



आईएसओ 9001-2015 पत्तन  
AN ISO 9001-2015 PORT

**MORMUGAO PORT AUTHORITY**  
**ENGINEERING MECHANICAL DEPARTMENT**  
**ELECTRICAL HARBOUR (HEADLAND) SECTION**

**NOTICE INVITING BUDGETORY OFFERS**

Name of Work	<b>“PROVIDING, TESTING AND COMMISSIONING OF EARTH STATIONS FOR VARIOUS INSTALLATIONS IN PORT AREAS”</b>
Date of submission of budgetary quotation	On or Before <b>24.08.2023</b> at <b>15.00 Hrs.</b>
Address for communication:	Executive Engineer (E-HR), 2nd floor, Mechanical Engineering Department, Mormugao Port Authority, Admin. Building, Headland sada Vasco-de-Gama Goa - 403804
Contact Details	Phone : (0832) 2594207, 2594271 Email : <a href="mailto:mohamed.shaik@mptgoa.gov.in">mohamed.shaik@mptgoa.gov.in</a>
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**EXECUTIVE ENGINEER (E-HR)**  
**MORMUGAO PORT AUTHORITY**



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**Sub: "PROVIDING, TESTING AND COMMISSIONING OF EARTH STATIONS FOR VARIOUS INSTALLATIONS IN PORT AREAS"**

**Ref: Budgetary Quotation No. CME/XEN(E-HR)/HL03/03**

Mormugao Port Authority intends to carryout work of **"PROVIDING, TESTING AND COMMISSIONING OF EARTH STATIONS FOR VARIOUS INSTALLATIONS IN PORT AREAS"**.

As such, it is requested to kindly furnish budgetary quotation for the same (Scope of work, technical specifications are enclosed at Annexure-I and Price Schedule enclosed at Annexure- II).

Your budgetary quotation should reach to this office on or before **24.08.2023** at **1500** Hrs.

**Thanking you,**

Yours sincerely,

**EXECUTIVE ENGINEER (E-HR)**



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**ANNEXURE-I**

**TITLE OF WORK: “PROVIDING, TESTING AND COMMISSIONING OF EARTH STATIONS FOR VARIOUS INSTALLATIONS IN PORT AREAS”**

**1. GENERAL**

Mormugao Port Authority proposes to provide approximately 200 nos earth stations for various installations in port areas in accordance with IS 3043 and as per technical specifications.

**2. SCOPE OF WORK**

- I. Earthing shall be provided for various installations in Harbour and Headland areas.
- II. The contractor shall identify suitable location along with the Engineer – In charge to excavate for providing the earth station.
- III. Connection from electrode to the termination point shall be via shortest possible route.
- IV. For installation of GI wire on the walls, PVC pipes/casing casing shall be used and dressed properly with GI clamps at an interval of every one meter. GI strip shall be clamped on wall using GI clamps at an interval for every one meter. All materials used for connecting the earth lead with electrode shall be of GI.
- V. Connections and joints for earth conductors shall be carried out using GI material only. Sharp bends required in GI strip should be formed by the use of a bending machine.
- VI. Excavation shall be carried out by taking extreme precaution so as not to damage any cable in the vicinity. After excavation broken lumps and stones, if any, are to be removed from the earth pit and disposed properly or as directed by the Engineer-in-charge.

**3. TECHNICAL SPECIFICATION:**

- I. The Earthing shall be carried out by using 40 mm dia. 3 mm thick, 3 meter long GI pipe with GI funnel, mesh and suitable size reducer fixed on the top of the earth electrode. The funnel should be enclosed in a CC chamber of size 400 x 400 x 400 mm above the ground, with Kadappa stone cover.



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- II. The electrode shall have staggered holes of 12-mm dia. and the electrode should be covered 150 mm around with alternate layers of salt and charcoal from the bottom of the pipe to the bottom of the CC chamber.
- III. The connection from the electrode is to be carried out through GI strip of size 50mm x 6mm for installation like substation, DG's and storage sheds etc. Whereas, other areas such as Schools, residential quarters, pump houses etc. GI strips of size 25mm x 5mm shall be used. The earth lead from earth electrode to nearest wall of the building shall be GI strip and from termination point of GI strip to Distribution Box along the wall shall be of GI wire of size 8 SWG. Also connection between GI wire and GI strip to be done by means of GI bolts, nuts & washers. Earthing Strips which are installed below the ground should be covered adequately with insulating sleeve to avoid corrosion.
- IV. The following information shall be displayed with white or yellow paint on the cover depending on location of the earth stations.
  - a. Earth Pit No.....
  - b. Earth resistance.....ohms.
  - c. Date of testing.....

**4. MEASUREMENT OF EARTH PIT RESISTANCE:**

- I. The job includes measuring resistance of the new earth pits after installation using earth tester. Copy of valid calibration certificate and earth testing certificate of the above said earth tester has to be provided to the Port before commencement of testing.
- II. The values shall be tabulated and submitted to Engineer-in-charge.
- III. The individual earth pit resistance value shall not exceed 3 ohms. Earth pits measuring higher than 3 ohms are liable for rejection.
- IV. Testing of earth pit shall be carried out in the presence of Engineer – In charge or his representative.

**5. SPECIAL TERMS AND CONDITION:**

- I. The contractor at his own cost may visit MPA site, before offering budgetary quoting.



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- II. Power supply shall be provided to contractor free of cost at the nearest available point.
- III. All the material required for execution of the work has to be arranged by contractor at his own cost. Connecting new earth pits to existing pits / main earth grid is in the scope of the contractor.
- IV. Necessary entry passes shall be obtained by the firm at their own cost with the approval of Port Officials.



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**ANNEXURE-II**

Name of the Tender: **PROVIDING, TESTING AND COMMISSIONING OF EARTH STATIONS FOR VARIOUS INSTALLATIONS IN PORT AREAS**

Sr. No.	Description of work	Unit	Qty.	Rate per Unit (Rs.)	Amount (Rs.)
1.	Providing GI pipe earthing complete in all respect as per Technical specification, testing and commissioning	No	1		
2	Supply and laying of GI strip size 50mm x 6 mm	m	1		
3	Supply and laying of GI strip size 25 mm x 5 mm	m	1		
4	Supply and laying of GI wire of size 8 SWG	m	1		
	Total				

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

- Note:** 1) The rates quoted above shall be exclusive of GST.  
2) Applicable GST shall be paid to the concerned authority by the Contractor and documentary evidence of the same shall be produced to MPA for reimbursement at actual