

**SECTION - 6**

**SPECIFICATIONS**

## **6.1 Scope of Supply by CPSTL**

- 6.1.1 Spares for the overhauling of Buoy will be provided by CPSTL.
- 6.1.2 All the necessary technical detail required for the work will be provided by CPSTL.
- 6.1.3 Manufacture's representative will assist for the overhauling work.
- 6.1.4 Third party Ship Surveyor will be appointed to inspect the work.
- 6.1.5 Technical Specifications with dry docking plan is attached and general specifications of the buoy is as follows. (refer attachment -1)
  - Diameter: 8.5m
  - Total Height: 4m (hull)
  - Weight: 130MT

## **6.2 Contractor's Scope of Supply**

- Contractor shall supply all the equipment, materials (hull plates, pipes, canvas covers, additional nut and bolts where necessary other than provided, etc.), consumables and other requisites for the overhauling work as follows.
- 6.2.1 Supply of facility for dry docking of Buoy and all equipment such as welding machines, metal cutting equipment, air compressors, cranes, and cutting equipment, material transportation vehicles, rigging equipment, jacks, scaffolding materials, planks, corrugated metal sheets, fire blankets and tools and other equipment that are necessary to complete the work successfully.
  - 6.2.2 Supply of all inspection instruments and gauges to perform necessary inspection and testing.
  - 6.2.3 Supply of all consumables such as welding electrodes, gas for cutting, grinding discs, temporary erection material, and all other consumables necessary for the proper execution of the job.
  - 6.2.4 Required paint and solvent agent for painting of entire Buoy. Relevant data sheets for paint system shall be submitted to CPSTL for prior approval.
  - 6.2.5 All direct requirements of field equipment such as fuel, lubrication oil etc. the contractor intends to mobilize at site.
  - 6.2.6 Shall submit a bar chart for the total project clearly indicating the various phases of the contract, breakdown of manpower and equipment and organization chart allocated for this contract.
  - 6.2.7 Quality assurance records shall be maintained by the contractor and these records shall be given to Engineer/survey upon completion of each job.
  - 6.2.8 The Contractor shall submit the performance security and insurance covers as per Contract Data in Section – 6.
  - 6.2.8 Shall provide facilities including place/room near the Dry dock site for CPSTL site engineers.

6.2.10 Construction Utilities

- i. Contractor's power distribution board should consist of adequate over current and earth leakage protective devices for safety of men and machinery.
- ii. It is the responsibility of the contractor to maintain his switch gear and cable net work in good condition, so as to provide, complete safety to men and machinery.
- iii. The whole electrical installation of the contractor should conform to IEE wiring regulations (16<sup>th</sup> Edition) published by the Institution of Electrical Engineers (I.E.E), London.

**6.3 Contractor's Scope of Work and Specifications**

- 6.3.1 Contractor shall do the overhauling work as per work descriptions given below and as per the work identified at the pre bid site visit.

**Description of Services Required**

01. Transportation of buoy from and to Colombo harbour to dry docking yard
02. Docking & Undocking of the Buoy
03. Clearing of Buoy including the removing of all marine growth
04. Grit blasting up to the parent metal (LEVEL Sa 2.5)
05. Painting of the Buoy (including power tooling if needed). original Paint Scheme will be provided by CPSTL and paints to be provided by Contractor according to the paint scheme.
06. Servicing of two Nos. of chain tensioning winch &
  - I. Supply of two Nos. cable having length of 150ft & diameter 1" x 6 x 371WRC EIPS right regular lay, SWL 10MT, safety factor 3 for the winches.
  - II. Also preparing and supply of one no suitable canvas covers for the winch to protect from rain and sea breeze.
07. Refurbishment of the entire Multi product distribution unit of SPM (MPDU) (spares will be provided by the CPSTL) & conducting pressure test (including rotation test).
08. Conducting of system pressure test for MPDU.
09. Removing and re-fixing of fenders of Mooring Arm and repairing/ replacing of fender brackets and repairing boat landing Ladder.
10. Repairing of 06 Nos. water tight hatch doors and covers on the deck & leak test (04Nos hatch covers and 02 access hatch doors)
11. Replacing of battery box and providing padlock locking arrangement for battery box.
12. Service of tool box and providing padlock locking arrangement for battery box.

13. Also preparing a suitable canvas cover for the battery box and to the tool box to protect from rain and sea breeze.
14. Service of replace trolley hoist Rail beam
15. Service of anchor chain hawse access including replacement /repair of access covers.
16. In expansion joint assembly following jobs to be carried out (as shown in DRW DPM 27001, DPM 21004, DPM 21005)
  - Replacing 02nos expansion joints (Spares will be provided by CPSTL)
  - Replacing of rods (Spares will be will be provided by CPSTL)
  - Repair & replacement work on the other parts of assembly.
17. Replacement of 36 Nos. of anodes and repairing of bracket (New anodes will be supplied by the CPSTL).
18. Replacement of 04 Nos. of butterfly valve.
19. Replacing the mooring beam anchor connecting pin & bush (spares will be supplied by the CPSTL)
20. Repairing of 06 Nos. of Anchor hawser pipes
21. Repair of Sounding pipes
22. Repair of the anti-fouling structure and providing of suitable canvas roof on anti-fouling structure.
23. Replacing Navigation aids and solar array and service of Electrical wiring and fog horn.
24. Thickness gauging of the plates of hull and deck structure where necessary
25. Replacement of plates where thickness are low as recommended by manufacturer and third party inspector. (plates to be provided by Yard)
26. Repairing of mooring fairlead and small boat mooring cleat
27. Any other noticed at the pre bid inspection
28. Any additional work is required by manufacture's Engineer or surveyor or CPSTL engineer

### 3. **TECHNICAL SPECIFICATIONS & CONDITIONS**

- 3.1 A written warranty to be given by the successful bidder for a period of minimum one year for the workman ship of buoy repair after the repair.
- 3.2 A full system hydro test to be carried out by the contractor at 15 bars pressure

- 6.3.2 Contractor shall return the Old spares removed from Buoy and new excess spares to CPSTL. Also, all scrap steel removed from the buoy shall be returned to CPSTL.
- 6.3.3 Contractor shall carry out the safe dry docking of the buoy following Docking plan provided by attached as annexure in the bid document. Contact Engineer CPSTL If any other information required for this work.
- 6.3.4 Contractor shall do the surface preparation and painting as per the specification attached in annex - 2 of bidding Document.
- 6.3.5 Contractor shall, with due care and diligence, execute the work in compliance with all listed and applicable codes, standards and practices and provide all services and labour, inclusive of supervision there of ,all materials ,equipment, machinery, appliances or other things of whatsoever nature required in or about the execution of the work, whether of a temporary or permanent nature.
- 6.3.6 The critical welds decide by the CPC Engineer to be radio graphed and the films to be produced to CPC for approval.
- 6.3.7 All working areas shall be bounded by warning tapes for preventing personnel injuries.
- 6.3.8 Any damage to the existing utilities and product transfer pipelines during the overhauling work, to be repaired by the contractor at his own cost as accepted by CPSTL.
- 6.3.9 Welding shall be carried out as per API /ASME Standards
- 6.3.10 6G qualified welders shall be deployed for pipe welding and their certificates shall be forwarded to CPSTL before welding.
- 6.3.11 All the welded joints shall be inspected by their own inspectors and approval from CPSTL shall be obtained before installation.

## **6.4 CONTRACTOR'S RESPONSIBILITY**

- 6.4.1 Acceptance and approval of the CONTRACTOR's methods, equipment and materials shall be obtained from in advance and no way relieve the CONTRACTOR of his sole responsibility for the safe, efficient and satisfactory performance of the work as specified here into the satisfaction of CPSTL.
- 6.4.2 The CONTRACTOR shall take all necessary precautions to prevent any damage to any part of Buoy.
- 6.4.3 The CONTRACTOR shall examine all surrounding environment of the site and it shall be the CONTRACTOR's responsibility to select suitable measures to cope with the effects

of the environmental conditions prevailing at the site. The CONTRACTOR shall propose and use suitable equipment and methods for the works and conditions encountered.

- 6.4.4 The CONTRACTOR shall be responsible for the accuracy of all positioning work associated with the works specified here into the satisfaction of CPSTL.
- 6.4.5 The CONTRACTOR shall totally responsible for the design, stability and safe working of all temporary facilities erected in connection with the works. CPSTL reserves the right, without incurring additional costs, to instruct the CONTRACTOR to modify, alter or reconstruct any part of the temporary works. The design and construction of all temporary facilities shall be the sole responsibility of the contractor.
- 6.4.6 The repair or replacement of the existing facilities as a result of the CONTRACTOR's works shall be attended by the contractor at his own cost.
- 6.4.7 The CONTRACTOR shall give full and unrestricted access to all areas of the work concerned with BUOY Repair for inspection by CPSTL.
- 6.4.8 If any inspection reveals that the work is not in accordance with this specification or other referenced specifications, then the entire repair work shall be repeated from the point where the CONTRACTOR can demonstrate compliance with this specification. Such remedial work shall be carried out at no expense to CPSTL and the entire cost shall be borne by the CONTRACTOR.
- 6.4.9 CPSTL reserves the right to use still or video photo graphs to document inspection activities at any stage of the work
- 6.4.10 The CONTRACTOR shall maintain all equipment and machinery to be used to perform the work in good condition and shall carry a sufficient stock of spares in the event of breakdown of equipment and machinery. At all times, the CONTRACTOR shall guard against injury to personnel and property
- 6.4.11 The CONTRACTOR shall ensure adequate supervision at all times. The CONTRACTOR shall employ on the works only competent and skilled personnel. CPSTL shall be entitled to object to and require CONTRACTOR to remove any person employed on work covered by the specification, who in the opinion of CPSTL is incompetent, lacks the necessary experience or skill, is negligent in performing his duties, and in such event, the CONTRACTOR shall remove such person immediately from the worksite, and such person shall not again be employed up on the works without written consent from CPSTL. The CONTRACTOR shall replace, at CONTRACTOR's sole expense, any such discharged person with a qualified and experienced person satisfactory to the CPSTL.