
- Excellent computer skills (MS Word, Excel, Powerpoint, etc.);
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- Preparing engineering designs, plans, specifications, quantity take-offs, cost estimates, and comprehensive design reports for all of the above features;
- Good written and spoken English language skills

6. Contractual Arrangements and Consultant Reporting Requirements

Consultant will be based in Yangon, at the PMU office, and is expected to travel extensively to the project sites. The key Consultant Reports shall include:

Inception Report: submitted within one month of signing. The Inception Report shall confirm the scope and objectives of the assignment, proposed any necessary adjustments, and layout a detailed monthly reporting format (the monthly report can be changed to a Bi-Monthly Report if so agreed by the parties).

Bi-Monthly Reports (i.e. every two months): The key contract control mechanism for the PMU shall be the Bi-Monthly Report. The Report shall specify the actual amount of day's worked, actual reimbursable expenses, and a detailed explanation of any significant deviations from the work plan presented in the previous Report. The Report shall present a detailed work plan for the upcoming period, including consultant inputs and expenses. Approval of the Report will be linked to payment of the Consultant's invoices.

Final Report: The Final Report will occur at the end of the assignment, summarize the Consultant's inputs, expenses, and results. Acceptance of the Final Report shall constitute closure of the Consultant's contract.

Technical Notes and Memorandum As Requested: Prepare specific technical reports as and when requested by the Component 3 Director.

Annex A: General PMU Structure

