

## **4. SCOPE OF WORK WITH TECHNICAL SPECIFICATIONS**

### **4.0. General :**

Mormugao Port Authority (formerly known as Mormugao Port Trust) intends to carry out Non-comprehensive Maintenance Contract for maintenance of Electrical installations at Port for a period of one year.

### **4.1. SCOPE OF WORK:**

#### **4.1.1 Maintenance of Electrical Installations**

1. Manning round the clock 365 days as per minimum qualification requirements & deployment of manpower for attending all Electrical Complaints/maintenance works/O&M electrical activities at all Residential & Non Residential buildings, Pump Houses, all Street & Outdoor Yard Lights, High Masts etc.
2. Attending /rectification /maintenance of all HT/LT complaints of 11 KV substations, Transformers, HT/LT Panels, Feeder Pillars.
3. Maintenance & upkeep of DG Sets & Substations.
4. Attending all Earth leakage complaints, circuit complaints and rectification of the same by using required tools/materials complete. Testing of all Earth Pits of Non Residential buildings & Residential buildings as per IER and submitting the report once in a year.
5. Attending to maintenance/repairs of the Electrical installations so as to make the system operational/functional as required by the Port, rectification of faults within stipulated time and carrying out preventive maintenance as per the direction of Engineer In charge.
6. Cutting/Trimming of tree branches obstructing the HT/LT overhead line (vehicle for the purpose of work will be provided by the Port)
7. Maintenance of outdoor 11 KV Switchyards/Transformer Centres, Cable Network System located at Headland & Hospital substations, which also includes maintenance of about 1000 nos. of various types of quarters and bungalows at Port residential colonies, Port hospital installations, highmasts, office building, Elevators, Generators, pump houses, other installations & utilities at Port Areas.
8. The services also includes circuit modifications, new wiring/circuits/points, attending day-to-day complaints received from the occupants of the quarters, attending to repairs/ installing light fittings, ceiling fans, PCB's exhaust fans, wiring, LT switchgear, HT switchgear, 11KV Transformers, Emergency light system, invertors, STP pertaining to Headland & Hospital substations or any other electrical activity as instructed by Engineer in charge.
9. Attending / rectification of Motors (Flameproof /Non-Flameproof) complaints (except rewinding) checking of control panel, replacement of contactor, MCBs, MCCBs, ACBs, relays, Cut-outs, Fuse wire, cable termination, crimping of lugs, cleaning, coupling/de-coupling, greasing etc. complete.
10. Replacing of burnt out or damaged switches, sockets, holders, switch boards, MCBs, ELCBs, ACB, VCB, ceiling fans, chokes of light fixtures relocation of electrical points etc., and installing the same after repairs, for which materials will be issued by the department, free of cost.
11. Repairs of street lights, lawn lights, highmasts and post top luminaires consisting of HPSV/Halogen lamps/ LED and associated cables & cable laying jobs.

12. A complaint register shall be kept up to date at site (separate for each location of work) by the contractor and the same shall be made available for checking and verification of the work carried out on daily basis. The complaint register has to be countersigned by the EIC atleast once a week.
13. The staff deployed by the Contractor shall carry out repairs/maintenance of any other equipment's/installations other than those mentioned above but required for day to day work as instructed by EIC with the existing manpower.
14. On Port holidays, the staff deployed should attend maintainance/breakdown complaints pertaining to their place of posting as feasible & concurred by EIC.
15. The Scope of work includes labour as directed by the Engineer In Charge(EIC) and any other works assigned by the EIC & Supervisors from time to time.
16. The repairing/maintainance of HT/LT circuit breakers such as VCB, ACB, SFU.
17. Removing, laying/clamping of LT/HT cables underground/overhead/ inside cable trench, connection/disconnection, termination of LT/HT cables or any other electrical activity as instructed by Engineer in charge (except excavation of soil).
18. Shifting of Motors for re-winding from the site to the third party workshop and shifting back after re-winding the same to the site & installing, testing & commissioning. Vehicle to shift material for the purpose of work will be provided by the Port
19. Shifting of electrical switchgears/spares in & around Port area as per operational need.
20. Masonry cutting/drilling works required for electrical points.

#### **4.1.2 Exclusion from the Contractor's scope:**

- a. Repairing of Air Conditioner units, Elevators, Centralised AC systems, CCTV, Computers, Water coolers, telephones, solar panels.
- b. Major repairs of DG set.
- c. Re-winding of coils, motors and alternators.
- d. Making cable straight through jointing work and HT & LT relay testing & calibration.
- e. Excavation/filling of soil, Installation of new HT switchgears, supply of spares for maintainance.
- f. O&M of fire alarm systems.
- g. Civil works such as plastering, plumbing works, and fabrication works.
- h. Replacement of major components shall be taken up by the Port as a measure of preventive maintenance or any augmentation/ modification/additional works for the existing system.
- i. Electrical items/spares parts required for the breakdown/preventive maintenance work to the contractor during the entire currency of the contract.

#### **4.1.3 Contractor's Responsibilities:**

- a. Maintenance of the Electrical Installations, O&M of the installations as per manning pattern in Clause No.4 (minimum qualification requirements & deployment of manpower). Any failure in deployment of Staff as per the Manning Pattern, penalty as per clause No. 4.4. (Damage charges for non-compliances) shall be imposed. The Contractor shall ensure smooth operation of the Electrical Installations throughout the contract period by continuously monitoring the condition and health of the various equipment and systems during the operation. Any abnormal condition noticed in any facility / system / equipment is to be immediately reported to the EIC or his representative.
- b. Maintaining the Maintenance Registers, Attendance Register for the staff, complaint register and Daily work register in the prescribed format of MPA which shall be periodically checked and verified by Engineer i/c. or his representative. The monthly maintenance report of the

Electrical Installations shall be submitted by the Contractor to Engineer i/c every month along with the bill.

- c. Maintaining good liaison and cordial relations with the Port staff and ensuring that the Electrical Installations shall be operated in accordance with the requirement of MPA without prejudice at the time of any eventuality.
- d. The contractor shall ensure consistency of work and work force, correct trouble shooting, good workmanship, follow all safety procedures & regulations and will make all necessary efforts to maintain healthy & cordial environment.
- e. The Contractor or his bonafide representative shall regularly visit the site and meet the Engineer-in-charge to take instructions, monitor operations and status of the ongoing contract and review the records if need be, so as to run the contract efficiently & effectively.
- f. The contractor shall make good any damage done to Port's utilities, equipments, systems and installations.

#### **4.2. SPECIAL CONDITIONS OF CONTRACT**

1. **CONDUCT:** If any of the staff member deployed by the contractor is found to be arrogant, unpleasant or not competent; Port reserves the right to replace the staff members within a stipulated time as instructed by the Port's Electrical Engineer.
2. Ensuring safety and security of all the Electrical Installations during the contract period.
3. Shall provide electrical power free of cost for Port's maintenance activities.
4. Shall inspect the Electrical Installations at regular intervals for checking the health of all the systems. If any problems are noticed, the same will be communicated to the contractor for proper corrective action. The defects mentioned in the inspection report are to be attended & rectified by the contractor immediately.
5. All the scrap generated during the work, shall be suitably disposed of at designated Port site by duly following relevant environmental regulations & standards for which vehicle (truck) for shifting the materials will be supplied by Port.
6. Any damage done to the existing installation, equipment or property of the Port due to negligence shall be entire responsibility of Contractor to repair, rectify or replace the same at his own cost.
7. All the relevant documents sought by the Port shall be furnished by the Contractor before the commencement of contract such as copies of the Electrical license, educational details, ID proof, address proof, contact details etc.
8. It is the sole responsibility of the contractor to get his staff acquainted/trained with the site conditions, operation and maintenance procedure, equipment detail, safety & statutory regulation etc. All the tools required for carrying out the works shall be supplied by the contractor. The Contractor will abide with all relevant safety, environmental & statutory regulations during the entire currency of the Contract.
9. All tools and tackles required for effective maintenance such as Multi meter, Megger, Clip-on-ammeter, Nose Pliers, Cutting Pliers, Adjustable Spanners, Screw Driver set, Allen key set, line tester, etc. or any other tools required besides these shall be provided by the contractor and should be available at site till completion of the contract period. All the meters & testing equipment's, which are used at site, should be periodically calibrated whichever applicable from authorized test laboratory and certificates must be deposited with the Port periodically after they have been recalibrated. Non calibrated equipment should not be used at the work spot under any circumstances.
10. Two wheeler and a cell phone must be provided to each Site technicians for facilitating to attend breakdowns at site.

11. The working hours per person of this contract shall be 8 hrs. (General shift or shift) including Saturdays, Sundays and holidays. However as per situation/emergency, the work hours may extend beyond 8 hours and also on weekly rests/holidays for which suitable compensatory off will be provided as per convenience of work & concurrence of EIC. The deployment of staff whether in general shift or shift shall be at discretion of the Engineer In Charge. For the proper co-ordination during emergency circumstances and for attending the works immediately, the contractor should **have a local office**. The name and address of the local office with name of the responsible contact person duly nominated by the contractor, his mobile no. should be submitted on or before executing the work/Agreement.
12. Tools & tackles required for repair works are to be provided by the contractor for carrying out day to day maintenance during the contract period as given under.
  - a. # Complete set of all sizes double ended ring/tubular spanners, Allen keys, Pliers, Line testers, screw drivers & box spanners.
  - b. # Heavy duty hand gloves.
  - c. # Polypropylene ropes of suitable sizes, safety belts hooks etc. for lifting and handling of equipment's and working at heights.
  - d. # Rechargeable heavy duty torches - 2Nos.
  - e. # Insulation tester preferably 5KV capacity -1No.
  - f. # Multimeter & Tong Tester – 1No. each
13. The contractor can provide any other tools & tackles as necessary.
14. The contractor shall make own arrangements for transport of the manpower to site & vice versa.
15. Providing the following uniform and safety materials to persons engaged by the contractor during the contract period for all the staffs deployed at MPA:-

Sr. No.	Particulars	Qty
1.	Uniform – (Pair of shirt & pant of Terri Coat blue in Colour)	2
2.	Shoes and socks	1
3.	Safety Helmet, belt, hooks	1
4.	Raincoat	1
5.	Washing Soaps	12
6.	Mask	4

#### **4.3. MANPOWER REQUIREMENTS & DEPLOYMENT:**

- a. The Contractor shall depute **Site Technicians --- 07 nos.**, equipped with all tools, safety gears etc. for the contract period. The manpower indicated in the tender is as per the present requirement. However, based on the work load Port may direct the contractor to post additional manpower at short notice. Payment will be made as per actual manpower utilized for the month on Pro rate basis. Out of these technicians, one among them will function as a Supervisor and monitor all maintenance activities in addition to his work as a technician.
- b. **Site Technicians** should have **Electrical Trade ITI certificate from Govt. approved or Govt. recognized institution. They should have a practical experience of not less than 3 (three) years. They should also have valid electrical wireman license issued**

**by local authorized Electrical Inspectorate, for the maintenance of the said electrical equipment's & voltage level.**

**Note: The copy of the valid certificate/license as indicated in the above clauses shall be submitted for verification.**

- c. The Staff shall be deployed to work in the rotational shift duties.
- d. Every staff shall avail weekly off after completing 6 continuous working days.

The shift timings are as follows:

First Shift- From 7.30 A.M. to 3.30 P.M.

Second Shift: - From 3.30 P.M to 11.30 P.M.

Third Shift: - From 11.30 P.M to 7.30 A.M.

General Shift: – From 8.30 A.M. to 5.30 P.M

Note:

- I. The staff will be deployed in rotational shift. The deployment of staff for duty anywhere under Electrical sections of Port Authority shall be executed without any pre-conditions.
- II. Also the staff shall be made available to attend any emergency breakdown without any extra cost after the duty hours, if any.

#### **4.4. DAMAGE CHARGES FOR NON-COMPLIANCES:**

The Contractor will be penalized on following accounts;

- a. In case of failure to deploy manpower to duty as per clause no 4.1.1 & 4.3 of scope of work & man power, the Contractor shall be penalized at a rate equal to the daily wages of the absent workmen. This will be in addition to the pro rata deduction of the workmen charges from the monthly bill.
- b. In case of theft / damage to MPA assets within the assigned working premises of Workmen, on account of any negligence of duty by the Workmen, the Contractor shall make good the damages or replacement as the case may be at his own cost to the satisfaction of the EIC.
- c. The staff deployed for the maintenance of electrical Installations shall be as per the qualifications prescribed at clause No 4.3 in this tender document. If any staff deployed under contract misbehaves/ doesn't obey the orders of EIC, the contractor shall be intimated to issue warning to the concerned staff. If the concerned staff doesn't change his attitude of disobedience/ misbehavior; a second notice shall be served to the contractor, to terminate the concerned staff. The contractor upon receipt of the second notice shall immediately expel the staff from the contract and provide a replacement within 3 days from the date of issuance of the second notice. Wages pertaining to the concerned staff shall not be paid during this period. If the contractor fails to provide a suitable replacement within 3 days from the date of issuance of the second notice, "damage charges due to non-compliance" as per clause No 4.4.a till the replacement is made will be levied.
- d. Contractor's staff shall not claim any type of compensation/Absorption/ Regularization/Benefit (Health related also) of service from this office under Industrial Dispute Act 1947 & Contract Labour Act 1970. Same shall be ensured by the Contractor. **Further, the contractor shall ensure that, the deployed staffs are not affiliated to any unions, federations, banned organizations & outfits etc.**

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

