



Ministry of Environment

Republic of Maldives

**Accelerating Sustainable Private Investments in Renewable Energy
(ASPIRE) Project**

SCF Grant NO.: TF017182

Terms of Reference for Site Technical Supervisor

A. PROJECT CONTEXT

The Republic of Maldives is a low lying, atoll based, archipelagic nation in the central Indian Ocean. It comprises 1,190 islands grouped into 26 atolls that together occupy a land area of 298 km² and form a chain over 820 km in length, spread over an area of around 90,000 sq km. With a total population of the Maldives is 324,992, it is the smallest Asian country in terms of area and population.

Almost all of the country's current power needs are met through diesel fired generation. The cumulative installed electricity capacity (diesel based) in Maldives was approximately 320 MW by end of 2018. The fuel has to be imported and transported to the dispersed generating locations, adding to the cost and difficulty of maintaining reliable power operations. As a result, the Maldives has among the highest cost of electricity generation in South Asia – over 23 US\$ cents per kWh in the larger islands, and over 30 US\$ cents per kWh and higher in the remote small islands. Despite these challenges, access to electricity is universal in the Maldives, and the GoM is constitutionally obligated to ensure the provision of electricity to every inhabited island at a reasonable standard.

Investment Plan (IP) was prepared on how SREP resources, leveraged by co-financiers, would be used to support the scaling up of renewable energy (RE) development in the Maldives. The IP was developed by the Government of Maldives (GoM) under the leadership of the Ministry of Environment. The main objective of Maldives SREP IP is to transform the electricity sector and to develop renewable energies on a large scale.

The SREP IP objective of scaling-up renewable energy in the Maldives supports socioeconomic development by generating new economic opportunities and widening access to sustainable, clean and reliable energy. Thus, it effectively contributes to poverty reduction and sustainable development - benefiting the Maldives and its people as a whole.

The Accelerating Sustainable Private Investments in Renewable Energy (ASPIRE) Project hence had become one of the key projects under the SREP program that will contribute to the overall targets of SREP.

Currently, the Maldives has a cumulative installed PV based generation capacity of around 21 MW, spread across several islands and programs. The proposed ASPIRE Project will combine technical assistance with private sector investment, to scale-up the deployment of PV based generation on the islands. ASPIRE seeks to provision IDA and SREP resources to develop and implement an appropriate investment framework that will result in the deployment of PV

systems through private sector investments during and after the ASPIRE implementation completion. The identified hurdles to private investments in the Maldives' energy sector include the paucity of experience with project finance, limited local familiarity with the technology, and little private sector exposure to the institutions in the sector.

To address these hurdles, the ASPIRE Project aims to develop the Maldives' potential for solar PV through private sector investments rolled out over the Project's implementation timeframe. This will be done through the use of an investment framework that had been developed and appraised taking into account government and institutional considerations and informed by feedback from potential private investors.

The ASPIRE Project would: (i) enable private sector investing in PV infrastructure development; and (ii) diversify the investment base in the country through developing a local market and expertise in renewable energy. This will benefit the private sector engaging in the renewable energy sector of Maldives. In this regard, the promotion of renewable energy technology through a proper outreach mechanisms are very key in the successful implementation of the overall ASPIRE project.

Hence, under the project 1.5MW had been installed and commissioned in 2018. Another 5MW is currently under implementation through a Power Purchase Agreement signed in December 2020 with a private developer.

Scaling up such sub-projects would contribute to the reduction of the islands' financial exposure to oil price volatility, and generate savings by replacing higher cost, imported diesel fueled generation, with cleaner PV generation over the long-term. This would also help to reduce the need for public investment in the power sector, and helps reduce the operating and capital expenses of the state utility companies. Not only would this help GoM to achieve low carbon growth, but it would also free up resources to fund key social needs such as education and health.

B. BACKGROUND

The 5MW Solar PV Plant supervision will be primarily along the link road connecting Male'-Hulhumale', and Boashimaa Hingu (Southern side road of Hulhumale' which connects to the link road). The construction works for the 5MW solar PV plant under ASPIRE Project will involve installation of ground mount structures for PV canopies, and laying of Medium Voltage (MV) electrical cables along the link road area in space constrained conditions. In addition, there may be some buildings in Hulhumale' where installations of PV systems on rooftops

In parallel, there is ongoing works for construction of interconnection HV cables happening around the area. Although the construction schedules (work plans) will try to minimise presence of both contractors in the same location at any given time during the construction, such may be expected and so will require careful oversight of any overlaps of works in the area.

Given the nature of the site and ongoing other projects in the area, ensuring the construction workflow within the area is critical and any issues encountered will need to be addressed on site in a timely manner, with minimal oversight from the PMU. However, any issues and incidences would need to be informed immediately to the PMU (and other project stakeholders) and respective project partners.

PMU will provide guidance on how the project schedules will be aligned and provide site specific information prior to commencement of this assignment.

C. OBJECTIVE

The overall objective of this assignment is to ensure day to day progress of site tasks and activities being undertaken at construction sites under ASPIRE project with the responsibility to maintain construction and construction safety standards, quality of work and workmanship, and report on a daily basis to the Client and related stakeholders.

D. SCOPE OF SERVICES

The Site Technical Supervisor will primarily undertake the supervision/monitoring of all construction activities for the ASPIRE project work sites.

The main roles and responsibilities of the Supervisor will include but is not limited to the following tasks:

- Report on time to site and commence daily works;
- To be on site whenever construction is ongoing, as a representative of ME;
- Manage teams (where applicable) and achieve daily goals;
- Ensure instructions provided by Site Manager, Engineers and Consultants are being followed;
- Assign and coordinate site works, where applicable;
- Ensure safe and proper use of equipment on site, and compliance with work methodologies;
- Maintain the standards and quality of work and workmanship;
- Monitor progress of project in accordance with construction schedule and control daily tasks where applicable;
- Maintain safe, secure and healthy work environment and ensure public safety;
- Ensure compliance with all Environmental and Social Safeguard requirements of World Bank, in accordance with the guidance provided by the PMU;
- Ensure complying with and enforcing local regulations and prevent fines and interruptions of work;
- Identify and report the potential problems at site and help to prevent them;
- Supervision of work carried out by contractor and resolving issues on site;
- Evaluate work progress and identify in advance any potential issues (whether internal or due to other ongoing projects) that may result in delay of milestones and address the same; and
- Daily or weekly reporting to ME, STELCO and HDC on contractor progress, as agreed by the Client.

E. REPORTING OBLIGATIONS

The Supervisor will report to the designated staff in the Project Management Unit, focal points from STELCO and Housing Development Corporation (HDC). On a day-to-day basis the Supervisor will work in close coordination with the PMU team and respective counterpart focal points.

F. KEY QUALIFICATIONS AND EXPERIENCE

- Satisfactory communication skills in English and Dhivehi.

- Minimum of 2 years of experience in general construction with excellent hands-on construction skills.
- Experience in supervising construction projects.
- Diploma in engineering related specialty will be an added advantage.
- Experience with projects including electrical infrastructure installations will be an added advantage.
- Ability to set priorities and exercise flexibility where necessary.
- The willingness to accept other job responsibilities as needed.
- Excellent understanding of concrete, steel reinforcement, carpentry, masonry works and finishing works.
- General understanding of electrical and plumbing works.
- Ability to read and understand blueprints, schematics, construction documents, technical drawings and details.
- Understanding of proper safety procedures and recognition of hazards.
- Ability to critically look at craftsmanship.
- Ability to organize time, material and labor.
- Ability to multitask.
- Ability to assign and supervise numerous crews handling a variety of tasks.
- Ability to monitor, track and mentor numerous crews handling a variety of tasks.
- Ability to work long and odd hours when necessary.

In addition to the above the Supervisor's reputation of integrity and impartiality routed in independent from third parties shall be considered.

The successful candidate must understand the objectives, delivery mechanisms and time-frames that must be followed stringently in World Bank-supported projects. The Supervisor must be willing to work in a team environment, be flexible to emerging or changing conditions, and undertake initiative in the Supervisor's broad field of actions.

The Supervisor must be willing to work for extended periods without direct supervision and may be expected to travel routinely to islands within the portfolio of the project.

G. SCHEDULE

The duration of the assignment is initially for 12 months from the commencement of the consultancy with potential extension based on performance and need. Specific work schedule with respect to supervision work required shall be notified upon commencement of services.

H. FACILITIES TO BE PROVIDED BY THE CLIENT

If required, the Client shall make available to the Supervisor Office space and other facilities such as computers at the ME. Other facilities will include facilitation of site access permits, providing construction schedules, location maps, concepts and engineering designs for the Solar PV plant. Other information and construction schedules of contracts ongoing in the same area/site.