

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

**NOTICE INVITING BUDGETORY OFFERS**

Name of Work	<b>NAME OF WORK “CAMC ( Comprehensive Annual Maintenance contract) of Railway Signaling &amp; Telecommunication system at MPA Railway yard”</b>
Date of submission of budgetary quotation	On or Before <b>15/02/2022 at 15:00 Hrs.</b>
Address for communication:	<b>Executive Engineer(E-HL),</b> Mechanical Engineering Department, Mormugao Port Authority, Electrical Section, 1st Floor, Admin. Building, Headland sada Vasco-de-Gama Goa - 403804
Contact Details	Phone : (0832) 2594241, 2594236 Email : <a href="mailto:xene.mgpt@gmail.com">xene.mgpt@gmail.com</a>
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**CHIEF MECHANICAL ENGINEER**  
**MORMUGAO PORT AUTHORITY**

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**ENGINEERING MECHANICAL DEPARTMENT**

**Name of Work: CAMC (Comprehensive Annual Maintenance contract) of Railway signalling & telecommunication system at MPA Railway yard**

**SCOPE OF WORK**

1. The contractor shall be entirely responsible for maintaining the Port's Railway Signalling and Telecommunication System and ensure it to be working at all times.
2. The period of CAMC in the tender is two years and annual extension at the discretion of the Port and will be based on performance of each completed year.
3. The contractor shall deploy personnel as per the bill of quantities (BOQ) attached, to attend to maintenance and breakdowns of the Railway Signalling and Telecommunication System in shifts/ General shift including Sundays and holidays. The deployed persons should have experience of more than 3 years in railway signalling and telecommunication installation and maintenance. Proof regarding experience is to be produced at the time of deployment of staff. No staff can be replaced or exchanged without the concurrence of Port Engineer in writing. The shift reports are to be submitted to Port Engineer at the end of the shift. The Muster roll of all the employees to be maintained & countersigned by Port Engineer at least once a month.
4. The contractor or his authorized representative (Site Engineer) who can take decision on the spot shall be available at the work place during office hours ( 08:30 to 17:30 hrs) to take decisions on the spot in all matters reported to him by shift staff and should also inform Port Engineer . He should also be available on mobile during remaining hours of the day for taking prompt decisions in case of any eventuality or as the case, may be.
5. Failure registers are to be maintained by contractor periodically. The register shall indicate date and time of problem noticed, failure details, how the rectification is carried out, replacement card particulars, defective card particulars, date and time of rectification. The contractor or his authorized Engineer/ representative has to sign the register and countersignature of the Port Engineer shall be taken at the end of each month of service.

6. The Failure register shall be maintained in the following format:

S. No.	Date & Time of reporting failure	Type of failure	Date & Time of rectifying failure	How the rectification is carried out	Sl. No. of the defective card	Sl. No. of the replacement card	Delay in attending breakdown (hour)	Signature of contractor	Signature of MPA representative	Remarks

7. Regular inspection of point machines, Verification of Track Locking, Axle counters, Track Gauge, condition of stretcher bar bolts, connecting rod bolts, etc, is to be carried out and the same is to be maintained to the required standards. The details of preventive checks shall also be entered in the register with the signature of the contractor or his authorized Engineer/ representative and Port Engineer.
8. All the signalling maintenance registers are to be maintained by the contractor as per the preventive maintenance schedule with signature of the contractor or his authorized Engineer/ representative and Port Engineer
9. Proper functioning of all indications and selector switches at the Panel Room is to be ensured.
10. All safety related interlocking to be checked and properly maintained.
11. All the battery chargers and batteries are to be monitored regularly and topping up of distilled water in batteries is to be carried out as and when required.
12. Meggering of Cables is to be carried out annually and the records/readings to be maintained and submitted. If Low Insulation value is found, it must be brought to the notice of concerned Port Engineer for immediate rectification.
13. During CAMC period, Contractor has to ensure availability of the signalling system not less than 97% of total hours per month. However, if requisite availability of 97% is not achieved, the contractor has to pay penalty as stated below:  
Any breakdown has to be attended within 2 hours. The delay beyond specified completion period is subject to levy of penalty of Rs.750/- per hour for first day and Rs.1,500/- per hour from next day onwards till work is completed.
14. Vegetative growth and water accumulation/water logging around the location boxes, battery boxes, point machines, track load junction boxes, etc shall be periodically cleared and the space around the installation shall be kept clean at all times.

15. All the spares/ critical spares and consumables as necessary for the upkeep of the system shall be arranged and maintained by the Contractor.
16. Any other Signalling maintenance work necessary for smooth operation of panel and points, will have to be carried out by the contractor.
17. The work of overhauling point machine/ Motors and any other signalling related equipment shall be carried out by the contractor.
18. Joint inspections of the Motorised points and carrying out of 'Obstruction test' for normal and reverse along with the Port's Engineer must be carried out quarterly with prior intimation and the same should be recorded in a 'Joint Inspection Register'.
19. Relay Room must be provided with double key lock system, and one of the key must be kept under the custody of Panel Master on duty, and whenever required the Technician may collect the key after making proper entries in the register available at Panel room.
20. In case of failure reported which involves other Departments written intimation may be given to the Port Engineer and if required joint test may be conducted to rectify the same.
21. In case of emergencies, the additions, modifications or alternations carried out to the existing installations and circuits to be recorded and documented and same shall be reported to the Chief Mechanical Engineer/MPA in writing and obtain necessary approval. If modifications/ alterations are carried out to the circuit/ programme, proper details/ as-built drawings etc. To be furnished to the Chief Mechanical Engineer.
22. The visibility of the signals should be checked and recorded from time to time.
23. Earthing is to be tested annually by means of Earth Tester and same must be exhibit on the location boxes and relay room walls. (Ordinary Earth less than 10 ohms and Chemical Earth less than 1 ohms to be maintained.)
24. Ensure the availability of correct rating fuses for all the circuits inside relay room, power panel and location boxes.
25. Crank handle must be interlocked with circuits and kept sealed inside the glass front boxes and ensure the counter after every release and make entries in available registers.
26. Proper identification card / Muster roll sheets for the staff those who are working in shifts and in the yard must be issued and maintained. To be produced whenever required.
27. Oiling and lubrication of points to be carried out once in a month.
28. Power supply failures or fluctuations are required to be given due attention and proper checks to be carried out to safeguard the system.

29. Signalling Equipment which requires painting should be painted by the contractor based on the joint inspection report.
30. Fire Alarm system should be maintained & tested quarterly by the contractor. Any defects found in the system are to be attended on top priority basis.
31. The Contractor shall arrange for all tools, tackles and precision instruments as necessary for carrying out the repair / maintenance work.
32. The maintenance schedule allotted of 12 days in a year by the Port are subject to approval of the Chief Mechanical Engineer/ Traffic Department and hence looking into cargo operation and decision given to the contractor will be solely at Port's discretion. However, the Contractor can carry out maintenance of signalling system during idle hours with due concurrence of Port Engineer. These 12 days maintenance period will be exempted from the ambit of penalty and any balance days (out of 12 days) of maintenance period at the end of each year will not be carried forward to the next year. This 12 days maintenance period shall be applicable only for carrying out scheduled preventive maintenance and not for breakdown maintenance.
33. The Contractor shall carry out all preventive maintenance as per the Manufacturer's Service Schedule / Maintenance plan. The maintenance shall be carried out as per the manufacturer's standard procedure and according to the instruction manuals. The entire components have to be cleaned externally and internally by proper means, at least once in a month or as per the periodicity prescribed by the standards.
34. The Contractor has to keep and submit all records of the daily / preventive / breakdown inspection and maintenance of signalling system at the end of each month as required by the Port.
35. The CME or his representative will review to update maintenance plans periodically and intimate Contractor accordingly.
36. Contractor has to calibrate and set meters, safety devices, protection devices, measuring instruments, gauges etc. periodically to ensure accuracy and records of which to be produced to the Port from time to time.
37. Make the signalling system available timely for inspection by MPA or other competent authorities.
38. Assets handed over during CAMC shall revert back to MPA free of cost, subject to normal wear and tear.
39. During replacement of Tongue rail/ Stock rail/ or any other items, drilling of holes/ any other assistance and related works required for S&T purpose are to be carried out by the contractor.
40. Maintenance of generators (15 KVA-2Nos) preventive and breakdown maintenance including repairs will have to be carried out by the contractor. Preventive maintenance

of the generators will have to be carried out as per the checklist of the OEM. Contractor to ensure readiness of the Generator (24x7) for desired performance at all the times.

41. Alternate arrangement of generator will have to be made if any of the generators is shifted/transported to OEM's workshop for overhauling/repairs by the contractor with prior permission of the Engineer-in-charge and with due approval of the Competent Authority.

The work is required to be carried out strictly as per relevant Indian Railway Standards, RDSO Specifications; the Drawings and as described in Specifications and Schedule of Quantities and Rates contained in this tender document with approved quality of materials.

**The above CAMC works shall be carried out under the supervision and to the entire satisfaction of the Chief Mechanical Engineer or his representative.**

**Terms & Conditions for Comprehensive Annual Maintenance Contract (CAMC):**

1. The Comprehensive Annual Maintenance Contract means that the Contractor has to carry out preventive maintenance of the entire signaling and telecommunication system as per manufacturer's schedule and breakdown maintenance, if any, inclusive of supply and use of spares/ critical spares and consumables during the entire currency of the contract.
2. The Contractor shall review and maintain the quantity and adequacy of consumables, spares/ critical spares in stock throughout the CAMC period of 2 years.
3. Acknowledge that all the assets covered under CAMC system, tools, test equipments, manuals and other documents which are handed over to MPA while taking over / handing over, will be the property of the MPA. Any disposal of unserviceable/unused/surplus shall be done through MM division of the Port by the contractor and by duly adopting to environmental norms.
4. The rate quoted for 2 years from the time of commencement of CAMC shall remain firm and will not be subject to any escalation for any reason whatsoever.
5. The Port may extend the contract for further period of one year on the same rates, terms and conditions at its sole discretion. In such case the Contractor shall extend the validity period of Bank Guarantee for further one year.
6. Contractor has to give assured availability of signaling system not less than 97% of total hours per month. However, if requisite availability of 97% is not achieved, the contractor has to pay penalty as stated below:  
Any breakdown has to be attended within 2 hours. The delay beyond specified completion period is subject to levy of penalty of Rs.750/- per hour for first day and Rs.1,500/- per hour from next day onwards till work is completed.
7. If contractor's workforce at site remains absent, then after 24 hours Rs.1000/- per day per person till he resumes duty will be deducted as a penalty from monthly charges payable to the contractor.

8. In the event of any staff deployed for CAMC is in need of availing leave/reported sick then the contractor should make immediate alternate arrangement for posting skilled/unskilled personnel, as the case may be, at site within 24 hours failing which penalty of Rs 1000/- per day per person will be levied until he resumes duty.
9. The Contractor shall carry out all the functions as per the provisions of the Agreement and in accordance with the laws of the Government of Goa, wherever applicable as well as Dock Safety Rules and Regulation and all other applicable laws, rules and regulations from time to time and in accordance with Indian Railways work practices.
10. The Contractor shall at his own expenses provide all safety gears viz. safety helmet safety shoes, radium jackets and other Personal Protective Equipments (PPE) for all labours engaged during the work and failing to do so, MPA shall provide the same and recover the cost there of from any amount due or which may become due to the Contractor or from any amount lying with them or under their control.
11. It will be entirely the responsibility of the CAMC contractor to take required steps to adequately safeguard the personnel whilst carrying out the work and to ensure that the work is carried out with due consideration to the safety aspects in practice at the Port.
12. In the event of default on the part of the contractor to carry out the CAMC works at any point of time, the pending works what so ever shall be carried out through external agency at the risk and cost of the contractor and no compensation shall be given to the contractor by the Port for such a lapse.
13. The contractor should not damage the Port property. If the Port suffers any loss due to damages, the same shall be recovered from the monies due to contractor or recovered as deemed fit by the Board.



## Details of Railway Signalling & Telecommunication System of the Port

- A) Wheel sensor system, Multi Section Digital Axle counters (MSDAC):  
M/s Frauscher sensor technologies  
DP & Sensors: 79 nos each
- B) IPS: M/s Statcon Electronics India Ltd
- C) MICROLOK (Electronic Interlocking): M/s Ansaldo STS.
- D) Data Logger: M/s Effotronics
- E) VDU : 02 Nos
- F) Domino Panel.
- G) Maintenance P.C. : 01 Nos
- H) Lap Top : 01 Nos
- I) Battery banks:
  - i) 2V, 120AH: 56 Nos + 4 Nos Spare
  - ii) 2V, 300AH: 56 Nos + 4 Nos Spare
- J) Relays: Total 455 Nos (including relay timer)
- K) Motorised Points: 41 Nos (Crompton Greaves Ltd)
- L) Shunt signals: 36Nos (Total 108 LED lamps)  
SPI : 02 Nos
- M) DG sets with AMF panel: 02 Nos, Mahindra make. 15 KVA, 230 Volts,
- N) Location boxes
  - 1. Full location boxes: 35
  - 2. Half location boxes: 13
- O) Earthing:
  - 1. GI pipe earthings: 72 Nos
  - 2. Ring Earth: 02 Nos (each of 04 earth pits)
  - 3. Chemical earthing: 02nos
  - 4. Class A earthing : 02 nos
- P) Fire Alarm System

<b>Budgetary offer Inviting Authority: Office of the Executive Engineer (E-HL), Mechanical Engineering Department, MPA, Headland Sada Vasco 403 804.</b>						
<b>Name of Work: "CAMC (Comprehensive Annual Maintenance contract) of Railway Signaling &amp; Telecommunication system at MPA Railway yard"</b>						
<b>Name of the Bidder/ Bidding Firm / Company :</b>						
<b><u>PRICE SCHEDULE (BILL OF QUANTITIES)</u></b> <b>(RATES ARE TO GIVEN IN RUPEES (INR) ONLY)</b> <b>(Bidders are allowed to enter the Bidder Name and Values only)</b>						
Sr. No.	Item Description	Units	BASIC RATE Per Month To be entered by the Bidder in Rs. P	TOTAL AMOUNT in Rs. P	TOTAL AMOUNT In Words	Applicable GST %
1	Supervision, periodical Maintenance, Repairs of railway signaling & telecommunication system in the Port as per the technical scope of work for 1 <sup>st</sup> year (Payable on monthly basis)	<b>Monthly</b>				
2	Supervision, periodical Maintenance, Repairs of railway signaling & telecommunication system in the Port as per the technical scope of work for 2 <sup>nd</sup> year (Payable on monthly basis)	<b>Monthly</b>				
Total in Figures						
Quoted Rate in Words						

Note: The bidder shall quote the price exclusive of GST. The bidder shall indicate the applicable GST rate on the goods / services in the price bid. GST shall be paid on the quoted price as applicable.

**Date:**

**Signature:**

**Place:**

**Name:**

**Address:**

**Office seal of firm:**

Price break up per Month during 1st year maintenance period

Sr No	Description	Unit	Qty	Rate (Rs)	Total Amount
1	Site Engineer	Nos	01		
2	Technician	Nos	06		
3	Assistant	Nos	09		
TOTAL					

(Rupees \_\_\_\_\_ only)

Price break up per Month during 2nd year maintenance period

Sr No	Description	Unit	Qty	Rate (Rs)	Total Amount
1	Site Engineer	Nos	01		
2	Technician	Nos	06		
3	Assistant	Nos	09		
TOTAL					

(Rupees \_\_\_\_\_ only)

**Office seal of firm with signature:**