

MORMUGAO PORT TRUST
ENGINEERING MECHANICAL DEPARTMENT

NOTICE INVITING BUDGETORY OFFERS

Name of Work	" Illumination of Mooring Dolphins using solar power"
Date of submission of offers	On or before 23/02/2017 at 1430 Hrs.
Address for communication:	SE(E-Hr) Engineering Mechanical Dept., Mormugao Port Trust, Administrative office, Mormugao, Goa – 403802.
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Website	www.mptgoa.com

SUPDTG ENGINEER(E-HR)
MORMUGAO PORT TRUST

TECHNICAL SPECIFICATIONS

1.0. GENERAL

Mormugao Port Trust invites Budgetary Quotations for the work of “**Illumination of Mooring Dolphins using solar power**”.

There are 6 Nos Mooring Dolphins installed by the Port in mid waters for carrying out mid stream loading/unloading operations of cargoes. Each Mooring Dolphin has square floor dimensions of 14mx 14m admeasuring 196 m² .There is a central concrete pedestal of height 2.2.mts and having a navigational light on top of it with the cross sectional dimension of the pedestal as 40 cm x 40 cm. There are 3 Nos Bollards of 250 T capacity on two sides of the dolphin totaling to 6 Nos. bollards to fasten the ropes of the ships. Besides these Bollards, there are additional 10T capacity 3 Nos. bollards towards the approach side of the dolphin, to facilitate berthing of smaller crafts. The Dolphin is around 500 meters away from Port craft jetty near oil Berth.

SCOPE OF WORKS:

1. The work involves:-
 - a. Design, supply, installation and testing of solar power plant of around 1 KW on 1 no. Mooring dolphin on trial basis within 4mx 4m (area admeasuring 16m²). The total area of the Mooring Dolphins is 14m x14m (196 m²).Sketch for the same is attached. The solar Power plant is to be installed at the base of the pedestal at the centre.
 - b. Supply, installation and commissioning of photo voltaic panels with 25 years of power generation capacity.
 - c. Fabrication and fixing of mounting base structure for the solar power plant and light fixtures using anodised aluminium material with necessary SS nut bolting system. The entire structure with suitable solar panels should be able to withstand the max. Wind speed of 200 kph. Also the nuts and bolts used for fastening the solar panels modules should be of SS to prevent rusting due to high salinity.
 - d. 3 Nos LED Light fixtures in the range of 48 W to 75 W of IP 67 or IP68 rating of the generated power supply. The light fixtures should be fixed on the concrete pedestal below the height of installed navigational light in three different directions as indicated in the drawing. The lux level within the total area of Mooring Dolphin should be averaging around 25 lux.
 - e. The switching of LED luminaries should be automatic to provide continuous illumination from 18.30 hrs to 6.30 hrs and LED lights should remain switched off from 6.30 hrs to 18.30 hrs or as per variations in seasonal day light conditions.

- f. Design, Supply, installation, testing and commissioning of IP67/IP68 weather proof battery bank box with suitable tubular VRLA batteries with 75% depth of discharge.
- g. Supply, installation, testing and commissioning of IP67/IP68 rated panel for battery charging circuit and supply distribution to LED light fittings. The designed charging circuit should be with suitable charge controller to prevent battery overcharging, solar reverse charging protection, solar reverse-connection protection, battery over discharge protection and battery reverse-connection protection.
- h. Necessary cabling work for the entire setup as per IS standards and by complying to all statutory regulations in force.
- i. Providing suitable marine earthing to the entire setup as per the design requirement.
- j. The entire solar setup should have 3 days autonomy. The back-up provided should be irrespective of cloudy/ rainy conditions. The back-up should be of around 24 hours for a load of around 250 watts.
- k. Contractor is required to make his own arrangements for necessary electrical supply on Mooring Dolphins as required for installation. However necessary Port Tug/craft launch will be provided without manpower to transport the materials as required from Port Craft jetty at MPT to Mooring Dolphin.
- l. The contractor should adhere to necessary safety guidelines/regulations including insurance of workmen if need be while working in marine conditions.

2.0. INSTALLATION AND COMMISSIONING

Installation and commissioning should be carried out to the satisfaction of the Engineer in charge.

Illumination of Mooring Dolphins

BILL OF QUANTITIES

SR.NO	DESCRIPTION	QUANTITY	RATE	AMOUNT
1	Design, supply, installation, testing and commissioning of solar power plant of around 1 KW on 1 no Mooring dolphin with 03 nos luminaries and allied accessories	1		
		TOTAL		

(In words Rupees _____
_____)

Note: The offered rates shall be inclusive of all taxes except Service Tax which will have to be paid/ reimbursed by MPT as applicable. However, any new tax will be imposed by State/Central Govt. and same will be reimbursed on producing documentary proof.