

NOTICE INVITING BUDGETORY OFFERS

Name of Work	"Supply, Installation, Testing and Commissioning of Solar illumination system at Mooring dolphins in MPA".
Budgetary Quotation No	CME/XEN (E-HR)/ 2025/H16/B13
Date of submission of budgetary quotation	On or Before 20/08/2025
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EXECUTIVE ENGINEER (E-HR)
MORMUGAO PORT AUTHORITY

1. GENERAL

There are six nos. of mooring dolphins installed by the Port in mid-waters to facilitate mid-stream loading and unloading operations of cargo. Each mooring dolphin has a square deck area measuring 14 meters by 14 meters, totaling 196 m². At the center of each dolphin is a concrete pedestal, 2.2 meters in height, with a cross-sectional dimension of 40 cm x 40 cm. This pedestal is intended to support the lighting arrangement. Each dolphin is equipped with six (6) bollards of 250-ton capacity three on each side for securing the mooring ropes of vessels. Additionally, there are three (3) bollards of 10-ton capacity located on the approach side of each dolphin to assist in the berthing of smaller crafts (Drawing of Mooring Dolphin is enclosed).

The mooring dolphins are located approximately 500 meters from the Port Craft Jetty, near the oil berth. Currently, there is no illumination system installed on the mooring dolphins. During berthing and un-berthing operations, particularly at night, the mooring ropes are manually secured to the bollards by marine department personnel. In the absence of proper lighting, this operation becomes hazardous due to poor visibility, posing significant safety risks to the workforce.

As a permanent and sustainable solution, it is proposed to install a solar-powered lighting system on all mooring dolphins to ensure adequate illumination during night time operations and to enhance safety and operational efficiency.

2. SCOPE OF WORK

Supply, Installation, Testing, and Commissioning (SITC) of Solar Illumination System at Mooring Dolphins

The work involves supply, Installation, Testing and Commissioning of Solar illumination system at 3 nos. Mooring dolphins in MPA and comprehensive maintenance of the system for 3 years after the guarantee period of two years from the date of installation and commissioning.

The contractor shall be responsible for the supply of the following materials as per the specified technical specifications:

- i. Supply of an integrated solar light as per the technical specifications.
 - LED Fixture: 70W
 - Backup Time: minimum 12 hours at full wattage.
 - Solar Panel and Battery shall be Integrated within the luminaire housing.

- IP rating: minimum IP 66
 - Luminous Efficiency: ≥ 120 lumens/watt.
 - Colour temp: White light
 - Fully auto on/off operation based on the illumination level.
 - Cast iron body for corrosion resistance and robustness.
- ii. Fabrication and supply of mounting arm from SS 316 pipe per the dimension given below:
- Maximum Diameter: 40mm
 - Wall Thickness: 5mm
 - Length: 1000mm
 - Bend specification: As per site requirement .
- iii. Fabrication of mounting clamp from SS 316 plate with a 5mm thickness, suitable for a 40mm pipe.
- iv. The mounting arms and clamps shall be corrosion-resistant, durable, and suitable for long-term use in marine environmental conditions
- v. Supply of SS Anchor Bolts, each with a diameter of 10mm and a length of 100mm.
- vi. The contractor shall supply and install solar blinkers along with all necessary accessories on top of 2.2 meter pedestal on each mooring dolphin for marine signalling. All components and materials required for installation of these blinkers are in the scope of contractor. Material used shall be corrosion resistant and shall withstand harsh saline environmental condition. Contractor shall provide suitable corrosion resistant mounting bracket for its installation. The blinkers shall be LED type, designed as self-contained units with integrated solar panel, rechargeable battery, and LED light source, capable of reliable and continuous autonomous operation without any external power supply.
- vii. Installation and Commissioning**
- The contractor shall be fully responsible for the installation and commissioning of the solar street lighting system at the specified 03nos. mooring dolphins. The scope of work includes, but is not limited to, the following activities:
- a. The contractor shall complete the installation of the new integrated solar street light system at each designated mooring dolphin location, with a total of four (4) light fittings to be installed on each dolphin.
 - b. Fix the fabricated SS 316 mounting arm securely onto the existing pedestal of size 400mm x 400mm x 2200mm at each mooring dolphin.
 - c. Mount the integrated solar street light fixture onto the installed arm using the fabricated SS 316 mounting clamp.
 - d. Secure the entire assembly using the supplied SS anchor bolts to ensure stability and resistance to environmental factors.

- e. Commission each unit to ensure that all integrated components including the solar panel, battery, and LED fixture are functioning properly and delivering the specified illumination level and minimum backup time of 12 hours at full wattage.
- f. Test and confirm all automatic functions such as dusk-to-dawn operation and light sensor-based ON/OFF functionality.
- g. Special care must be taken to prevent damage to MPA property during the installation and commissioning process.
- h. The contractor is responsible for the safe removal and shifting of all existing solar street light equipment from mooring dolphins. This includes:
 - Carefully dismantling the existing solar panels, light fixtures, batteries, and associated wirings.
 - Transportation of dismantled items to the MM Division of Mormugao Port Authority.

Note: Transportation for both man and material from berth to the mooring dolphins will be provided by the Port. However, the contractor must submit a written request at least two (2) days in advance to avail of this facility.

3. Guarantee Period:

- a. All equipment shall be guaranteed for a period of Twenty Four (24) months, starting from the date of commissioning. This guarantee shall include replacement of any faulty parts at the contractors risk and cost without any additional cost to MPA.
- b. During the guarantee period, the contractor shall carry out cleaning of the solar panels and inspection of the entire system once every four (4) months to ensure proper functioning.

4. For Comprehensive Maintenance Contract(CMC)

The contractor shall carry out following works during the 3 years of CMC period.

- a. Preventive maintenance
The contractor shall carry out preventive maintenance once every four (4) months, which shall include the followings
 - Thorough inspection of the entire system to identify any signs of wear, corrosion or damage and to ensure that all components are securely mounted and functioning as intended.
 - Cleaning of all solar panels to remove dirt, salt deposits and any other debris that may reduce efficiency.

- Verify that the solar street lights are operating correctly, including the automatic dusk-to-dawn function and the specified illumination level. The backup time shall also be tested periodically to ensure that the battery maintains the required charge capacity.

b. Breakdown and Corrective Maintenance

- The contractor is responsible for rectifying any faults in the system, at no extra cost to Port. All replacement parts must meet or exceed the original technical specifications.
- The contractor must respond to a breakdown call within 24 Hrs.
- Any damage to the mounting arms, clamps, or anchor bolts will be repaired or replaced by the contractor to ensure the structural integrity and safety of the installation.

5. MINIMUM ELIGIBILITY CRITERIA

The Bidder shall have successfully carry out the SITC of street lights or SITC of solar power plant for last 7 (Seven) years ending last day of month previous to the one in which quotations are invited.

6. SPECIAL TERMS AND CONDITIONS

- i. The Contractor shall commence and complete the work as per the BOQ and technical specifications.
- ii. The Contractor shall complete the work in all respect to the satisfaction of the Engineer-In-Charge or his representative.

7. Security Deposit/ Performance Guarantee:

The Contractor shall furnish a Security Deposit equivalent to 10% of the total cost for the 'Supply and Installation of Solar illumination system at Mooring dolphins in MPA'. This deposit may be submitted in the form of a Demand Draft, NEFT/RTGS, Insurance Surety Bond, and Fixed Deposit Receipt from a commercial bank, or a Bank Guarantee (BG) issued by any nationalized bank with a branch in Vasco, and encashable at a local branch in Vasco, in the prescribed format.

Upon successful commissioning and testing of the system, the Security Deposit shall be converted into a Performance Security. This Performance Security shall remain valid for the entire Guarantee Period of 2 year.

8. OTHER TERMS AND CONDITIONS

- i. The firm should engage skilled service personnel with the relevant required tools and instruments for commissioning the subject work.
- ii. The Contractor personnel engaged in the work shall follow all safety, security and General Rules enforced by Mormugao Port Authority (MPA) and the firm only shall be responsible for the same.
- iii. MPA will not be responsible for any loss or damage of the men / materials / tools / plants engaged by the firm during the work at site / transportation.
- iv. Necessary entry passes shall be obtained by the firm at their own cost with the approval of Port Officials.

9. Payment terms

The complete payment for the SITC part will be made after the successful supply, installation, testing, and commissioning of lighting systems.

During the CMC period, payment will be made every 4 months, following the successful completion of each period of service under the CMC.

10. SAFETY:

- a) The contractor shall indemnify MPA against any violation of safety laws, rules and regulations while carrying-out operations and maintenance as required by the contract.
- b) No unauthorized person should be allowed to work on the work site.
- c) The Contractor shall at his own expenses provide all safety gears for all labours engaged during the work.

- d) The workforce deployed under this contract will be provided and use all the necessary safety gears and equipment for the job.
- e) Bidder/deployed staffs will follow all the required safety procedures while executing the job.
- f) They indemnify the Port for any accidents/incidents while carrying out the contract.
- g) All precautions to ensure safety of workmen must be taken while execution of work. Traffic rules should be strictly followed to avoid accidents & unforeseen incidents.

PRICE SCHEDULE (BILL OF QUANTITIES)

PART – A

For SITC

Sr.No	Description	Qty	Unit	Rate ₹	GST (%)	Amount ₹
1	Supply of Integrated Solar Street Light with inbuilt Solar Panel, Battery & LED Fixtures of 70W with 12 Hours of back up time as per the technical specifications.	12	Nos			
2	Fabrication of solar street light mount arm using SS 316 pipe with a maximum diameter of 40mm and a wall thickness of 5mm. The pipe, shall be 1000mm in length and must be bent to a 60-degree angle precisely 500mm from one end.	12	Nos			
3	Fabrication mounting clamp in SS 316 plate with thickness of 5mm suitable for 40mm pipe.	24	Nos			
4	Supply of SS Anchor Bolt of diameter of 10mm and length of 100mm.	48	Nos			
5	Installation and commissioning of Solar street light at Mooring	12	Nos			

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ELECTRICAL HARBOUR SECTION

	dolphins.					
6	Removing and shifting existing Solar Panels, Light fixture, Battery, wiring etc all item from Mooring dolphin to MM Division of MPA.	3	LS			
7	Supply of integrated solar based Led type blinkers Suitable for marine signaling applications.	6	Nos			
8	Installation of the above solar blinkers on each mooring dolphin, as per the scope of work. The installation shall include all materials, fixtures, Mounting bracket and accessories required.	6	Nos			
Sub Total						

PART – B

For CMC

Sr.No	Description	Qty	Unit	Rate ₹	GST (%)	Amount ₹
1	CMC for Solar illumination system at Mooring dolphins as per the specifications.	36	Months			

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ELECTRICAL HARBOUR SECTION**

Sub Total B	
NET TOTAL = TOTAL OF [(PART A) + (PART B)]	

(In Words

Rupees _____

_____ only)

Note:

- The quantities specified in the Bill of Quantities (BOQ) are indicative; however, payment shall be made based on actual quantities executed at site.
- The offered rates shall be inclusive of all taxes and duties except GST which will be paid as extra as applicable. However, any new tax will be imposed by State/Central Govt. and same will be reimbursed on producing documentary proof.