

Technical Specification for Mechanical & Electrical works in nature to A.M.C of Compressors, Pumps, and Capstans, Caisson gate and Supply & distribution of pipeline net work meant for Compressed air & Salt water.

SCOPE OF WORK:

The Scope of work covers Repairs & Maintenance of Compressors, Pumps, Capstans, Caisson dock gate,(Indicated in ANNEXURE – I) Supply & distribution of pipeline net work meant for Compressed air & Salt water located in Ship building Yard.

Details of the works to be carried out:-

1. works to be carried out on daily basis: - Drain condensate from Compressor Air oil Separator tank, Compressor Pressure vessels & from moisture separators Regular, Periodic, Preventive, Shut down and Break down maintenance Mechanical in nature of the Compressors, Pumps, Capstans, Caisson dock gate, Supply & distribution of pipeline net work meant for Compressed air & Salt water located in Ship building Yard shall be carried out as Directed & Specified by the Maintenance department.
2. Preventive Maintenance shall be carried out ONCE IN EVERY THREE MONTHS for all the above Compressors, Pumps, Capstans and Caisson gate. The check lists are to be filled (in the formats provided by HSL) for each Preventive Maintenance schedule.
3. Lubrication of various Compressors air oil tanks, Capstans gear boxes and its drives, & Caisson gate drive mechanisms etc. shall be carried out ONCE IN A MONTH. These lubrication works shall be recorded in a log book and submit a copy of the same.
4. Repairs & Breakdowns shall be attended on TOP MOST PRIORITY on receipt of complaints from the Production departments / Engineer shift - in - charge. The details of repair / break down works such as date & time of the complaint, time of completion, total time duration of breakdown, nature of breakdown, cause for breakdown, Remedial measures taken & the details of spare parts consumed etc. shall be recorded in a log book and shall be got endorsed by Engineer - in - charge. If the break down job is not completed within the working hours, the contractor has to deploy manpower beyond working hours to complete the repair works.
5. Repairs & Maintenance of the walkways, ladders & handrails, motor canopies, base frames of the equipment at Building dock pump house & capstans etc. shall also be carried out as required and as directed by Engineer - in – charge.
6. Proper housekeeping shall be ensured and accumulated water shall be drained out for all the Compressors, pumps, capstans & Caisson gate etc.
7. Replacement of all the defective, worn out, damaged parts & components of the compressors Pumps, capstans brake shoes & worn out brake liners & caisson gate during regular inspection & checking as a part of preventive Maintenance shall also be included in the scope.
8. Testing of pressure vessels Annually & Certification of all the pressure vessels pertaining to ship building yard and DD&SR division (as envisaged in the factories act) shall also be carried out in presence of competent person approved by the Director of factories .
9. To attend all the preventive maintenance works, lubrication works, break down & repairs works and complaints (in both E1 & R2 shifts)
10. Technically competent personnel shall be deployed from 7 AM to 10 PM on all the working days and Sundays & Holidays also. However, a skeletal group shall also be made available in R3 shift (10 PM to 6 AM) to attend breakdowns.

S. No	Manpower	E1 Shift	R2 Shift	Total
1	Skilled category	3 Mech. + 2 Elec.	2Mech. + 2 Elec.	9
2	Unskilled category	4	2	6
3	Supervisor category	2 (1 Mech. + 1 Elec.)	2 (1 Mech. + 1 Elec.)	4
4	Engineer	General Shift - 2 (1Mech. +1 Elec.)		2
Total Strength				21

11. Maintenance, repair & replacement of electrical equipment including Electrical motors, Brake thrusters, & control panels and Limit switches etc. shall be carried out as per standards.
12. Preventive & breakdown maintenance of all the isolating switches / breakers, power & auxiliary contactors & coils, control & power transformers, protective relays, timers, safety systems etc. including replacement of damaged auxiliary/power contacts /over load relays, repairs of control & power transformers, push button stations, replacement of all blown off fuses with correct rated fuses. Maintenance of center column slip rings & its brush rockers with brushes.
13. Repair and replacements of defective cables including end termination with proper sizes of lugs.
14. Repairs & preventive maintenance of protective & control panels and its fixtures, including thruster controlled drives, resistance units.
15. Providing of adequate illumination in operators cabin lighting & machinery house.
16. Maintenance /repair of Caisson gate structure lighting for all sides of the gate, including ladder lighting.
17. Inspection and testing all protective relays and replacement of defective units.
18. Maintenance and repairs of drum / master controllers of capstans.
19. Maintenance & repairs of control panels including electronic equipment.
20. Modifications / alterations in circuits / in systems to serve the desired operation shall be carried out as directed by Engineer - in – charge.

(II) TERMS & CONDITIONS:

HSL's Scope of supply:-

The electrical/ pneumatic power; Oxygen & fuel gas; Mobile lifting machines shall be arranged by HSL, free of cost subject to availability.

Vendor's Scope of supply:

1. The entire work shall be supervised by their qualified & experienced Engineers & Supervisors.
2. The tools & tackles including chain pulley blocks, Slings & shackles etc; Welding & Gas cutting Equipment, safety appliances shall be arranged by the vendor, at their cost.
3. The Vendor shall mobilize the technically competent personnel required to ensure proper running of the above Plants & Equipments from 7 AM to 10 PM on all the working days. The vendor shall carry out preventive / breakdown maintenance works on Holidays/ Sundays also and required manpower shall be engaged on those days.
4. All the works shall be carried out as Directed / Specified / Approved by the engineer. The vendor or His authorized representative with a mobile phone shall constantly be in

contact with HSL Engineers to receive instruction and shall always be available to carry out works as per the requirements.

5. The Plants & Equipments shall be properly maintained to ensure continuous availability of services round the clock to various production works.
6. The payment shall be arranged on monthly basis against R.A. bills submitted by you & duly certified by the Head of the department.
7. The required spare parts (both electrical & mechanical) shall be arranged / supplied by HSL, free of cost subject to availability. Any additional spares which are not readily available with HSL shall be arranged by the vendor, as per the direction of the HOD of Plant Maintenance. The bill for the same shall be separately claimed.
8. The vendor shall submit original challans for the material brought inside the HSL, pertaining to this works, after getting them endorsed by Security & Bond office.
9. The vendor shall take utmost care in carrying out the AMC works on these Plants & equipments. Any damage caused to the property of HSL due to negligence of the vendor shall be made good by the vendor, at his Cost.
10. No employee of HSL shall be engaged to carry out this work.
11. The vendor shall take all safety precautions for their men & material by providing necessary safety gadgets / appliances and strict supervision. All other statutory obligations shall also be applicable in this area of work, as amended from time to time.
12. The vendor is liable for termination with one month's notice if the performance is not satisfactory. The decision of the Head of the Maintenance Dept. is finale in this regard.

Contract period:

The contract period for the work shall be 12 months from the date of placing of order.

Manager
Plant Maintenance

The Scope of Work covers the Repairs & Maintenance (both Mechanical & Electrical in nature) of Compressors, Pumps, Capstans, Caisson Gate, Supply & distribution of Compressed air & Salt water for the pipe line network in Ship Building Yard as per the details furnished under.

S. No.	Plants, Machinery& Equipments	Quantity
1)	1000 cfm Stationary Air Compressors	07 Nos.
2)	400 cfm Skid mounted Air Compressors	01 No.
3)	250cfm Skid mounted Air Compressors	02 Nos.
4)	200 cfm Skid mounted Air Compressor	02 Nos.
5)	283 Lpm Portable Air Compressors.	06 Nos.
6)	Dewatering Pumps (Various discharge capacities)	08 Nos.
7)	Fire Hydrant Pumps (Various discharge capacities)	11 Nos.
8)	Submersible Pumps (Various discharge capacities)	07 Nos.
9)	Mono Block Pumps	08 Nos.
10)	15 Tons Capacity Capstans	04 Nos.
11)	Caisson Gate	01 No.
12)	Compressed air Supply & distribution Pipe lines	09 KM (Approx.)
13)	Salt water Supply & distribution of pipe lines	06 KM (Approx.)
14)	Ballasting of tanks on vessels under Construction (as and when required) using Submersible pumps	L S.