

**HINDUSTAN SHIPYARD LTD : VISAKHAPATNAM-530 005**

**TECHNICAL SPECIFICATION FOR OFF-LOADING OF SUPPLY AND  
INSTALLATION OF BLACK & GREY WATER SYSTEM ON BOARD THE  
IPVS HSL YARD NOS. 11157 & 58.**

**1 SCOPE OF WORK OF THE CONTRACTOR:**

- 1.1 Supply and Installation of Black & grey water system as per drg. No. 26002F.
- 1.2 Installation of Black & grey water system shall be presented for inspection to Q.C., HSL Engineers, Owners, and IRS Surveyors as per the drawings supplied by the manufacturer / HSL.
- 1.3 Modifications required, if any to suit at site or suggested by HSL/Owners / IRS Surveyors shall be carried out without any extra cost by the sub-contractor.
- 1.4 The work shall be carried out by the contractor in close cooperation with shipyard departments and other contractors on board the ship.
- 1.5 Burnt areas due to welding shall be mechanically cleaned and painted as per painting Scheme. The required paint will be issued by Painting dept.
- 1.6 The contractor shall employ sufficient number of experienced employees depending upon the work load time to time to meet the schedules of HSL .
- 1.7 Skilled workers only shall be employed since the work is complicated in nature for maintaining the accuracy and neatness.
  - 1.7.1 The contractor shall employ qualified welders to carry out welding wherever required to produce quality welds.
- 1.8 The required tools and instruments shall be arranged by the contractor.
- 1.9 The contractor shall arrange inspection of work for the satisfaction of shipyard personnel/owners/ IRS at different stages . A record of inspection is to be maintained by the contractor and produce the same for obtaining completion certificate and arranging payment .
- 1.10 Contractor shall keep the working areas neat.
- 1.11 Each item of system piping material shall be weighed in presence of the concerned Dept officer/QC before installation on board and the weight records are to be submitted to the dept officer for forwarding the same to DO.
- 1.12 Technical specification for supply and inspection of ABS pipes, valves, flanges, clamps, gaskets, nuts & washers etc. required is at Annexure - I and the bill of materials is at Annexure- II.

2. **INSPECTION AND SURVEY:**

- 2.1 During execution, the job will be inspected by the representatives of Shipyard / IRS / Owners. Contractor shall provide required facilities for such inspection.
- 2.2 Survey shall be done in presence of concerned yard departments / Quality Control / Owners / IRS.
- 2.3 The survey remarks by Owners / IRS shall be carried out by the contractor on top priority and remarks shall be presented for re-survey.

3. **SCOPE OF WORK OF SHIPYARD:**

- 3.1 Shipyard shall provide detailed working drawings, to carryout the work as required under contract.
- 3.2 Shipyard shall provide required facilities like lighting, power supply, crane lifts depending upon the availability.
- 3.3 Shipyard shall provide required welding consumables like electrodes, gases and compressed air.

4. **GUARANTEE:**

- 4.1 Contractor shall guarantee his work for the fabrication & installation for a period of 12 months from the date of delivery of the vessel and agree to repair / rectify any defects in workmanship are noticed during the guarantee period.

5. **SAFETY:**

- 5.1 Fire and safety appliances are to be provided to their work forces by the contractor.
- 5.2 The contractor shall be held responsible for the damages occur if any at their work spot due to the negligence of their work force and the cost of such damages will be deducted from their bills.

Encl: Annexure – I & II

**C M (OAD&M)**