

COCHIN PORT AUTHORITY

# Willingdon Island

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**No:F1/NIBO/ O&M 2024-26 GoI /2024-M Dt:31/05/2024**

**Notice Inviting Budgetary Offer (NIBO)**

Sub: Request for budgetary offer for the work of **“Operation of the ELL crane, Operation and Maintenance of Electrical, Mechanical and Fire Fighting Installations at the GoI offices/jetty at Willingdon Island** **for a period of Two Years”** - Reg.

Cochin Port Authority intends to provide manpower for the operation and maintenance of the various electrical, mechanical and fire fighting installations at the Amba Jetty & Plots for GoI at Willingdon Island. In order to arrive at an estimate for inviting tenders, **budgetary quotes** are invited from prospective vendors for the work of “Operation of the ELL crane, Operation and Maintenance of Electrical, Mechanical and Fire Fighting Installations and Routine maintenance of CR 100 Rail Track at the GoI offices/jetty at Willingdon Island for a period of Two Years”as per the Scope of Work and Special conditions of Contract enclosed. The prospective vendors shall have experience in executing maintenance contract work involving “Operation of crane, Operation and Maintenance of Electrical, Mechanical and Fire Fighting Installations”. After obtaining estimate approval from the competent authority, tenders will be invited through GeM portal.

You are requested to submit budgetary offer for providing manpower for the **Operation of the ELL crane, Operation and Maintenance of Electrical, Mechanical and Fire Fighting Installations at the GoI offices/ jetty at Willingdon Island for a period of Two Years** as per the Price Schedule attached, vide GeM portal or by e-mail to the address: cme@cochinport.gov.in with copy to ajithkumar@cochinport.gov.in; and vmini@cochinport.gov.in by **on or before 5.00 pm on 13/06/2024.**

**CHIEF MECHANICAL ENGINEER**

**Cochin Port Authority**

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| **COCHIN PORT AUTHORITY** |
| **Notice Inviting Budgetary Quote No:F1/NIBO/ O&M 2024-26 GoI / 2024-M Dt:08/05/2024** |
| **OPERATION OF ELL CRANE, OPERATION & MAINTENANCE OF ELECTRICAL, MECHANICAL AND FIRE FIGHTING INSTALLATIONS AT THE BERTH & OFFICES OF GOI AT W/ISLAND FOR A PERIOD OF TWO YEARS** |
| **Schedule of items** |
| **Name of the Bidder** |  |
| **Sl. No.** | **Particulars** | **Price per month (Rs.)** | **Total Price per Year (Rs.)** |
| **1** | **OPERATION & MAINTENANCE OF ELECTRICAL, MECHANICAL AND FIRE FIGHTING INSTALLATIONS AT THE BERTH & OFFICES OF GOI AT W/ISLAND AS DETAILED BELOW, AS PER THE SCOPE OF WORK AND SPECIAL CONDITIONS OF CONTRACT ENCLOSED, FOR A PERIOD OF TWO YEARS :** |  |  |
|  | 1. Operation and Routine / Breakdown Maintenance of all Electrical / Mechanical / Electronic equipments
 |
|  | 1. Operation of 15Ton ELL crane in 2 shifts per day
 |
|  | 1. AMC of VRF ACs, CCTV, Video Conference system, UPS, DG set, diesel engine and pump, split A/c units, EPABX etc.
 |
|  | 1. Routine Maintenance of CR 100 Rail Track which includes Cleaning of 400mtr. Rail Track and trench area, Monitoring/ checking the condition of Crane Rail Trench, Crane Rail System and Crane Rails as per the Format enclosed, including maintenance/ replacement of GR Pad (Girder Rail) and providing corrosion protection coating of metal components in CR 100 Rail, if found required.
 |
|   | **Total for two years (Rs.)** |   |
|  | (Rupees ………………………………………………………………………………….only) |
|  | The price quoted shall be inclusive of GST |  |  |

**Annexure -1**

**SPECIAL CONDITIONS OF CONTRACT**

1. Introduction

Special Conditions shall be read in conjunction with the General Conditions of Contract, Specifications, Drawings and any other document forming part of this Contract wherever the context so requires.

Notwithstanding the Sub-division of the documents into these separate section and volume every part of each shall be deemed to be supplementary to and complementary of every other part and shall be read with and into the Contract so far as it may be practicable to do so.

Where any portion of the General Conditions of Contract is repugnant to or at variance with any provision of the Special Conditions, the provisions of the Special Conditions shall be deemed to over-ride the provisions of the General Conditions of Contract and shall to the extent of such repugnancy of variations, prevail.

* 1. The Contract shall initially be valid for a period of Two (2) years and may be extended for further period based on satisfactory performance and with mutual consent, as per the same rates, terms and conditions as applicable for second year.
	2. The contractor shall engage the AMC with the OEM of Manufactures/ Suppliers/ Authorised service centers of the items mentioned in the scope or where ever indication for smooth working of the system. The contractor shall engage the AMC agencies within a period of 4 weeks from the award of contract and contractor is fully responsible including the replacement and repair of faulty item within this 2 weeks period and shall be rectified the fault with the OEM/authorized service partners only. Payment for the O&M work will be made only after verification of the service report from the firm engaged for AMC.
	3. CoPA/GoI reserves the right to terminate the contract by serving one month’s notice if the services of the contractor are not found satisfactory. The Contractor may also ask for the same by giving three month’s notice but he has to provide the facility for operation of ELL crane, Electrical System, D.G. Set and Fire Alarm System etc. till the next agency is engaged.
	4. The persons to be deployed by the Contractor should be properly trained, have requisite experience and skills for carrying out a wide variety of operation & maintenance of ELL crane, Electrical System, D.G. Set and Fire Alarm System using appropriate materials and tools/equipments separately or collectively.
	5. The contractor will arrange all items needed for his staff viz. consumables, tools, machines & equipments, PPE and safety materials.
	6. COPA/GOI will provide space for storing materials, equipment etc. to the Contractor in the premises. The contractor will maintain a record of the stores which shall be opened to inspection by COPA/GOI.
	7. The Contractor should ensure the Health and safety measures of the employees. The Contractor should also conduct health check-up of the staff deployed before deployment as well as at regular intervals of not exceeding three months, thereafter.
	8. The employees engaged by the contractor shall be covered under PF, ESI, personnel Insurance etc
	9. The Contractor will be responsible for supply / installation / refilling / maintenance of all consumables including diesel for DG/ Fire Pump Engine as per requirements, items and equipments except for major items covering under defect liability obligation of OEM / Project contractor.
	10. The Contractor must employ adult and skilled labour only. Employment of child labour will lead to the termination of the contract and necessary action under Indian Penal Code.
	11. The Contractor shall engage only such workers, whose antecedents have been thoroughly verified, including their character. Police verification and other formalities shall be completed before deployment. The Contractor shall be fully responsible for the conduct of his staff.
	12. The workmen deployed by the contractor are strictly banned from use of any kind of Narcotics drugs / Alcohol / smoking etc. at site and any illegal activity by the work men should be reported to Engineer without delay and the contractor shall remove such persons from the work site forthwith.
	13. CoPA/GoI shall not be responsible for providing residential accommodation to any of the employee of the contractor.
	14. Workers above 60 years of age and below 18 years of age shall not be deployed by the contractor. All labour, skilled or unskilled shall be provided by the contractor. Settling any dispute with the labour, labour union, any Outside union, subcontractor will be contractor’s responsibility. Loss of day in this regard should not be claimed for any hindrance at site. The workers engaged for works should have sufficient knowledge and experience in the respective fields. This shall be proved to the Engineer. The Owner may at any time request the contractor to remove from the Work/Site contractor’s / subcontractor's supervisor or any other authorized representative including any employee of the Contractor or his Sub-contractor(s) or any person(s) deployed by Contractor for professional incompetence or negligence or for being deployed for the work for which he is not suited.
	15. For all intents and purposes, the contracting agency shall be the “Employer” within the meaning of different Labour Legislations in respect of manpower so employed and deployed in COPA/GOI. The persons deployed by the agency in shall not have claims of any Master and servant relationship against COPA.
	16. CoPA/GoI shall not be under any obligation for providing employment to any of the worker of the contractor after the expiry of the contract. CoPA/GoI does not recognize any employee-employer relationship with any of the workers of the contractor.
	17. The contracting agency shall also be liable for depositing all taxes, levies, Cess etc. on account of service rendered by it to COPA/GOI to concerned tax collection authorities from time to time as per extant rules and regulations on the matter.
	18. The CoPA shall reimburse the GST remitted by the contractor while releasing the running bill of the contractor. No other taxes, cess etc shall be borne by CoPA/ GoI.
	19. In case, the contractor fails to comply with any statutory/ taxation liability under appropriate law, and as a result there of the CoPA/GoI is put to any loss/obligation, monetary or otherwise, the CoPA/GoI will deduct the same from the monthly bills and or the Security Deposit of the agency, to the extent of the loss or obligation in monetary terms.
	20. It will be the responsibility of the contracting agency to meet transportation, food, medical and any other requirements in respect of the persons deployed and COPA/GOI will have no liabilities in this regard.
	21. The contracting agency shall be solely responsible for the redressal of grievances/ resolution of disputes relating to person deployed. COPA/GOI shall, in no way, be responsible for settlement of such issues whatsoever.
	22. CoPA /GoI shall not be responsible for any financial or other injury to any person deployed by service providing agency in the course of their performing the functions/duties, or for payment towards any compensation.
	23. The Contractor at all times should indemnify COPA/GOI against all claims, damages or compensation under the provisions of Payment of Wages Act, 1936, Minimum Wages Act 1948, Employer’s Liability Act 1938, the Workmen Compensation Act 1923, Industrial Disputes Act 1947, Maternity Benefit Act 1961, Payment of Bonus Act, 1965 or any other law relating thereto and rules made there under from time to time. COPA/GOI will not own any responsibility in this regard.
	24. The persons deployed by the contracting agency shall not claim nor shall be entitled to pay, perks and other facilities admissible to regular/confirmed employees of the COPA/GOI during the currency or after expiry of the contract.
	25. The tenderer should quote manpower charges in Financial Bid strictly in accordance with the minimum wages as decided by the State / Central Government. If the rates quoted are found to be below the minimum wages, tender will be rejected. Under any circumstances whatsoever, the manpower deployed shall not be paid wages below the Minimum wages declared by the Govt.
	26. **The rates quoted by the bidder shall remain unchanged during the period of contract.**
	27. The tenderer shall pay at least the minimum bonus to the staff deployed in accordance with the Payment of Bonus Act, 1965 irrespective of the profitability or otherwise of the tenderers’ business. The component of bonus paid on annual basis to the staff deployed and proof of the same must be submitted to the CoPA / GoI failing which the amount due to the employees as minimum bonus may be recovered from the performance security deposit.
	28. In case of breach of any terms and conditions attached to the contract, the Performance Security Deposit of the Contractor will be liable to be forfeited by COPA/GO besides annulment of the contract.
1. **Manpower**

The contractor shall deploy sufficient qualified man power required for meeting functional requirement of client / employer as given below,

1. Operation & Maintenance of Electrical installation: General maintenance jobs and attending to specific complaints shall be carried out round the clock daily including Sundays by keeping at least one qualified and skilled electrician and one assistant for electrical/telephone system all days. Sufficient relievers are also to be deployed to take care the duty of general staff proceeding for leave or duty off. During day time one supervisor having degree/diploma holder in electrical / mechanical discipline with minimum 2 years experience shall be posted.
2. Number of technical staff as mentioned above shall be increased depends on the necessity when the vessel are in berth and or the ELL crane operations are going on.
3. The contractor or his representative shall remain in touch with the Engineer in charge of CoPA or GoI staff regarding instructions in connection with day-to-day operation and maintenance work. He will also keep records of materials / consumables procured by him from time to time. Contractor shall coordinate personally and promptly with CoPA / GoI / Other statutory bodies in case of power failure to restore the supply and rectification of fault in case of fault is in main feeder.
4. It shall be the responsibility of the contractor to arrange for deployment of operating/maintenance gang beyond normal working hours/on holidays etc. whenever need arises. (Such as for completion of the on-going maintenance/ testing etc. and/or to meet any exigency) without additional cost.
5. It shall be the responsibility of the contractor to keep all equipment and working area in a clean condition.
6. Contractor is bound to extend full co-operation to other agencies who are to work in the premises.
7. The contractor shall inform immediately to Engineer-in- charge, about any abnormality found in any equipment.
8. The contractor shall make arrangements for all materials, labour, deputing manpower along with tools/ tackles, etc. from time to time and as and when required.
9. The contractor should ensure regular check up of the entire cable and piping networks and shall have to arrange the repairing of the equipments, pipes, refilling of fire extinguishers, cable and piping joints etc. as & when required or as directed.
10. The contractor shall have to arrange the training programme for the occupants of GoI so that they are able to make use of the Fire fighting system at the time of emergency.
11. The contractor shall have to maintain all records relating to the operation, maintenance and servicing of the systems/equipments as asked for and shall have to make the same available for inspection as & when asked for.
12. The schedule for periodic inspection and maintenance of the major equipments and all accessories shall be submitted by the contractor and it shall be contractor’s responsibility to carry out routine maintenance for the up-keep of the system as a whole, to ensure trouble free service round the clock. If the equipments require major maintenance, the same shall be informed to OEM with copy to GoI/CoPA.
13. Contractor is to keep a record of the periodic inspection done and inform any shortcomings noticed.
14. The cleaning of all the system equipments, greasing of all pumps/fans & other equipments as per the maintenance manuals, polishing of the brass parts of the system network & fire-extinguishers, maintenance of piping system, batteries etc., shall be the responsibility of the contractor including the cost of materials used for cleaning & polishing of the equipments and no extra charges for this shall be payable.
15. The contractor shall have to inform the OEM of equipment regarding the guarantee maintenance and ensure that regular servicing in all respects is carried out as per the operation & maintenance manuals of the system or as asked for.
16. The contractor shall also carry out break down/ preventive maintenance of all equipments if it becomes out of guarantee period rendered by the OEM. The details of guarantee obligation of all equipments are separately provided in the Scope of work.
17. The works stated herein are only an indication to the extent of work. If any specific requirement is warranted due to exigencies or any other reason, the contractor shall carry out the same in connection with the proposed O&M.
18. Qualification of technician / Assistant for O&M work

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| --- | --- | --- | --- |
| Sl. No  | Description  | Qualification  | Remarks  |
| 1  | Electrician/ ~~plumber/~~ wireman  | ITI in the relevant discipline. B class wireman license is preferred for the Electrician / wireman  | Pass in 10th Standard with 5 years experience in relevant installations.  |
| 2  | Assistant  |  Minimum 10th standard with 3 years experience in electrical / mechanical installations  |

* 1. **Man power requirement for Operation of ELL Crane**
1. The crane shall be operated from 8.00 hrs to 22.00 hrs normally in 2 shifts per day throughout the year i.e. 365 days. If required, contractor shall keep Skeleton staff to operate the crane for the 3rd shift from 22.00hrs. to 8.00hrs. also without any extra cost as per need. In this connection the relevant labour rule shall be adhered to by the contractor. The operator/assistant shall be provided with the basic amenities by the contractor. The labour force engaged by the contractor shall be provided with weekly off, minimum wages etc as per rule.
2. For operating the ELL crane 1 operator, 1 greaser cum signaling man shall be deputed in 1 shift. In addition a reliever who is capable of doing crane operation and signaling system shall also be engaged.
3. Hooking / unhooking of the cargo in the berth/trucks shall be in the scope of the contractor. Number of work force for hooking & unhooking operations depends on the weight of the cargo in one packet. The slings, shackle etc. for facilitating the work shall be in the scope of the contractor.
4. The contractor shall inform the operational defects / break down to the owner / crane AMC contractor then and there. Pre-operational check of crane has to carry out by the contractor to identify any defects and abnormalities in the crane. The contractor shall also clean the crane track and cable trench protection system for smooth operation of the crane.
5. Qualifications of ELL Crane operators: The Crane operator engaged by the contractor should have passed minimum of ITI/12th Standard or equivalent and at the age group of 25-60 having very good health standard including clear eye sight as prescribed by Dock Safety Inspectorate. The Crane operator shall have experience in operating ELL Crane / Tower crane / Gantry crane Mobile Harbor Crane of 15 Ton or more in a government organizations/Port / Harbour/ Crane hiring organization.
6. The candidates proposed by the contractor for crane operation shall have experience in operation of similar cranes. The contractor shall comply with all Rules and regulations issued by the Dock Safety Inspectorate from time to time.
7. The Greaser / signal man engaged by the contractor shall have the experience in this field at least for a period of 2 years.

**2.2. Man power requirement for O&M of Fire fighting equipments.**

1. Necessary manpower envisaged for O&M shall be deployed by the contractor so as to carry out routine & preventive maintenance and operational checkup as provided under Scope of work effectively.
2. If any contingency is warranted, the staff deployed for maintenance of fire fighting equipments shall assist the contingent team engaged by other agencies.
3. The details O&M activity is given under “Scope of work”.

**3. Payment Terms**

1. Payment will be made on monthly basis within 2 weeks from the date of submission of invoice and joint measurement accepted by both the contractor & employer. In case it is found that there is under payment / No payment to the employees engaged by the contractor, the action including forfeiture of security deposit, black-listing of the contractor and cancellation of contract may be taken.
2. While submitting the bill , the contractor must file a certificate indicating the following along with ESI contribution sheet downloaded from ESIC Insurance Portal:-

Wages of workers were credited to their bank accounts on (acknowledgment by bank enclosed).

ESI Contribution relating to workers amounting to Rs.- was deposited on (Copy of challan enclosed with contribution sheet).

We are complying with all statutory Labour Laws including Minimum Wages Act.

1. The payment would be made on monthly basis on verification of attendance sheets, wage Register, monthly ESIC/EPF/Service Tax challan/Deployment sheets/ Duty Roster/ Attendance Sheet duly verified by the designated official of the concerned site/office, documents in support of salary disbursement details.
2. Workers of contractors should get the wages at least on the tenth (10) day of each month and the contractor must maintain adequate working capital to meet the requirements of the wage payments.
3. The payment of wages to the staff deployed by the contractor shall not be linked to the payment of bill by CoPA.
4. If the contractor fails to provide proof of payment of statutory dues, his contract will be liable to be terminated after serving one month‟s notice.
5. Cash payment receipt will not be entertained and payment in cash will be deemed as no payment at all. If the agency does not make payment through electronic transfer, the contract will be liable to be terminated.

**3.1. Time frame for attending / rectifying the defect.**

The contractor shall engage the staff for attending the fault without any delay when any faults /defects noticed in the equipments or systems . The Maintenance and operational staff shall be posted in the Main jetty / Amba Office area round the clock for attending the fault. If the fault is not rectifiable by the contractor staff , the contract shall engage the outside person /agency without delay for rectifying the defect.

The items which are being given for AMC with other agencies by the contractor as given in the tender, the agency person shall be made available for rectifying the fault within 6 Hours or earlier from the fault as per the requirements.

The staff shall be made ready before the commencement of each shift and the crane shall be made ready for operation within 15 minutes of the commencement of each shift/operation.

**Liquidated Damages**

**4.1.** Whenever and wherever it is found that the work is not up to the mark, it will be brought to the notice of the Contractor by the staff of the offices and if no action is taken to do the work up to the mark within the time period of 3 hours , liquidated damages @ Rs. 500/- per complaint shall be imposed. In case the contractor failed to rectify the defects in the stipulated time period penalty will be imposed @ 5000/- for every shift delay or part thereof from first day up to 2 days. If the fault is not rectified within this extended period of 2 days, the rectification work will be entrusted to other agencies at the cost and risk of the contractor. In addition to this, penalty @ Rs 10000/- per day for non performing of the equipment till it is commissioned will be recovered from the contractor.

**4.2.** In case of absence of skilled staff and highly skilled staff /supervisor, a penalty will be imposed @ 1500 per day for each absentee staff. In case of absence of the group, penalty @ 20000/- per day will be imposed in addition to the above.

**5. Settlement of dispute**

**5.1.** Every dispute, difference or a question which may arise at any time between the parties hereto or any person claiming under them, touching or arising out of or in respect of this MC or the subject matter thereof shall first be endeavored to be amicably resolved at the Top Management level of the parties. However, in the event of such dispute, difference or question, etc. remaining unsolved, the same shall be referred to the arbitration by a sole Arbitrator to be nominated by the CoPA under the provisions of the Arbitration & Conciliation Act 1996. The place of such arbitration shall be at Cochin.

**5.2.** The Courts in Cochin alone shall have exclusive jurisdiction in respect of matters arising out of this Maintenance Contract Agreement.

**6. Nodal Point of Contact**

The Nodal Point of Contact for formal correspondence and for processing the bills shall be Chief Mechanical Engineer on behalf of CoPA and GoI Head Station, Base Unit on behalf of GoI.

**7.** All necessary Statutory Licenses from concerned Government Departments / Local Bodies including the labour department if any necessary for execution of the work are to be obtained by the contractor.

All security and safety regulations and guidelines as per the applicable law are to be followed. All guidelines/directions of CoPA‟s Security Division must be followed.

**8. Contract Agreement**

An agreement will have to be executed on Kerala Stamp Paper of value Rs.200/- for the due and proper fulfillment of the contract. The successful bidder shall carry out and complete the work in every respect in accordance with the contract.

**9. Performance Guarantee**

9.1 The performance security shall be 3% of the contract value for the contract amount entire MC period. The Performance Security shall be provided by the Contractor to the Employer not later than 21 days from the date of issue of LoA. The performance security shall be furnished in one of the following forms:

 (a) Account Payee Demand Draft/Fixed Deposit Receipt from a Commercial Bank in favour of FA&CAO, Cochin Port Authority.

(b) An irrevocable and unconditional Bank Guarantee as per the Format enclosed in Annexure-B of the tender document, from a Commercial Bank.

(c) On-line payment to the Bank Account of Cochin Port Authority indicated in Clause 8 of Notice Inviting Tender.

9.2. The value of Security Deposit shall be equivalent to 3% of the total contract value excluding GST and duties.

9.3. In case the Security Deposit is furnished in the form of Bank Guarantee, the same should remain valid for a period of 60 days beyond the completion of defect liability period.

9.4. Cochin Port is not bound to pay interest on the Security Deposit furnished by the successful bidder.

9.5. In the event of the Contractor failing to honour any of the commitments entered into under this Contract, Cochin Port shall have unconditional option to encash the Security Deposit. The bank shall be obliged to make payment to Cochin Port upon demand.

9.6. In the event of the tenderer, after the issue of the communication of acceptance of offer by the Board, failing /refusing to execute the agreement as hereinafter provided, the tenderer shall be deemed to have abandoned the contract and such an act shall amount to and be construed as the Contractor’s calculated and the willful breach of the contract, the cost and consequence of which shall be to the sole account of the tenderer and upon such an event the Board shall have full right to claim damages.

**10. Taxes & Duties**

**10.1.** All duties, taxes [excluding Goods and Services Tax (GST)] and other levies payable by the bidder/Contractor under the Contract, or for any other cause as applicable on the last date of submission of Bid, shall be included in the rates, prices and the total Bid Price submitted by the Bidder. All investments, operating expenses, incidentals, overheads etc. as may be attendant upon execution and completion of works shall also be included in the rates, prices and total Bid price submitted by the bidder. However, such duties, taxes, levies etc. which is notified after the last date of submission of Bid and/ or any increase over the rate existing on the last date of submission of Bid shall be reimbursed by the CoPA/GoI on production of documentary evidence in support of payment actually made to the concerned authorities. Similarly if there is any decrease in such duties, taxes and levies the same shall become recoverable from the contractor. The details of such duties, taxes and other levies along with rates shall be declared by the bidder.

**10.2.** Cess as per Building and other Construction Workers Welfare Cess Act (Act 28 of 1996) at the rate of one percent or at the rates prevailing in force at the time of payment of bills, of the cost of construction should be borne by the contractor and the same will be deducted from contractor’s bills while making payment or when crediting amount to contractors account.

**11. SAFETY**

The contractor shall take necessary precautions to ensure safety of his crew, materials, equipment and the works during the period of the contract. No claim from the contractor for loss of or damage to equipment, materials, crew of the works during the course of the work due to natural causes like cyclones, gales, floods, rains or other cause or combination of causes will be entertained by GOI.

**Annexure-II**

**Scope of Work**

1. Introduction

This section describes the area of operation, the nature of services, repair and breakdown works and the breakup of works for providing services for Operation & Maintenance of Amba Jetty, B &C sites and Drishti Building installations of GoI in W/Island, by the contractor under comprehensive mode with replacement of defective items.

The scope of work includes the following works:

1. Operation and routine maintenance of Electrical, Mechanical and Fire fighting installations at the Main Jetty, Approach Trestle, Pump house, Technology building, Security cabin, Connecting bridge, installations at B&C sites etc. of the GoI in W/Island
2. Operation of electrically operated ELL crane in 2 shifts in a day
3. AMC of VRF ACs, CCTV, Video Conference system, UPS, DG set, diesel engine and pump, split A/c units, EPABX etc.
4. Routine Maintenance of CR 100 Rail and Rail Track of 15T ELL crane at Amba Jetty, which includes Cleaning of 400mtr. Rail Track and trench area, Monitoring/ checking the condition of Crane Rail Trench, Crane Rail System and Crane Rails as per the Format enclosed, including Maintenance/ replacement of GR Pad (Girder Rail) and providing corrosion protection coating of metal components in CR 100 Rail, if found required during inspection as per the direction of Engineer at site.
5. Details of installations

Following are the probable installations to be operated and maintained by the successful bidder for a period of 2 years. Details of equipments to be maintained are as given below. The contractor shall visit the site before quoting.

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Details of inventory**  | **Approximate quantity**  | **Remarks**  |
| **I** | **Transformers** |  |
| a | Copper wound-11KV/433V, cast resin, 1600KVA. 3Phase, 11KV/433V, Unipower  | 1 No (Main jetty)  | The equipment is under warranty up to 01/12/2025  |
| b | Copper wound-11KV/433V, cast resin, 160 KVA. 3Phase, 11KV/433V, Unipower | 1 No ( Amba)  | -----Do----  |
| c | Copper wound-11KV/433V, cast resin, 500KVA. 3 Phase, 11KV/433V, Unipower | 5 Nos ( Main jetty, B&C sites)  | -------Do-----  |
| **II** | **11 KV installations such as RMU(ABB), CMU (Unipower), VCB (ABB) etc**   | 11 Nos (at various locations of W/Island at Amba jetty and B&C sites)  | Item indicative |
| **III** | **Different types of LT panels, MV Panel, SS junction boxes ranging from 200A to 2500A at 440 V grade, located at Berth, Offices pump house, B, C&D sites etc**  | 20 Nos (At jetty, Amba, B&C sites )  | Item indicative |
| **IV** | **DBs , Switch Boards etc.** | (At jetty, Amba, B&C sites, Dhristi Bldg) | Set  |
| **V** | **Variable Refrigerant flow type (VRF), AC system with total capacity 20 HP** |
| **a** | Indoor units, cassette type ranging from 0.6 Ton to 3.2 Ton | 13 Nos (Amba) | Item indicative  |
| b | Top Discharge units, 10 HP  | 2 Nos (Amba)  |  |
| VI | **Variable Refrigerant flow type (VRF) , AC system with total capacity 10 HP** |
|  | Indoor units, cassette type ranging from 0.6 Ton to 3.2 Ton | 8 Nos (Pump House roof Top) |  Item indicative |
|  | Top Discharge units, 10 HP  | 1 Nos ( Pump House roof Top )  |   |

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| --- | --- |
| VII | **Street lighting, yard lighting etc**  |
| a  | 7 mtrs high Street lights poles with LED fittings with luminary,  | 70 Nos (Jetty, B&C sites)  |  Item indicative |
| b  | 16 mtrs, High mast / Medium mast with LED fittings with lamp  | 4 Nos (Jetty, B &C Sites)  |   |
| VIII | **CCTV system**  |  |   |
| a | **24 channel NVR, 4 PTZ cameras, 4 Fixed cameras and other accessories** | **1 set (Jetty)** |  |
| b | **Other CCTV cameras ( Fish eye, bullet type etc)** | **10 nos.** | Item indicative |
| c | **All items and accessories for above CCTV systems including DVR, NVR, Switches , cables etc. in complete used for same at different locations**  | **LS** |  |
| IX  | **Video Conferencing system with 55” LED monitor and one TV**  | **1 Set (Amba)**  |   |
| X  | **EPABX system and connected accessories including Hand sets/ Phones** |  2 sets, at Jetty building and Dristi building. | Qty Indicative |
| XI | **5 kwp solar panel with 10 kVA inverter and 9600 VAH capacity battery**  | **1 Set (Amba)**  |   |
| XII | **30 KVA UPS with 12000 VAH battery**  | **1 Set (Amba)**  |  |
| XIII | **HT and LT cables**  | **4000 Mtrs (Power supply and control cables for GoI at various roads of W/Island)**  |  |
| XIV | **Internal and External Electrical Installations such as lights, fittings, power outlets, switchboards, distribution boards etc cable & wiring systems in the office, pump house and security cabins viz. light fittings, fans, 5 A plug sockets etc**  | **LS**  |
| XV  | **Duct lights, kerb lights in the berth**  | **LS (Jetty)**  |
| XVI  | **Fire hydrant system**  |
| a  | Diesel engine with Pumping lines , its prime mover and accessories etc. in complete. | 1 No. ( Set) |  Diesel Engine- CumminsElectric Motor with Pump – Flowmore- CG (Motor), Flow more (Pump)  |
| b  | Pumping line, valve operation, OH & UG tanks accessories etc. in complete. | LS  |
| c | Electrical Driven motor with pump , panels and accessories |  1 No.(Set) |
| d | Electrical control system connected with pumping system  | Set |
| XVII | Fire Alarm Panel with connected control panels, Telephone systems call points, cables etc. in complete. |  Set |  |
| a | Smoke detectors | Set |  |
| b | Strobe Lights | Set |  |
| XVIII  | DG set with AMF - 50 KVA  | 1 No (Amba)  |  |
| XIX | 15 Ton Capacity ELL crane - 1 No with its trailing cable, trailing cable protection system etc  | 1 No (Jetty)  | Under AMC up to 01/05/2027  |
| XX | E Toilets | 4 nos. at different locations | Item indicative |
| XXI | Item such as water cooler, Water heater/greaser, fridge, hot plate/ induction cooker etc.  | At Jetty and Dhrishti building |  Set |
|  XXII |  Interactive Screen  | At Jetty at Jetty Bldg. |  Make : NEWLINE , 95 INCH. |
| XXIII | Automatic gate closer | 3 sets At Jetty | Cameo Automation |
| XXIV | TVs | 55” - 2 Nos42” – 2 Nos32” – 2 Nos | Samsung/Elgi |

1. The locations of installation:

Main location is Amba jetty, approach trestle, pump house, Amba building, security cabin, B,C & D sites , Dhrishti Building, ELL crane at Jetty etc. in Willingdon Island.

1. Nature of Services.
2. The Operations and Maintenance (O&M) services can be both routine (day-to-day) and periodic.
3. The period of warrantee for different equipments is as mentioned in clause No 2 above. The contractor shall carry out the breakdown maintenance, preventive maintenance, routine maintenance and repairs for the equipment to upkeep the installations.
4. General Scope of Work:
	1. The following scope of work is only indicative and contractor is advised to use his own judgment in evaluating the quantum of work involved in round the clock operation and maintenance of the systems.
	2. To operate and maintain DG set with rating of the HT and LT power equipment i.e right from the outgoing point of metering equipment, 11KV oil immersed circuit breakers, HT cables, HT panels, 1600 KVA, 500 KVA, 11 kV/443 V transformers, incoming and outgoing LT panels, Switch gear, feeder panels, feeder switchboards, associated protection equipments, cables, control cables, LT bus ducts, battery charges, capacitor panels/power factor correction systems, pump panels, mechanical ventilation and pressurizing system, DBs, Switch Boards, Fire fighting installations, Water controllers, VRF ACs, Split ACs, EPABX, CCTV, VC system, UPS/Solar system/Inverter, Street light/ Highmasts/ Kerb lights/ Under berth lights/Duct lights/Land Scaping Lights, Kitchen Appliances etc. and their associated switchgear etc. round the clock throughout the year.
	3. To monitor & record the incoming supply parameters, make necessary tap changing to maintain the voltage in limits, switching on the capacitor banks, to keep the maximum demand within prescribed limits etc.
	4. To maintain the Internal and External Electrical Installations like lights, fittings, power outlets, switchboards, distribution boards etc cable & wiring pertaining to the same in good working condition. Attending to the complaints/ faults, preventive maintenance to avoid breakdowns etc. round the clock throughout the year. If necessary replacement shall be made by contractor as requested.
	5. To check Earth pits pertaining to all equipments, system and buildings etc, watering them as and when required and testing their earth resistance etc.
	6. To check the transformers parameters and cooling systems for leakage of transformer oil and topping up of the same as and when required.
	7. To check/clean with CTC/ tighten all electrical contacts monthly. The heated terminals if required to be made in proper condition by using appropriate size crimping tool and lugs.
	8. To check and replace, if necessary the performance of all operational safeties. This activity has to be done regularly and as required
	9. To check and clean all electrical fittings including fans on monthly basis and as per requirement.
	10. To lubricate motor/pumps bearings periodically and replace the bearings when necessary and submission of report on monthly basis.
	11. To check electrical circuits and rectify faults as and when necessary.
	12. To clean, tighten electrical contact points once a month.
	13. To replace electrical contacts and other items as and when required.
	14. To tighten all the fasteners of the bus ducts, bus bars and cables as and when necessary and at least once in three months. Also to re-terminate the heated up contacts and replace cabling/wiring as and when necessary
	15. To ensure that the control circuitry of all systems are perfectly working.
	16. To check the silica gel of the transformers and to dry them as and when required.
	17. To test the oil samples of transformers and to give suggestions for dehydration of oil if required.
	18. To arrange for a well-equipped first-aid box and maintain it in a healthy condition to take care of first aid for any eventualities at site.
	19. Arrange all type of repairs, spares & consumables required for proper working of electrical installations.
	20. Any other electrical works as assigned by the engineer in charge essentially required for keeping the equipments in good healthy working conditions though not indicated above.
	21. Operation of DG sets during office working hours and holidays whenever required.
	22. Statutory Inspections and tests like Annual Thorough Examination , Load Test etc for 15 T ELL crane shall be carried out as per requirement by the competent agencies
	23. Yearly servicing of ACB, VCB, 11 KV Panels, RMUs all relays etc has to be done with OEM/ authorized service centre and report shall be submitted.
	24. CEA inspection of Electrical installations as per regulations shall be taken up with CEA.
	25. Cleaning & Housing of Equipments/installation premises, Jetty head, Ducts, underberth etc
5. Operation & Maintenance – Electrical & Mechanical

The following routine operations are to be undertaken daily/ periodically

1. Switching on/off lighting as per schedule. Repair/ replacement of defective bulbs/ tubes.
2. Operation of Air-conditioning system.
3. Operation of all water pumps, fire pumps, transformers, electric points, cope points, Vessel supply points, internal/external lighting, etc.
4. Operation & maintenance of fresh water systems of jetty and buildings.
5. Operation & maintenance of fenders 3nos. and pontoons 2nos.
6. Operation (including routine battery check-up tests) of all electric back-up systems such as Inverters, UPS, Generators, etc.
7. Switching on /off & Operation of solar panels and checking the energy output.
8. Operation of Jetty Crane in two shifts, Loading and unloading of cargo /equipments from /to the ships at berth as per requirement. (Preventive/ Breakdown maintenance will be done by the supplier (as part of Warranty/AMC.)
9. Handling of power cables and cable trays for giving shore supply to the vessels/ supply to cope points/ supply for maintenance purpose ensuring proper safety, from/to power supply points available.
10. Handling of cables for giving networking/telephone connections to the ship from external points for ensuring service.
11. Maintenance schedule of Electrical/ Mechanical equipments.

|  |  |
| --- | --- |
| Asset/ Equipment  | Activity  |
| Transformers, RMUs, VCB panels, cables etc  | As per maintenance schedule of OEMRecording parameter Cleaning the room |
| DG  | As per the maintenance schedule of OEM LUBRICATION- Check engine oil level. Check & record parameter of DG set Check battery voltage AIR SYSTEM - Check pre cleance dust pan weekly. COOLING SYSTEM- Check coolant level. FUEL SYSTEM- Drain sediments from fuel tanks Drain air tank. Check and correct leaks.Drain fuel filter/Water separator daily. |
| MV Panels/ LT Panels/Control panels / DBs/ Sockets etc  | Visual check of panels, switch gears, relays, cables etc for any sign of overheating, chattering, burning smell etc.

|  |
| --- |
| Check relay status, reset if it is tripped.  |
| Cleaning of panels  |
| Check for any loose connection, tight the same if required |

 |
| VRF/Split ACs | Maintenance and up keeping of ACs shall be done as per OEM standards |
| Check fault status  |
| Check for air leakage and duct damaged (Ductable A/C)  |
| Ensure recycling operation of A/Cs.  |
| Check of temperature sensor unit for cut off and ON  |
| Take room temp. reading  |
| Check for cleanliness and any abnormal sound /burning smell |
| Check of temperature sensor unit for cut off and ON  |
| Check A/C grills, clean it if dirty  |
| Check the filter condition for cleaning  |
| Fire Engine of fire pump room  | Maintenance and upkeeping shall be done as per OEM standards |
| Check oil leakage in pipes  |
| Cooling system Check soft water supply  |
| Check for any leakage  |
| Check the air passage for leakage  |
| Exhaust, Check the exhaust for leakage  |
| Fuel system, Drain water and sediments accumulated at the bottom of the fuel tank  |
| Check the fuel level tank and fill up the tank at the end of each working day  |
| Air intake, Remove the dust from the evacuator valve  |
| Fire Pumps  | Maintenance and operation shall be done as per OEM standards |
| Check for all control panels , sensors, suction and discharge valves etc. |
| Operation of fire pump and hydrants |
| Check for electrical supply connections.  |
| Check & rectify water leakage  |
| tightness of all connections , seal and glands |
| Fire detection system  | Checking and maintenance of fire control panels, smoke detectors, call points, PA systems, talk back systems etc |
| Visual examination of the battery condition and its electrical connections feeding the system, rectify the same if found faulty  |
| Rectification of troubles.  |
| Fire hydrants & Fire Extinguishers  | Check system pressure of hydrant line |
| Check for all isolating valves are open |
| Refilling of Fire extinguishers as required |
| Check for physical condition of hose reel/ hose pipes, nozzle, connectors etc |
| Lights  | check the on/Off status of all lights, if any found in non-working condition, get it illuminate by replacing/repair the light |
| General | Co-ordination with all facilitation & technical rooms for proper working of system |
|  Recording of Electrical Parameters |
| Frequent rounds to site to check the operation & healthiness of equipments  |
| Supervision & overview of site day to day operation & overcome general complaint  |
| Maintain log books, check sheets, various registers etc properly in each shift.  |
| Check the ON/OFF condition of lights as per lighting requirement of GoI  |
| Check for any humming & chattering noise  |
| Check for any foul and burning smell  |
| Check for any tripping & if found reset the same after checking the proper cause.  |
| Check the relay status  |
| Check & record the load on panels  |
| Take all necessary energy meter readings of panel |
| Take & record temp. of technical rooms |
| Exterior cleaning & dusting of equipments  |
| lighting of all exterior lighting  |

1. Equipment/System wise Preventive Checklist

|  |  |  |
| --- | --- | --- |
| Asset/ Equipment  | Frequency  | Activity  |
| Transformers, RMUs, VCB panels, cables etc  | **weekly**  | As per maintenance schedule of CoPA/ OEM |
| **quarterly** | As per maintenance schedule of CoPA/ OEM. |
| DG  | Weekly / monthly | LUBRICATION- Check engine oil level.  |
| FUEL SYSTEM- Drain sediments from fuel tanks.  |
| AIR SYSTEM - Check pre-cleance dust pan weekly.  |
| Check air clearance restriction cleaner, change air cleaner element if required.  |
| OTHER MAINTAINANCE- Drain air tank.  |
| Check and correct leaks.  |
| Drain fuel filter/Water separator daily.  |
| Check battery status and maintain properly.  |
| No load testing  |
| Exhaust Fan  | Monthly  | Check for abnormal sound and vibration  |
| Measure current and voltage.  |
| Clean & tightened the connections.  |
| Visual check for any corrosion and damage.  |
| Panel/Control panel/DB/Socket  | Half yearly  | cleaning of panels  |
| Check for any loose connection, tight the same if any,  |
| Visual check of cable for any sign of overheating  |
| Clean the contacts of contactors.  |
| Functioning of switches, relays breakers.  |
| ACs | monthly | Check filter for cleaning  |
| Check fault status at remote  |
| Check for any abnormal sound  |
| Check of temperature sensor unit for cut off and ON  |
| Cleaning of filters  |
| Check and clean the drains  |
| Check for Any Overheating mark.  |
| Monthly | Wash the cooling coil if required.  |
| Outdoor unit maintenance.  |
| Measure current and voltage.  |
| Check and Tight the nut bolts of indoor and outdoor units.  |
| Check for proper working of MCB and RCCB  |
| Tight the electrical connections  |
| Measure the grill temp.  |
| Fire Engine of fire pump room  | Weekly  | Lube system Check engine oil level by opening Dipstick it should be done initially & 15 min. after shut down, top up req.  |
| Check oil leakage in pipes  |
| Monthly | Cooling system Check soft water supply  |
| Check for any leakage  |
| Check hose pipe connections for looseness  |
| Check the circulation of water for any restriction  |
| Fuel system Drain water and sediments accumulated at the bottom of the fuel tank  |
| Check the fuel level tank and fill up the tank at the end of each working day  |
| Air intake Remove the dust from the evacuator valve  |
| Check the air passage for leakage  |
|  | Exhaust Check the exhaust for leakage  |
| Check exhaust for restriction  |
| Electric Check battery connection for looseness  |
| Check the electrolyte level of each cell, it should be 1/2" above plates. Fill if required  |
| Apply petroleum jelly on battery terminals if required.  |
| Quarterly | Repeat the weekly check  |
| Air intake clean the bowl of air cleaner. Change the element if required  |
| Electric check the tension of V belt and adjust if required  |
| Check the connection of starter, dynamo and control panel.  |
| Half yearly | Repeat the quarterly check  |
| Lub system Replace the lube oil  |
| replace the lube oil filter element  |
| Fuel system Clean the filter sleeve with clean diesel  |
| Replace the pre filter insert of fuel filter  |
| Other maintenance, check the tappet valve clearance and adjust if required.  |
| Yearly | Repeat half yearly check  |
| cooling system clean radiator externally  |
| Check the thermostat element  |
| Fuel system Check the fuel injector and adjust if required  |
| Clean the fuel tank thoroughly  |
| Fire Pumps  | Weekly | Operation of fire pump  |
| Check for any leakage /abnormality in pipeline |
| Check & rectify water leakage from seal/glands  |
| Monthly | Greasing of bearings  |
| tightness of all connections  |
| Yearly | Check integrity of electrical insulation  |
| Fire detection system  | Monthly/ quarterly  | Main FACP Check the battery terminal  |
| Tightening the connections  |
| Clean the panel with soft brush / light air pressure.  |
| Check the current device status of top  |
| repeater FACP & MCP & Hooters tightening of connections  |
| cleaning of panels with soft brush/light air pressure  |
| MCP & hooters testing for correct position  |
| Smoke detectors Operate one trigger device of randomly selected zone circuit to test the ability of control and indicating panel equipment to receive a signal and to sound in presence of GoI/CoPA engineer in charge  |
| Visual examination of the battery condition and its electrical connections feeding the system  |
| Heat detector Tightening of connections  |
| cleaning of detectors  |
| testing to ensure correct operation by heat up detector, in presence of GoI/CoPA engineer incharge  |
| Junction box Tightening of connections  |
| Cleaning of junction boxes  |
| Continuity checked  |
| fire hydrants & Fire Extinguishers  | Monthly  | Check for physical condition of nozzle, connectors etc  |
| Check pressure and expiry date of all portable fire extinguishers.  |
| Check system pressure of hydrant line and record  |
| Light  | Half Yearly  | Check the tightness of connections  |
| Cleaning of lights  |
| Earthing | Monthly | Visual check of earthing connection  |
| Tightness of connection  |
| Yearly | Check the earth resistance and submit the report  |

1. Operation of ELL Crane

At the start of the shift/ before operating a crane a pre-operational check and an overall visual check should be done by the operator. A log book should be used to record the operation and condition of the crane. Adequate staff shall be maintained under a Supervisor in each shift to carry out the crane operational work.

The crane is intended to be operated in 2 shifts per day from throughout the year i.e. 365 days. The duration of the shifts usually be 8 hours each preferably 6 to 14 hrs and 14 hrs to 22 hrs and whenever time necessary as per the requirement of GOI without any extra cost . In this connection the relevant labour rule shall be adhered to by the contractor.

The operator/assistant shall be provided with the basic amenities by the contractor. The labour force engaged by the contractor shall be provided with weekly off, minimum etc as per rule. For operating of the ELL crane one Operator and one Fitter cum Signal man shall be assisted in the berth for the crane operation. In addition to the above, hooking / unhooking of the cargo in the berth/trucks shall also to be in the scope of the contractor. Sufficient number of work force shall be deployed for hooking/unhooking operation depends on the weight/quantum of cargo without any extra cost.. The contractor shall inform the major break down to the owner / AMC contractor then and there. The contractor shall also clean the crane track and cable trench protection system, cable pit etc. for smooth operation of the crane.

|  |  |  |
| --- | --- | --- |
| Quantity  | :  | 1 No.  |
| Lifting capacity  | :  | 15T capacity on hook with  |
| Materials to be handled  | :  | Machine parts, Electrical and mechanical Equipments , break bulk cargo etc.  |
| Hook Assembly Outreach(radius) Maximum Minimum  | : : :  | Provision for attaching as per crane capacity. 28 M 11 M  |
| Rail size Tolerance Rail top level with respect to chart datum level.  | : : :  | CR 100 As per clause 8.2.3 of FEM standard  |
| Height of lift Above berth Below berth Total  | : : :  | 25 m 13 m 39 m  |
| Operator‟s eye level above berth  | :  | Shall be comfortable for smooth operation and full vision inside deck.  |
| Wheel load maximum  | :  | 20 T  |
| Inclination crane installation | :  | +/- 1 degree.  |
| Source of External Power supply (Incoming)  | :  | 415 V; 3phase; 50 Hz AC  |
| Short circuit level at substation.  | :  | 25 KA.  |
| Permissible Voltage and Frequency variations For LT 415 V | : | Voltage Frequency +10% & - 9% +3% & -3% |
| Ambient Temperature  | :  | 40o C inside and 450 C outside  |
| Rail span  | :  | 5.9 M  |
| Portal Height  | :  | 4 M ( For easy passage of vehicle)  |
| Wind load  | : | 180Km/hr =50M/sec  |
| Design wind velocity | : | The crane shall be designed & manufactured so as to operate in any position without any fixing under steady wind pressure of 25kg/m2 over the full height of the crane. |
| Drives (ALL VVVF) Hoist & Lowering Slew motion Boom luff Gantry travel The electrical drive controls supplied shall be VC –VFD technology for optimum performance with latest state of art technology.  | : : : :  |  Speeds m/min With Load Empty 15 M/Min 30 M/Min 0.8 RPM 0.8 RPM 10.2 AVG 10.2 AVG 30 m/min 30 m/min |

1. Scope of work of fire fighting equipments

|  |  |  |  |
| --- | --- | --- | --- |
| Sl. No.  | ITEM  | Service to be carried out  | Nos/ Mts  |
| 1  | Engine-Make: Cummins India Ltd. Model.6CTAA 8.3 G4. 6 Cylinder. BHP-341.  | Daily inspection to be carried out ie. Check Oil level, Coolant level, Belt tension etc. as recommended by OEM may be considered.  | 1  |
| 2  | Diesel driven Fire Pump along with engine & gear box ,pipelines, SS 316 Strainer, control panels, cables, cooling arrangements, valves, supports, fittings, diesel tank, control panels, battery & battery chargers etc.-  | **Daily, Weekly & Monthly checkup to be carried out as per Schedule to be submitted by the contractor.**  | 1  |
| 3  | Electrical driven Fire Pump with motor and complete pipelines, SS 316 Strainer, control panels, cables, cooling arrangements, valves, supports, fittings, diesel tank, control panels, battery & battery chargers etc. -  | **Daily, Weekly & Monthly checkup to be carried out as per Schedule to be submitted by the contractor.**  | 1  |
| 4  | **10" Gate Valve-3nos., 10''NRV-2Nos, 6''Gate valve-3Nos,**  | Daily check-Gland leaks & line inspection. Monthly inspection to be carried out- Check for Gland leaks, cleaning, greasing, gland tightening if any.  | 8  |
| 5  | Pressure Gauges, SS, 6”, 0-15 Kg/cm2. -5 Nos.  | Annual Calibration.  | 5  |
| 6 | Cement lining pipe 10", 6'' & 4''NB, Sch. 20 ASTM A106 Gr.B /API 5L Gr.B ERW pipes, along with supports, flanges, fittings, gaskets etc. 15mtr,400 mtrs & 25 mtrs. | Daily inspection | 440 m |

1. Other activities to be carried out
	* 1. Contractor shall carry out all in-house preventive checks for equipments in scope not covered above and are important for system healthiness.
		2. Replacement of any other faulty component, which can be replaced/ repaired in- house. (the decision of in-house replacement shall be of GoI/CoPA and bound to contractor).
		3. Contractor shall prepare the equipment wise monthly failure report and submit the same to GoI/CoPA
		4. Any released faulty equipment/component shall be the property of GOI/COPA.
		5. Any spare material and consumable required for maintenance shall be provided by the contractor.
		6. Any failure shall immediately be reported to GOI/COPA engineer through e-mail/message.
		7. The contractor supervisor shall store the sufficient inventory and consumables to upkeep the system.
2. Periodic Maintenance & Repairs.
	1. Connecting and disconnecting Electric connection to ship(s) berthed on Jetty.
	2. Maintenance of electrical and mechanical systems and the associated fittings all over.
	3. Repairs/ Maintenance of the Air conditioning systems of the Technology Building and the Security Cabin.
	4. Load testing of all Gears (including bollards) as per laid down norms.
	5. Testing and charging of all Fire-fighting equipment and systems.
3. AMCs with OEMs

The following systems/ Equipments shall be placed invariably under AMC with their respective OEM/supplier/Authorised service centres. The contractor shall make agreement with the AMC firm and engage them within 14 days from the date of work order. Also if any defect is noticed in this gap the contractor shall have the full responsibility for repairing and upkeeping the equipments with his own cost. If contractor fails to award AMC contract, the tenderer/Owner/ Cochin Port shall have the full power to recover the amount towards AMC from the delayed period from the bill/ Security Amount after asserting the amount proportionally (5% of amount per day from the monthly rate) .

|  |  |  |
| --- | --- | --- |
| Sl.No | System | OEM |
| 1 | DG set 50 KVA | Greaves Cotton |
| 2 | Fire Pump Diesel engine | Cummins |
| 3 | Fire Pump & Motor | Flowmore, CG |
| 4 | EPABX System and phones  | Syntel |
| 5 | CCTV, camera and accessories in complete | Axis /Progility |
| 6 | Conference System with TV, Camera, Mic, Podium and all connected accessories in complete . | Progility |
| 7 | VRF AC | Voltas |
| 8 | UPS 40 KVA | Vertiv |
| 9 | Split AC units | Voltas |
| 10 | Solar Panels | Vikram Solar |
| 11 | Solar Invertor (with battery: Exide ) | Enertech |

\* Makes are indicative and may have changes.

1. Manpower

Ther staff strength of 15 persons distributed over three shifts with one Shift –in charge having overall responsibility as per the following pattern

 Shift in charge - 01

 Electrical Supervisor - 05

 Electricians - 05

 Fitter (Mechanical) cum Crane Signalman - 02

 Crane operator - 02

1. Miscellaneous
	1. The above works also include all requirements of tools, spares, consumables (bulbs, tubes, LED fittings, filters, fasteners, washers, etc), fuel for fire engine pump – DG set / oils/ lubricants, cleaning gear (soaps, liquid detergents, wipes, and material), etc necessary to undertake them satisfactorily.
	2. With regard to maintenance of records of O&M for claiming of expenditure, the norms being followed by the Port shall be applicable. Bills submitted should be worked out based on these records and a summary should be enclosed with the Bill. It is to be noted that records are auditable as per prevailing rules and regulations of the Central Government.
	3. GoI shall provide space to install one AC Porta-cabin at a suitable location to be used as local office (user may have to pay for operating charges such as electricity/ water, if any).
	4. Logistics are to be planned so that all services are efficiently and satisfactorily provided on time.
	5. A suitable mechanism to jointly (CoPA and GoI) monitor all vendors contracted to work on the Jetty shall be put into place to avoid any misunderstanding. This would address following suitably:-
	6. Regular and surprise checks. This would include their attendance record, their proper conduct, obtaining police verification for them, etc.
	7. Liability for safety and security for their respective personnel, equipment and stores should be that of contracted agencies
	8. Monitoring of stores, equipment and spares being moved by contracted firms.
	9. All vendors shall meet the security and safety norms of GoI. Personnel shall don standard safety clothing whilst on work. They shall be required to sign Non-Disclosure Agreement.
2. TOOLS & PLANTS

 All the general & special tools, tackles i/c chain pulley blocks etc. required for proper operation, maintenance and repairs/break down etc, shall be arranged by the contractor at his own cost and issue to the staff deployed by him for this work.

Minimum tools but not restricted as per requirements are :

Hand held heat sensor unit for checking the power supply terminals etc. for over heating

Cutting plier - 4 Nos.

Screw driver set - 4 set

Ring spanner full set - 2 Set

Double handed spanner full set - 2 Set

Wrench spanner - 2 Nos.

Hammer - 4 Nos.

Box spanner - 1 Set

Digital Insulation tester/Megger - 1 No.

Clamp meter & multimeter - 1 No

HT Gloves(11kV and above) - 2 set

Allen key spanner set - 1 set

Drilling Machine (Power) - 1 No

Hacksaw, Poker - 1 Set

Cable crimping tool - 02 No

 Mini welding/cutting machine - 01 No

1. Routine Maintenance of CR 100 Rail and Rail Track of 15T ELL crane at Amba Jetty

**FORMAT FOR ROUTINE MAINTENANCE OF THE CRANE RAIL TRENCH, CRANE RAIL SYSTEM & CRANE RAILS**

|  |  |  |  |
| --- | --- | --- | --- |
| **Element** | **Sl. No.** | **Inspection Points** | **Routine Visual Inspection & Maintenance** |
| (A) Crane Rail Trench | A.1 | Foreign objects or Debris accumulation inside trench | Inspect trench every month and remove foreign objects. Remove foreign objects ad-hoc as required |
| A.2 | Dust, sand and grit accumulation and/ or spillage (eg. Diesel oil) | Clean trench every three months. Utilize compressed air or water pressure and detergent. |
| A.3 | Drainage blockage | As and when required, remove all accumulated objects/ materials that obstruct the grille/drain outlet.  |
| A.4 | Trench infill | Where trench has filled with proprietary filling material, expose 1metre length at 100metre centres every 24 months. Inspect the crane rail system. Refill the trench with proprietary material in accordance with the warrantor’s recommendations. |
| (B) Crane Rail System | B.1 | Rail Alignment | Survey the alignment of crane rails every twelve months. If crane rail alignment (vertical & horizontal) is beyond operational tolerances, record the location on track layout plan and provide descriptions supported with photographs. Inform the GoI Engineer at site.  |
| B.2. | Rail Pad Lateral movement | Monitor position of rail pad every twelve months. If rail pad lateral movement is greater than 10mm beyond the foot of the crane rail, record the location, provide description and support with photographs. Inform the GoI Engineer at site. **The Repair/replacement of rail pad, if required shall be carried out by the contractor.** |
| B.3 | Click Bolts | Check the condition of the click bolts in accordance with the warrantor’s recommendations. If the problem is systemic take the photographs and record the location and inform the GoI Engineer at site immediately. |
| B.4 | Rail Clips | Inspect the rail clips every twelve months. Ensure full contact against the side of the rail. If not then record location and provide description, support with photographs and inform the GoI Engineer at site. |
| B.5 | Damage or deterioration to corrosion protection coating of metal components | Inspect for damage or deterioration of coatings every twelve months. Record location of observed damage or deterioration and provide description, supported with photographs. Inform the GoI Engineer at site where deterioration of the coating is observed. **Corrosion protection coating of metal components in CR 100 Rail, if required shall be carried out by contractor.**  |
| B.6 | Corrosion/ Deterioration of metal components | Inspect for damage or deterioration every 12 months. Record location of observed corrosion and/ or deteriorated areas and provide description supported with photographs. Inform the GoI Engineer at site. |
| B.7 | Damage/ deterioration of grout under sole plates | Inspect for evidence of damage every 12 months. Record the location of any observed deteriorated areas and provide description supported with pictures. Inform the GoI Engineer at site. |
| (C) Crane Rails | C.1 | Cracks in welded joints | Inspect for cracks every month. Record location of observed damage on track layout plan, measure and monitor crack width, provide description and support with photographs and/ or record as identified ad-hoc by the terminal operator’s engineering staff. Inform the GoI Engineer at site. |
|  | C.2 | Abnormal wear on the crane rail head and rail head sides (width) | Inspect the excessive wear every month. Assess whether excessive wear is being caused by quay crane wheel misalignment. Record location, loss of material and/ or remaining head width, provide description and support with photographs. If not due to crane wheel misalignment, inform the Warrantor. |
|  | C.3 | Excessive Corrosion/ metallurgical deterioration of crane rails | Inspect for corrosion/deterioration every 12 months. Record location, provide description, photograph and take measurements of the corroded/ deteriorated rail section. Inform the GoI Engineer at site. |
|  | C.4 | Defects to special rail components | Inspect for damage to turn outs, cross-overs, fixed points, expansion joints and any other special component included in the subcontract every twelve months. Record location of observed damage, provide description and support with photographs and/ or record as identified ad-hoc by the terminal operator’s engineering staff. Inform the GoI Engineer at site. |

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