

## **NOTICE INVITING EXPRESSION OF INTEREST**

Name of Work	<b>NAME OF WORK: “DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF SHORE TO SHIP POWER SUPPLY AT MPA.”</b>
Date of submission of budgetary quotation	On or Before <b>26.03.2026 at 15:00 Hrs.</b>
Address for communication:	Executive Engineer (E-HR), 2nd floor, Electrical Harbour section, Mormugao Port Authority, Admin. Building, Headland sada Vasco-da-Gama Goa – 403804
Contact Details	Phone : (0832) 2594205, 2594253 Email: sandeep.gupta@mptgoa.gov.in
Website	<a href="http://www.mptgoa.gov.in">www.mptgoa.gov.in</a>

**EXECUTIVE ENGINEER (E-HR)  
MORMUGAO PORT AUTHORITY**

**MORMUGAO PORT AUTHORITY**  
**MECHANICAL ENGINEERING DEPARTMENT**

**EXPRESSION OF INTEREST [EOI] FOR DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF SHORE TO SHIP POWER SUPPLY AT MPA.**

Mormugao Port Authority intends to invite Expression of Interest from firms who have executed and successfully completed the works of Design, Supply, Installation and Commissioning of Shore to Ship Power supply for Port's or other major entities. The Expression of Interest (EOI) documents can be down loaded from the Mormugao Port Authority website [www.mptgoa.gov.in](http://www.mptgoa.gov.in). Copy of EOI documents is also available in **Executive Engineer (E-HR)**'s Office during all working days.

The complete EOI (Expression of Interest) shall be submitted with supporting documents on or before **26.03.2026**.

**EXECUTIVE ENGINEER**  
**MORMUGAO PORT AUTHORITY**

# **EXPRESSION OF INTEREST [EOI] FOR DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF SHORE TO SHIP POWER SUPPLY AT MPA**

## **1.0 GENERAL**

MPA intends to undertake Design, Supply, Installation, Testing and Commissioning of Shore to Ship Power Supply at MPA. To facilitate preparation of detailed tender documents, reputed and experienced firms are invited to submit their Expression of Interest(EOI).

Scope of EOI Submission:

Interested firms shall provide the following:

- a. Technical Scheme
  - i. Concept design or system architecture
  - ii. Process flow/ technical methodology
  - iii. Key equipment or system components.
- b. Technical specifications
  - i. Detailed specifications of proposed equipment/materials.
  - ii. Applicable standards and performance parameters.
- c. Preliminary Bill of Quantities(BoQ)
  - i. Major equipment list
  - ii. Estimated quantities
  - iii. Indicative technical configuration
- d. Company Credentials
  - i. Company profile
  - ii. Relevant project experience
  - iii. Key technical staff details

## **2.0 INTRODUCTION**

At present, Mormugao Port Authority has four feeder pillar panels installed at Breakwater and mole berths for providing shore power supply to Coast Guard vessels. The installed capacities of these panels are 415 V, 800 kVA – 02 Nos. and 400 kVA – 02 Nos.

The LT supply to these feeder pillar panels is presently fed from the existing outdoor compact substation (1000KVA, 11kV/433V) at Harbour, Mormugao- Goa. This compact substation is fed from 11kV Headland substation which is at a distance of about 1.5 kms. The feeder pillar panels are located at approximate distances of 225 m, 300 m, 650 m, and 700 m from the compact substation. The feeder panel no.1 is connected through 2 runs of Al 4c x 150sq.mm. The feeder panel no 2 is connected through 3 runs of Al 4c x 240sq.mm. The feeder panel 3 is connected through 1 run of Al 3.5c x 240sq.mm and feeder panel no 4 is connected from feeder panel no 3 through 1 run of Al 3.5c x 240sq.mm. Existing layout enclosed at **Annexure-I**

Issues faced:

1. Due to the long cable runs, significant voltage drop has been observed at the feeder pillar panels.
2. Further, when large Coast Guard vessels are connected to the feeder panels, during the initial start of kick load voltage dips significantly. Consequently to which, at times, failure of the critical electronic components has been noticed by the vessels.
3. In addition, voltage fluctuations in the incoming supply from the Goa Electricity Department have also been observed, which further affects the stability of the shore power supply system.
4. In addition to the above issues, progressive deterioration of the shore-to-ship cable system has been identified. The existing cables are laid in the trench at the berth area, which gets filled with rainwater and seawater during the monsoon season, leading to adverse environmental exposure and accelerated cable degradation.

**Port intends to replace the existing system after the Compact Substation to a new upgraded system with a stabilized voltage output at all the 4 feeder pillar panels with 500KVA capacity each.**

### **3.0 SCOPE OF WORK:**

The EOI aims to:

- a. Identify suitable technical solution & appropriate electrical scheme to ensure stable and reliable power supply at all 4 feeder panels for Coast Guard vessels during berthing operations.
- b. Address the issue of voltage drop and voltage fluctuations experienced at the existing feeder pillar panels due to long cable distances and supply variations.
- c. Ensure the electrical system is capable of handling high inrush currents during starting of large vessels without causing significant voltage dips.
- d. Improve the shore-to-ship power distribution infrastructure, including replacement of existing cables and protection systems exposed to harsh marine conditions.
- e. Develop a robust cable routing and protection arrangement suitable for areas prone to water accumulation during monsoon, ensuring long-term reliability of the electrical system.

The bidder will be responsible for the following:

**1. Design:**

- Assessment of electrical infrastructure and load requirement of 500KVA, 3 phase LT voltage selectable in the range of 400V to 450V, 50Hz for shore power supply to Coast Guard vessels.
- The 11kV power supply to the proposed Shore to Ship Power Supply (SSPS) system can be tapped from the incoming side of Compact Substation VCB panel. The voltage fluctuations of the incoming 11kV power supply will be in the range of 10-12kV. The design should be able to correct and provide stabilized voltage level selectable in the range of 400V to 450V, 50Hz to all 4 feeder panels while starting and running condition.
- Preparation of detailed engineering scheme including Single Line Diagrams (SLD), system layout, cable routing, protection schemes and earthing design.
- All the equipment's should cater to harsh atmospheric conditions, such as heavy rains, slashing sea waves, gusty winds upto 120 kmph, high salinity etc.

- The proposed cables shall be laid in the existing concrete trench. The design should include laying of cables with suitable cable trays and also to protect the cables/trays even when the trench is filled with rain/sea water.
- Design should be proven for reliability with desired features & the same to be approved by MPA before proceeding further regarding the project.
- All the equipment's need to be designed on the available space at berth without causing any hindrance to berthing of ships and modifications to the berth structure.
- Design earthing system for Ship to Shore Power Supply(SSPS) which may have to install at existing Berth. It may be noted that the SSPS consists of HT/LT transformers, SFC, HT/LT panels etc. It is envisaged to be installed at the farthest point which is 700 mtrs away from the land. The earthing system should be designed as per relevant IS standards.

## **2. Supply:**

- Supply of all equipment's along with 04nos feeder pillar panels, HT/LT cables, protection system, earthing, etc., as necessary for the electrical scheme to achieve the desired results. Feeder panels should be rated for minimum 500KVA capacity.

## **3. Installation:**

- Installation and erection of all electrical equipment's including panels, cables, suitable external enclosures & associated equipment's to achieve the desired results. External & exposed devices should have suitable IP protection.
- Laying of cables through trenches, ducts or suitable protective systems considering coastal environmental conditions.

#### **4. Testing and Commissioning:**

- Carrying out all pre-commissioning tests of transformers, panels, cables and protection systems as per relevant standards and statutory requirements.
- Commissioning of the complete system and demonstration of satisfactory performance under operational conditions including vessel starting loads.

#### **5. Documentation:**

- Submission of drawings, test reports, commissioning reports, operation and maintenance manuals, and as-built documentation.

#### **6. Warranty & Maintenance:**

- Providing a minimum **1-year warranty** on all equipment and installation works.
- Comprehensive Maintenance contract (CMC) for 5 years post-warranty of one year.

**NOTE: Entire work is to be carried out on Turn-key basis.**

### **4.0 BUDGETARY OFFER**

The firms shall submit their budgetary offer along with all technical details and detailed scope of work. The budgetary offer shall contain detailed electrical scheme, scope of work & item-wise breakup for the entire system.

### **5.0 PERIOD OF VALIDITY**

The budgetary offers of the EOI firms shall remain valid for a period of **SIX MONTHS** from the date of opening of the EOI.

### **6.0. EOI DOCUMENT**

The firms are expected to examine the terms and conditions and broad scope of work in the EOI documents. Firms may visit the site to get acquainted with the site conditions before preparing the detailed scope of work and the budgetary offer.

## **7.0. GENERAL TERMS AND CONDITIONS:**

- 1) On award of work, the time period for completion of the work is 180 days. The work shall be contracted out through open tender under two cover system.
- 2) The price quoted by the firm shall be kept fixed for the entire contract period. 70% payment of the total contract price shall be released after supply of all material at site. Balance 20% of the amount shall be released after successful commissioning & 10% after handing over.

## **8.0 EOI SUBMISSION**

- i) The EOI shall be submitted on or before **26.03.2026 at 15:00hrs** containing the budgetary offer along with technical details with terms and conditions either by hand or post or by e-mail.
  
- ii) The EOI shall be addressed to the following address:

**Executive Engineer (E-HR),**  
2<sup>nd</sup> floor, Electrical Harbour section,  
Mormugao Port Authority,  
Admin. Building,  
Headland sada  
Vasco-de-Gama  
Goa – 403804  
Email : sandeep.gupta@mptgoa.gov.in

## **BILL OF QUANTITIES (Indicative)**

Name of the Work: **DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF SHORE TO SHIP POWER SUPPLY AT MPA**

<b>Sr. No.</b>	<b>Description of work</b>	<b>Unit</b>	<b>Qty.</b>	<b>Rate per Unit (Exclusive of GST)</b>	<b>Amount exclusive of GST</b>	<b>GST %</b>
1.	Supply, Installation, Testing & Commissioning of 11kV VCB, including CT, PT, Protection relays, metering, indications etc.	Nos.	02			
2.	Supply, Installation, Testing & Commissioning of Step down transformer 11kV/433V, 1000KVA	Nos.	02			
3.	Supply, Installation, Testing & Commissioning of Static Frequency Convertor, 1000kVA including Air Conditioners, accessories etc.	Nos.	02			
4.	Supply, Installation, Testing & Commissioning of LT isolation transformer, 1000KVA	Nos.	02			
5.	Supply, Installation, Testing & Commissioning of LT outgoing panel with 01no. incoming ACB, 4P, 1600A & 03nos outgoing ACB, 4P, 800A, metering, indications in each panel	Nos	02			
6.	Supply, Installation & Commissioning of Containerized station of suitable size to accommodate HT & LT transformers, SFC, VCB's, LT distribution panels, fire alarm system with exhaust system and accessories. Including civil works	Nos	02			
7.	Supply, Installation, Testing & Commissioning of stainless steel Feeder pillar panel with incoming 800A MCCB 4P & 02 nos outgoing MCCB 630A, 4P, and 1 no outgoing MCCB 400A, 4P each including civil works	Nos	04			
8.	Supply, Laying, Termination & Commissioning of XLPE, 11kV, 3c x 185sq.mm (2 runs for each 11kV	mtr	1800			

	panel), round armoured Aluminum cable. 08nos Terminations.					
9.	Supply, Laying, Termination & Commissioning of XLPE, 1.1kV, 3.5c x 300sq.mm (2 runs shall be laid for each feeder panels), armoured Copper cable including laying the cables across the berth through GI pipe of suitable size, civil works. 16nos Terminations	mtr	1000			
10.	Supply, Installation, Testing & Commissioning of ladder type FRP cable Tray of suitable size to accommodate both HT & LT cable using suitable brackets, clamps and covers	mtr	750			
11.	Supply, Installation, Testing & Commissioning of miscellaneous works including cable jointing, terminations for looping cables inside container, looping cables for HT/LT panels, transformers, SFC etc inside container, busbar, cable glands, lugs, brackets, clamps, all civil works.	LS	01			
12.	SITC of earthing system for neutral/body of HT/LT panels, HT/LT transformers, SFC, Container etc.	Nos.	20			
13.	Removal of all existing cables from trench laid for Shore supply and shifting the same to MM store depot at Baina	LS	01			
14.	CMC charges for 5 years after Guarantee period of 1 year	Year	5			
<b>TOTAL (Exclusive of GST)</b>						

(In words Rupees \_\_\_\_\_ only)

**Note:**

- 1) The quantities given in this schedule are for indicative purpose only. However the bidder is free to modify the BOQ as per site requirements and quote for the same.
- 2) The design should ensure to correct and provide stabilized voltage level selectable in the range of 400V to 450V, 50Hz to all 4 feeder panels while starting and running condition

- 3) Bidders are required to furnish major equipment list, estimated quantities, detailed specifications of proposed equipment/material, applicable standards and performance parameters and indicative technical configuration.**
- 4) Typical Bill of Quantity (BOQ) with HT Power Panels and Container Static Frequency Converter Unit with step down Transformer, Isolation Transformer and LT Panels are given for reference purposes only.**
- 5) All required civil and structural works, leveling, back filling, foundations, Containers, drains and trenches are in the scope of bidder.**
- 6) However the bidders are free to design their own sequence of construction and furnish the details in the relevant format attached with the EOI. The MPA reserves their right to accept the methodology suggested by the Bidders and/or direct them to revert the methodology indicated above, if in the opinion of the MPA, the alternative methodology suggested by them shall not meet the intended purpose.**
- 7) Firms may visit the site to get acquainted with the site conditions before preparing the detailed scope of work and the budgetary offer.**
- 8) The rates quoted above shall be exclusive of GST.**

## EXISTING LAYOUT

## Annexure-I

