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**Maldives Clean Environment Project**

**Ministry of Environment**

Republic of Maldives

**TERMS OF REFERENCE**

**Services of a Naval Architect/Maritime Engineer for the Supervision of Marine Vessel Construction projects under MCEP**

Reference:MV-MEE-159364-CS-INDV

Date: 07 July 2020

1. **Introduction**

The Government of the Republic of Maldives through the Ministry of Environment (ME) is implementing Maldives Clean Environment Project (MCEP) financed through grant aid from the International Development Association (IDA), The World Bank. The project is being implemented in accordance with the World Bank’s guidelines and procedures on procurement and financial management.

The project development objective of MCEP is to improve solid waste management in selected zones of the Maldives, namely Zone 2 *(Noonu, Raa, Baa and Lhaviyani Atoll)*, Zone 4 *(Meemu, Faafu and Dhaalu Atoll)* and Zone 5 *(Thaa and Laamu Atoll)*.

The Government of Maldives intends to apply part of the proceeds under this project for consulting services of a Naval Architect/Engineer to provide technical/engineering input/advice and supervise the design and manufacture of all marine vessels under MCEP.

1. **Background**

Under the Maldives Clean Environment Project, a monitoring and research vessel for Environmental Protection Agency (EPA), a flat bottom whaler and an additional landing craft for waste transfer from zone II islands to Vandhoo RWMF will be procured during the period 2020 to 2021

1. **Objective of the Assignment**

The main objective of this assignment is to provide technical/engineering input/advice and supervise the design and manufacture of all marine vessels to be procured under MCEP. The specific objectives are, but not limited to;

a) Approval of all designs and technical drawings for the marine vessels and their structures as well as oversee the construction,

b) Ensure ship structure and ship design is as cost-effective as possible.

c) Coordinate with stakeholders and translate their performance requirements into design specifications

d) Review performance and ensure standards are met in all interior, exterior, and structural details of the vessels.

e) Ensure compliance to current statutory and regulatory requirements as per the national and international regulations.

f) Coordinate between the Client and Contractor to ensure smooth execution of all marine vessel contracts assigned by the Project Manager.

1. **Scope of Work / Detailed Tasks**

The Consultant will be responsible for contract coordination, administration and scheduling, design advice and supervision, construction survey, inspection & observation, quality assurance of materials, drawing review and approval coordination related all marine vessels being procured under MCEP.

The Consultant will be responsible for overall co-ordination of the on-site construction process to the extent necessary to ensure that all works will be performed to the level and quality required, and to a schedule which is compatible with the requirements of the overall building and contract management schedule.

1. ***Contract coordination, Administration and Scheduling***
* Attend meetings with the contractors, suppliers, vendors, external utilities, professional staff, facility operator and client as required to ensure the smooth delivery of contract services,
* Compile minutes of meetings and distribute as necessary.
* Review contract execution for compliance with contractual requirements (i.e. labor compliance, etc.), and review Contractor’s work schedule & method statement and assess compatibility with the overall work schedule.
* Make measurements of bid items installed, quantities or percentages, review the Contractor(s) recovery schedules, and obtain monthly updates from Contractor(s) incorporating actual progress, delays, and other impacts.
1. ***Field Inspection & Site Observation***
* Perform site observations of the construction activities for minimizing defects and deficiencies in the work of the Contractor(s) and to check that provisions of the contract documents are being fulfilled.
* Coordinate, review and approve Quality Assurance materials testing. Where Quality Assurance materials testing results, established by Contractor(s), or Contractor(s)’ workmanship is deficient in any way, the Consultant will ensure corrective actions are undertaken by the Contractor(s) so that the deficiencies are satisfactorily expedited to the Consultant’s satisfaction.
* Observe and monitor Contractor(s) compliance with regulatory permits, environmental management and mitigation plans, workplace safety and health standards, and Contractor(s) work schedule & method statement. Where the Contractor(s) performance is deficient, the Consultant shall ensure corrective actions are undertaken by the Contractor(s) so that the deficiencies are satisfactorily expedited to the Consultant’s satisfaction.
* Identify the technical issues and escalate them as appropriate, to ensure early resolution and to facilitate the execution.
* Take and maintain digital photographs, document the construction progress, and prepare inspection & site observation reports documenting observed construction activities.
1. ***Cost Control***
* Furnish the Client with estimated expenditure forecasts for each vessel project on a monthly basis, during the contract period. The expenditure forecasts for each unit constructed and installed must be within an accuracy of + / - 10% of the Client’s commercial evaluation of bids for that unit.
* Monitor, review and submit to the Client an updated project expenditure estimation based on the forecasts on monthly basis during the contract period.
* Approve payment release requests on behalf of the Client confirming that all works, services and equipment covered by the payment requests are complete, inspected and expedited. The Consultant will either sign off on the payment request and submit to the Client for payment authorization or, return the payment request to the Client with a report detailing any works, services or equipment covered by the payment request which are incomplete or have not been expedited to the Consultant’s satisfaction.
1. ***Construction Close out***
* Perform routine construction close out site inspections to determine if units are complete and in compliance with Contract Documents and list corrective actions, and prepare recommendations to the Client as to the release of retention payments to Contractor(s), vendors and suppliers.
1. **Duration of Consultancy**

The Consultant must be available to commence the services in July 2020 and will be hired for a period of Twelve (12) calendar months from the date of contract signing. If required, the contract can be extended for a period agreed between both the client and the consultant.

1. **Reporting**

The Consultant is expected to report to PMU and work closely with the MEE, MCEP PMU, and other stakeholders in all project related matters and will report directly to the PMU Project Manager or his designate during the course of the assignment. The consultant will also be required to submit monthly statement of input/ timesheets which describes the work done during the month and the corresponding invoices along with a monthly progress report.

1. **Estimated Level of Effort**

The estimated level of effort of the Consultant is 720 hours provided over a period of 12 months. **A time-based contract will be issued**.

* Total payable input from the Consultant should not exceed a ceiling of 60 hours per month.
* Each day spent in the field inspection of vessels outside Male’ will be considered as a full input day (3 hours).
1. **Required Qualification and Experience**

The applicant should possess the following educational background and experience:

1. A Master’s degree or higher in Maritime Technology, Naval Architecture or a field relevant to the assignment.
2. Must have professional work experience of minimum ten (10) years and field experience of marine vessel inspections and audits for a minimum five (5) years and having inspected and/or supervised the design or manufacture of at least ten (10) vessels. Having experience in the design and manufacture or inspection and audits of waste collection vessels or landing crafts will be an added advantage.
3. Should possess sound knowledge of design and construction standards of marine vessels.
4. Should have excellent command of English with proven communication, presentation and interpersonal skills.
5. Should be able to work for extended periods without direct supervision.
6. Should be familiar with the legal framework and procedures related to marine vessel design
7. **Evaluation Criteria**

The EOI’s submitted by the consultants will be evaluated based on the criteria below.

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| Master’s degree or higher in Maritime Technology, Naval Architecture or a field relevant to the assignment | [40] |
| Must have professional work experience of minimum ten (10) years and field experience of marine vessel inspections and audits of minimum five (5) years and having inspected and/or supervised the design or manufacture of at least ten (10) vessels. | [35] |
| Specific experience in designing and supervision of waste transfer vessels and/or research vessels | [10] |
| Possess sound knowledge of design and construction standards for marine vessels both locally and internationally. | [15] |

1. **Fees**
* Consultancy fee (rate for hourly input) will be negotiated and agreed with the successful applicant.
* Payment will be made based on monthly input as outlined in the contract and upon receipt and approval of monthly report, monthly statement of input/ timesheet and invoice for the input provided during that month.
* For field visits: Return air ticket (economy) to and from the destination where the vessel is being built and the approved DSA for that destination as established by the Government of Maldives.
1. **Application process**

All interested and qualified candidates should submit their applications which should include the following:

1. Letter of Expression of Interest

2. A copy of the National ID card of the Consultant

3. Detailed and updated Curriculum Vitae

4. Academic certificates, supporting documents/ reference letters of previous/relevant assignments carried out by the Consultant.