

TECHNICAL SPECIFICATIONS

1.0 SCOPE OF WORK:

1.1 Port intends to retrofit 1 no. High mast by replacing 11 nos. 400W HPSV fittings (having total 18 nos. luminaries) with LED fittings of 200W and above, as a pilot project. Detailed technical data of existing high mast is given below.

2.0 TECHNICAL DATASHEET FOR EXISTING 30 MTR HIGHMAST WITH 18 LUMINAIRE

No. of Fittings : - 11 nos.

HPSV 2x400W fittings: - 7 nos.

HPSV 1x400W fittings: - 4 nos.

Make : - "Surya"

3 (a) HIGHMAST STRUCTURE

- a. Height of mast (mtrs.) : 30
- b. Name of the manufacturer : M/s Crompton Greaves
- c. Base Dia (mm) : 630
- d. Metal Protection treatment for Mast section : Hot dipped galvanized

(b) FOUNDATION DETAILS

- a. Type of foundation : RCC foundation type (M-25 concrete mix)
- b. Size of foundation : 1220 x 1220
- c. No. of foundation bolts: 10 nos.
- d. PCD of foundation bolts : 650 mm
- e. Bolt Dia : 30 mm

(c) LANTERN CARRIAGE

- a. Diameter of carriage ring: 710 mm (inside)
- b. Construction: 8 arms, welded 2 sections
- c. No. of joints: 2
- d. Arm pipe dia : 60 mm
- e. Length of arm : 835 mm

(d) WINCH

- a. Type: Double Drum
- b. No. of drums/Winch: 2

(e) WIRE ROPE

- a. No. of ropes: two
- b. Centre core material: Stainless steel
- c. Dia : 6 mm

(f) MOTOR

- a. Wattage/HP: 1.5HP
- b. No. of speed : Single speed
- c. Reversible: yes
- d. Time taken for raising/lowering: 20 mins. Approx.

4.0 The scope of work involves, Dismantling of existing light fittings, Supply, installation, testing and commissioning of new LED light fixtures of approved make for replacing the existing conventional lights of High Mast as per the tender specifications.

5.0 LUMINARIES

Luminaries shall be LED Lamps 200W and above suitable for installation on high masts (Outdoor lighting), Make **Bajaj/Phillips/Crompton/Wipro** only. The luminaries shall be tested as per Indian standards (IS) and test reports shall be submitted along with the materials.

The LED lamps and LED luminaire shall be as per IS Standard 16102(Part-I):2012, 16102(Part 2):2012, 16107 (Part I) 2012 and 16105-1:2012.

6.0 SPECIFIC REQUIREMENTS

Vendor shall submit the following

- i) Graphic Grid Design (Grid), indicating the number of lamp and fittings with wattage, coordinates and aiming angles with Beam Diagram so as to achieve desired **illumination level of minimum 15 lux and average 25 lux** on the ground around a diameter of 100 meters from the High Mast. The ground is asphalted.
- ii) The level of illumination and quality measurements to be achieved by General Principles of lighting as per IS 6665-1972. Light fixtures shall be with IP66 protection. The Minimum Power factor desired for light Fixtures is 0.9
- iii) Make of the material, model, catalogue no., LED Specifications like make of LED

chip, colour temp.etc, name and full address of the manufacturer and complete details.

In case if the offer is submitted by a contractor for executing such works who are not the manufacturers or authorized dealers, the above details shall be sought from the manufacturers of Approved make only

7.0 SITE AND SYSTEM PARTICULARS

7.1 SITE CONDITION:

The equipment and the materials to be supplied and installed by the vendor shall be suitable for continuous and trouble free operation under the following site conditions:

Location: Berth No. 10, Mormugao Port Trust

Temperature: Max. 38 degree C

Relative Humidity: Varying between 65% in dry season to 95% in rainy season

Seismic condition: As applicable to the location

Atmosphere: Saline. Coal and other bulk cargo is handled within 1 km.

Wind load Wind Direction: Max. 60m/sec to be assessed further during installation

7.2 SYSTEM PARTICULARS:

The equipment and materials to be supplied by the vendor shall be designed for the following

Power supply:

Voltage: 415 ± 10%

Frequency: 50 Hz ± 3%

System neutral Earthing: Solidly Earthed