

# **KALANGALA INFRASTRUCTURE SERVICES LTD.**

## **SPECIFICATIONS**

**FOR**

**Works in Connection with the dry docking  
and repairs of**

**M/V PEARL**

**(JULY 2022)**

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## **1. SHIP GENERAL**

### **10. Specification, Estimating Instruction**

In the following, the Owner will be referred to as “**Owner**”. Contractor performing the works as specified in this specification will be referred to as “**Yard**”.

Yard shall specify price for each item in this specification and give a total timeframe for the completion of works.

Specification is built up using the SFI-Code.

#### **101. Contract Work**

The following document serves as docking specification for the docking works on the ferry MV Pearl.

By entering Contract with Owner, Yard commits to performing the duties specified in this specification to the Owner’s satisfaction.

Further, by submitting tender, the Yard commits to the following terms:

1. Ferry is insured by Owner throughout the period of the works including any extensions resulting from delayed works. The owner has the ferry insured until Yard has signed for the handover of ferry after works completion.
2. The Owner reserves the right to enter into a contract with third party suppliers and contractors at any time for works not covered by this specification or where specifically stated under work item.
3. All extra works are to be agreed in writing and mutually signed by Yard and Owner before commencement. If the extra works result in an extension of time, it is to be stated in writing to the Owner.
4. Any price escalation in the prices offered by yard in the tender will not be accepted by Owner, unless mutually agreed as stated under sub item 4.
5. All prices in the tender are to be to the full extent of the completed works and shall include all materials, skilled and unskilled labour, prices are to be quoted in USD.

#### **11. Certificates**

The Yard is responsible for obtaining all the required certificates for equipment and materials used during the works and submitting same to the Owner and/or owner’s representative.

The owner and/or owners representative has the right to demand additional documentation and testing of materials at the Yard's expense if this is necessary to satisfy national authorities and/or international rules and regulations ferry is serving under.

## **12. Quality Assurance, General Work [Yard]**

### **121. Quality Assurance, Planning, Work Preparation**

Quality of works shall be according to shipbuilding and repair IACS standard no. 47 for repair of steel works. Painting works shall follow the recommendations and guidelines laid out by respective paint manufacture and guidelines in this specification.

In general, work is to be performed by skilled labourers to a standard of good craftsmanship. Where unskilled labour is used, an experienced and skilled work foreman shall supervise ongoing works.

Works are to be well planned and time frames for completion to be known by supervisors and workers. Where time frame for completion is lapsing, an action plan for catch-up shall be presented to owner and/or owners' representative in writing within 1 (one) working day of owner and/or owners representative request.

### **122. Work Management, Fire Guard, Watch-keeping**

Work management plan (schedule) to be made by Yard to cover all aspects of work areas for timely completion. If delays occur, original and an updated work management plan is to be presented to the owner and/or owners' representative on either's request. [Yard]

Fire Guard is to be present during hot works, under the agreement if possible. Yard may request a crew to act as fireguard. Request to be submitted to the owner and/or owners' representative. Yard is responsible for all protective equipment and fire-fighting equipment to be used by fireguard and such to be made available at the location of works and fire guard duty. [Yard]

Night watchman is to be made available by Owner at Owner's expense for the security of the ferry.

### **123. Clearing and Cleaning [Yard]**

Right after dry-docking, the ferry is to be high-pressure, freshwater cleaned all-over with min. 400 Bar hydro blaster to evaluate the deterioration of existing paint system and evaluate scope of work.

At the end of works and latest before undocking and further delivery of ferry back to Owner, a thorough cleaning of all spaces accessed during works to be performed by Yard to ensure the cleanliness of the ferry.

Works finishing in access areas to be cleared and cleaned immediately for safety reasons.

## **125. Transportation [Yard]**

Yard is responsible for all transportation of goods and materials to and from the yard and within the yard if ferry is under the dock yards repair.

## **126. Owner's Supply**

Owner has the right to supply own goods and third-party contractors as specified under 101 item 2.

Should the owner and/or owners representative request assistance from yard in assistance with supply, Yard is obliged to assist to the full extent for the timely completion of the ferry.

## **128. Health, Environment, Safety [Yard]**

Yard is to maintain safe working environment and have PPE available for workers and the specific works undertaken.

Yard shall make available standard PPE equipment e.g., helmet, glasses, gloves ear protection for workers and people moving around on the yard.

Yard to include a Health, Safety and Environment plan in the bid. This must give details of how the HSE issues are to be managed while dry docking the Mv Pearl.

## **2. HULL**

### **20. Hull Materials, General Hull Work**

#### **201. Hull Materials [Yard]**

Hull materials are to be certified to the extent required by national authorities and international rules and regulations. Hull materials are to be suitable for the place where they are intended to be used.

**NOTE:** Hull materials apart from the **Paints** will be provided by Yard.

### **203. Blasting and Shop priming [Yard]**

All new steel plates to be mounted blasted and shop primed to min. SA2.5 shop primer zinc rich to 20my and have class approval. Plates may be used as pre-shop primed from manufacturer.

### **26. Hull Outfitting [Yard]**

High-pressure cleaning of sea chests, outside box coolers and removal of any foreign bodies. Paint-scheme for Sea chests and box cooler compartments to follow item 271 Bottom.

Overhaul of sea-valves with new spindle packing material, flange packings bolts and nuts.

Visual confirmation and inspection to be performed by owner and/or owners' representative

### **27. Material Protection External [Yard]**

#### **General**

A Paint specification to be supplied by yard for owner's approval, paint scheme to be from HEMPEL.

**Note that paint is to be supplied by Owner.**

### **271. Bottom [Yard]**

#### **Works flat/vertical bottom to waterline**

1. High pressure wash paint damaged areas.
2. Repainting of cleaned areas to follow approved paint scheme from supplier HEMPEL.
3. Painting of complete bottom.
4. Microns to be measured between coats.

### **272. Top Side**

#### **Waterline to deck including fender [Yard]**

1. High pressure washing after docking with min. 400 Bar to remove loose paint.
2. Repair of paint damage as follows:
  - Mechanical cleaning to ST3 and edges to intact paint system to be feathered. Price to be given per spot, 100x100mm, 200x200mm, 300x300mm and per 1 (one) m2.

- Repainting of mechanical cleaned areas to follow approved paint scheme from supplier HEMPEL.
- Repainting of name, hometown and markings (depth etc.), in white.
- Microns to be measured between coats.

#### **Bulwark outside [Yard]**

1. High pressure washing after docking with min. 400 Bar to remove loose paint.
2. Repair of paint damage as follows:
  - Mechanical cleaning to ST3 and edges to intact paint system feathered price to be given per spot estimated 100x100mm, 200x200mm, 300x300mm and per m2.
  - Repainting of mechanical cleaned areas to follow approved paint scheme from supplier HEMPEL.
  - Full Painting of Bulwark outside according to paint scheme.

#### **Bulwark inside and main deck (Including ramps) [Yard]**

1. High pressure washing after docking with min. 400 Bar to remove loose paint.
2. Repair of paint damage as follows:
  - Mechanical cleaning to ST3 and edges to intact paint system feathered price to be given per spot estimated 100x100mm, 200x200mm, 300x300mm and per m2.
  - Repainting of mechanical cleaned areas to follow approved paint scheme from supplier HEMPEL.
  - Full Painting Bulwark inside and full painting main deck according to paint scheme.

#### **Superstructure, PS, STB, wheelhouse, and upper decks [Owner]**

1. High pressure washing after docking with min. 400 Bar to remove loose paint.
  2. Repair of paint damage as follows:
    - Mechanical cleaning to ST3 and edges to intact paint system feathered price to be given per spot estimated 100x100mm, 200x200mm, 300x300mm and per m2.
- 
- Repainting of mechanical cleaned areas to follow approved paint scheme from supplier HEMPEL.
  - Full painting superstructure outside, full painting upper decks according to paint scheme.

#### **273. Ballast Tanks [Owner]**

All rusted ballast tanks to be cleaned and repainted according to the paint scheme from supplier HEMPEL.

**278. External Cathodic Protection [Owner]**

Extent of exchange of zinc on bottom to be agreed between owner and/or owners' representative and Yard after dry-docking and high-pressure cleaning.

Enough Zinc is available onboard should it be found necessary to renew.

**3. EQUIPMENT FOR CARGO**

**311. Ramps [Yard]**

Replace broken flap stoppers where applicable.

Check connecting pins and bushes and all their grease nipples and replace where necessary.

Brackets to be installed to stiffen ramp construction.

Check ramps for listing during lowering and heaving up and rectify as appropriate.

**4. SHIP EQUIPMENT**

**42. Navigation Equipment [Yard]**

All navigation equipment to be tested for correct operation and yard to submit test protocol to owner after test is completed stating the test results.

Echo sounders in hull bottom to be checked for proper function. Proper sealing of the echo sounder wire penetration on watertight bulkhead inside tankers to be done. Check for proper functioning of the echo sounder display.

Windshield wipers in wheelhouse to be repaired, adjusted, and checked for correct function.

**421. Communication Equipment [Owner]**

All communication equipment to be tested for correct operation and yard to submit test protocol to owner after test is completed stating the test results.



Testing of communication equipment to be completed after the complete rewiring of the electrical systems on the ferry.

#### **43. Anchoring and winch equipment [Yard]**

##### **431. Anchors w/chains and equipment**

Anchors and anchor chains to be rolled out and inspected for damages, owner and/or owners' representative to be advised when anchor and anchor chain is ready for inspection.

Anchor and chain to be rolled out on suitable steel or wooden plates, preventing sand or foreign bodies from entering the chain knuckles. Change End to End.

Check windlass drum for Bearing replacement.

After inspection chain to be sprayed with oil e.g. vegetable oil or deep fat frying oil for preservation of the anchor chain while being winched back on the ferry and into the chain locker.

##### **438. Hydraulic oil systems for anchoring and mooring equipment**

###### **Hydraulic pumps**

Hydraulic pumps to be inspected, operating pressure to be measured by pressure gauge before dismantling any parts of hydraulic system, pumps to be monitored for abnormal sounds.

Cure all leakages found on the hydraulic oil system.

**A hydraulic oil sample to be extracted from the hydraulic system and sent to a certified laboratory for testing, immediately after ferry arrival to the yard.**

Test report to be handed to owner and/or owner's representative for perusal of foreign bodies in hydraulic oil.

###### **Hydraulic motors**

Hydraulic motors on anchor and ramp winches to be opened and visually inspected together with owner and/or owner's representative for abnormal wear.

###### **Control Valves and filters**

Control valves to be opened and cleaned for foreign obstacles and overhauled with new gaskets and O-rings.

Some valves may require replacement.

Hydraulic oil filters to be replaced with new ones from a recognized dealer.

### **Testing**

After service is completed the system to be operated and tested for correct pressure and function together with owner and/or owner's representative, test reference is lowering and hoisting of ramp.

## **5. EQUIPMENT FOR CREW AND PASSENGERS [YARD]**

### **50. Lifesaving and Protection Equipment**

#### **501. Lifeboat**

Oil and spark plug to follow makers instruction.

A speed test to be performed with the rescue boat to ensure smooth sailing and operation at maximum speed.

The Hoisting mechanism for the Lifeboat Davit Should be changed to motorised system.

#### **503. Lifesaving, safety, and emergency equipment**

All Floating devices to be inspected by yard.

Signs on floating devices to be polished so markings of certification are clear for flag state inspection. New floating devices to be marked with correct plate marking stating number of persons capable of carrying.

#### **506. Portable Fire extinguishers**

Portable fire extinguishers to be replaced and/or serviced by an authorized workshop and remounted on same locations on the ferry. Fix fire extinguishers' holders.

Thread on fire plan holders to be greased and repainting to be done in signal red colour.

**6. MACHINERY COMPONENTS [YARD - 1]**

**60. DC Generators - Diesel Engines**

**601. Diesel Engines**

YANMAR Diesel Engines of the DC Generators to undergo major overhaul.

**NOTE:** This was handled under a different arrangement out side this scope.

**63. Propellers and Transmissions**

**635. Thruster units**

A hydraulic oil sample to be extracted from the thruster's unit's servo system immediately after ferry arrival to the yard and sent to a recognized laboratory for analysis results to be presented to the owner and/or owner's representative.

Replace both propeller shaft and steering shaft bearings.

**7. SYSTEMS FOR MACHINERY MAIN COMPONENTS [OWNER]**

**70. Fuel System**

**701. Fuel Transfer System**

One of the two transfer pumps to be replaced with a new one.

After replacement, fuel pumps delivery capacity to be tested by filling the day tank with approx. 100 litters from bottom tank and measured against pump capacity.

Leakage on the PS daily service tank to be cured.

Fuel bottom tanks to be opened and internally cleaned and deposits disposed of by yard, manhole gaskets to be replaced with new.

Owner and/or owners' representative to do visual inspection of the internal of fuel bottom tanks before closing.

All filters in the fuel transfer line to be replaced with new ones and pipes blown through with air.

## **72. Cooling Systems**

### **Box Coolers Internal**

A 24-hour acid cleaning to be performed and thereafter flushed with clean water.

### **Box Coolers External**

Hydro blasting and scrapping, with non-metallic scrapper.

Flushing of all cooling water pipes and manual operating of butterfly valves to ensure easy movement open/closed position.

Valves to be serviced.

## **8. SHIP COMMON SYSTEMS [YARD]**

### **803. Bilge/Ballast system**

Bilge/ballast system to be tested by means of suction from all bilge and ballast tanks.

After successful completion of the bilge and ballast system suction testing, yard to instruct engineer onboard in bilge and ballast system operation.

### **813. Fire/wash down System**

All fire hoses to be replaced with new ones.

Replace all fire Hydrants.

All fire hose piping to be repainted in colour signal red where necessary.

Some Hose reel boxes need to be fabricated.

Replace Magnetic Clutch on one of the pumps for Fire/Bilge/Ballast system.

Service sea chest valves, mud box and non-return valves for proper water suction of the sea chest when the vessel is in motion.

After completion of service a spray test to be performed to ensure correct operation of pumps in fire mode and integrity of the complete fire system.

A smoke detector system to be installed in Bridge, storeroom, engineer's room, and generator set room.

## **87. Common Electric distribution systems**

The complete electrical distribution system to be checked for proper function.

Check all switch boards for proper functioning of all warning lights, controls from the bridge console and public address system.

All other electro-mechanical systems to be checked and rectified where necessary.

## **9. MV PEARL MODIFICATIONS AND ADDITIONS**

### **M-1: INSTALLATION OF TURPLINE ON PASSENGER SALOON [YARD]**

Yard must present proposal for installation of weather resistant tarpaulin sheet along the passenger saloon to protect passengers from rainwater.

### **M-2: INSTALLATION OF MOTORISED RELEASE SYSTEM ON LIFEBOAT DAVIT [YARD]**

Yard must present proposal for installation of a motorised system on the lifeboat davit for quick release.

### **M-3: OTHER MODIFICATIONS AND REPAIRS [ YARD]**

1. Replace all the Timber on the passenger seats.
2. Sewage tank and the sewerage system: - Fit strainer in the suction line to avoid blockage.  
- Create Manhole on sewage tank.
3. Fabricate propeller guard plates for both thruster units.

4. Fabricate deck scupper covers and fix knocked/corroded hose reel cabinet.
5. Supply and fix Anemometer (Wind Vane), Lightening arresters, New Binoculars and two missing roof iron sheets.

**M-4: LONG ARM METALLIC HOOK [OWNER]**

Fabricate long arm metallic hook for anchor direction.

**ADDITIONS:**

1. Spraying of the engine canopies (Royal Paint) [Owner]
2. Fabricate and Fix New expansion tanks prior to re-filling cooling media.