



MINISTRY OF ENVIRONMENT AND ENERGY
MALE', REPUBLIC OF MALDIVES



TERMS OF REFERENCE

for

SUPERVISION ENGINEER FOR THE DESIGN AND MANUFACTURE OF WASTE COLLECTION VESSEL

Reference Number: (IUL)438-RDS/1/2016/167

Funded by

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of the Government of the Republic of Maldives

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Issued By:

Waste Management and Pollution Control Department
Ministry of Environment and Energy
K.Male', Republic of Maldives



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Supervision Engineer for the Design and Manufacture of Waste Collection Vessel

Terms of Reference and Scope of Services

1. BACKGROUND

The Republic of Maldives is a small island nation that is now well known across the world for its vulnerability to environmental impacts. Its population of about 300,000 people is thinly dispersed over 198 islands out of a total of 1192 islands, the remaining being uninhabited.

The largest percentage of the population on a single island is found at the capital city Male', with over 133,000 people living in a small area of about 6 kilometer square. The second atoll with the largest percentage of the total population is the city that is included under the funds of this project, Addu City.

Addu City is the southernmost atoll that consists of four interconnected islands, 2 more inhabited islands and 2 resorts in close vicinity of each other. The total population of the city is estimated to be almost 22,000 people, which accounts for about 7% of the total population of the entire country. The plans for building the Regional Waste Management Centre at the capital of Addu City, Hithaadhoo, aims to provide a total solution to the problems in waste for the Addu and Fuvahmulah Cities as well as the islands of Huvadhu Atoll. This means, the planned Regional Waste Management Facility at Addu City (RWMFA) will manage the waste of about 18% of the entire population of the country.

In this project a proper waste transfer system will be established between the RWMFA and the targeted islands in the region with a minimum of two vessels (landing crafts).

The Addu City system consists of the transfer of residual wastes including non-biodegradable waste from the Island Waste Management Centres of all the islands in the catchment area to the RWMFA that is to be equipped with a Small Scale Waste to Energy System connected to the Addu City central power grid.

2. PURPOSE

The Government of the Republic of Maldives through the Ministry of Environment and Energy (MEE) is implementing “SMALL SCALE WASTE TO ENERGY SYSTEM” financed both by Abu Dhabi Fund for Development (AFD) through IRENA and the Government of the Republic of Maldives and intends to apply part of the proceeds for the selection of a **Supervision Engineer** to provide technical/engineering input, advice and supervise the Design and Manufacture of Waste Collection Vessels.

3. OBJECTIVES OF ASSIGNMENT

The main objective of the assignment is to provide technical/engineering input, advice and supervise the Design and Manufacture of Waste Collection Vessels. The specific objectives are, but not limited to;

- a) Review and provide the technical advice to the design and assist MEE in finalizing and approving the engineering design of the vessels,
- b) Conduct inspection of the vessels during the different stages of their manufacturing

4. OVERALL RESPONSIBILITY

The Consultant will be responsible for contract coordination, administration and scheduling, design advice and supervision, construction survey, inspection & observation, materials quality assurance, drawing review and approval coordination.

The Consultant will be responsible for overall co-ordination of the on-site construction process to the extent necessary to ensure that all work 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.

a) Contract co-ordination, Administration and Scheduling

The Consultant shall attend meetings with the Contractor(s), Suppliers, Vendors, external utilities, professional staff, facility operator and Client as required to ensure the smooth delivery of contract services, preparation and distributing meeting minutes.

The Consultant will 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.

The Consultant will 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.

b) Field Inspection & Site Observation

The Consultant shall perform site observations of the construction activities for the purpose of minimizing defects and deficiencies in the work of the Contractor(s) and to check that provisions of the contract documents are being fulfilled.

The Consultant shall coordinate Quality Assurance materials testing, review and approve Quality Assurance materials testing results.

Where Quality Assurance materials testing results, staking re-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.

The Consultant shall 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.

The Consultant shall take and maintain digital photographs, document construction progress, and prepare inspections & site observation reports documenting observed construction activities.

c) Cost Control

The Consultant will furnish the Client with estimated expenditure forecasts on monthly basis during contract period. The expenditure estimate forecasts for each unit constructed and installed must be within an accuracy of + / - 10% of the Clients commercial evaluation of bids for that unit.

The Consultant must monitor, review and submit to the Client an updated Project expenditure estimation based on the forecasts on monthly basis during the contract period.

The Consultant will approve payment release requests for the Client confirming that all works, services, 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.

d) *Construction Closeout*

The Consultant shall perform routine construction closeout site inspections to determine if units are complete and in compliance with Contract Documents and list corrective actions, and prepare recommendations to Client as to the release of retention payments to Contractor(s), vendors and suppliers.

5. REPORTING

- a) Report directly to the Waste Management and Pollution Control Department of the MEE on all aspects of Project Management throughout the duration of the contract unless otherwise advised by the Client.
- b) The Engineer shall ensure that all the required reports for the project are prepared on time, in accordance with the requirements of Client and respective donor agencies.
- c) The Engineer is required to report to work in official attire.

6. CONTRACT DURATION

Duration of the assignment is eight (8) months from the commencement of the works with potential extension based on performance and need.

7. QUALIFICATIONS AND EXPERIENCE

- a) A Master's degree or higher in Marine Engineering or a related field.
- b) 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 five (5) barges. Having experience in the design and manufacture or inspection and audits of waste collection vessels or landing crafts will be an added advantage.
- c) Should possess sound knowledge of design and construction standards of marine vessels
- d) Should have excellent command over English with proven communication and, presentation and interpersonal skills
- e) Should be able to work for extended periods without direct supervision

8. EVALUATION CRITERIA

The Engineer will be selected based on the following criteria:

Evaluation Criteria	Weightage (%)
Relevant academic qualification(s)	30
Experience in similar works	30
Proposed Price	40

The formula for determining the financial scores for the proposals is the following:

$S_f = 100 \times F_m/F$, in where S_f is the financial score, F_m is the lowest proposed price and F the price of the proposal under consideration.

9. DOCUMENTS TO BE SUBMITTED

Interested applicants may submit their proposal in a sealed envelope indicating the following:

- a) Letter of Expression of Interest (EOI)
- b) Curriculum Vitae or A brief summary that demonstrates that the applicant is qualified to perform the services (including description of similar assignments, experience in similar conditions, availability of appropriate skills etc.)
- c) Copy of National Identification Card
- d) Attested copies of Educational Certificates (copies taken from with accredited original certificates)
- e) Financial Proposal for the entire works to be completed within the duration specified

10. APPLICATION

The proposals need to be processed in sealed envelopes should be submitted to the Ministry of Environment and Energy address below. All submissions will be opened at the Ministry of Environment and Energy at **11:00 hours on 23rd October 2016** in the presence of representative of the bidders.

Procurement Unit,
Ministry of Environment and Energy,
Green Building, Handhuvaree Hingun, Maafannu,
Male', 20392, Republic of Maldives.