Statement of Requirements:
Supply of New Lifeboat and Davit Systems for CCGS Henry Larsen

Aug 30, 2017

Contents

1 SCOPE

1.1 The intent of this Statement of Requirements (SOR) must be for the Contractor to supply two (2) lifeboats complete with davits, as well as two (2) years of mechanical and electrical spares as per 6.2, to replace the existing lifeboat and davit systems currently fitted on the CCGS Henry Larsen.

1.2 All references to approval within this specification are defined as Class approval by one of the Recognized Organizations (RO) approved by Transport Canada within the Delegated Statutory Inspection Program (DSIP) and the Marine Machinery Regulations (CSA 2001).

1.3 The proposed lifeboats and davit systems must currently be in marine service and must have Original Equipment Manufacturer (OEM) representation in Canada. The manufacturer's appointed service organization must hold a stock of essential spares and be capable of providing qualified field service representatives (FSRs), thorough component documentation support, with the capability to provide technical support for standard overhaul as well as repair. The service organization must be capable of delivering these services and parts to St. John's, NL, within 24 hours of notification by the CCG.

1.4 The Contractor must be capable of supervising the installation and commissioning of these systems to be carried out in a future refit scheduled for May, 2018 at the time of solicitation closing. However note that installation and commissioning costs are not associated with this contract as the intent is for supply only at this time.

1.5 The Contractor must be capable of providing two (2) sets of training courses to be held onboard the vessel after commissioning of each lifeboat and davit system. Note that training costs will be associated with installation costs as stated in paragraph 1.4 and therefore the cost is not associated with this contract. Each course must be for up to 12 students for 4 hours. These courses must be conducted by the Contractor's technical representative and must as a minimum provide:

1.5.1 Overview of lifeboat and davit systems.

1.5.2 Overview of lifeboat and davit systems system functionality and capability.

1.5.3 Launch recovery and safe operation.

1.5.4 Routine maintenance.

1.5.5 Trouble shooting methods.

2 STANDARDS

2.1 The requirements of the following standards must be complied with in supplying the lifeboat and davit systems. Current editions of documents at the time of solicitation are to be used.

2.1.1 IMO International Convention for the Prevention of Pollution from Ships (MARPOL)

2.1.2 IMO International Convention for the Safety of Life at Sea (SOLAS)

2.1.3 IMO Life Saving Appliances (LSA) Code

2.1.4 Rules and Regulations for the Classification of Ships (Lloyds Register or equivalent)

2.1.5 Canada Shipping Act, 2001 (CSA 2001)

2.1.6 Life Saving Equipment Regulations

2.1.7 Marine Machinery Regulations

2.1.8 Vessel Pollution and Dangerous Chemical Regulations

2.1.9 TP127 – Ships Electrical Standards

2.1.10 TP14475 – Canadian Life Saving Appliance Standard

2.1.11 IEEE 45: Recommended Practice for Electrical Installation on Shipboard

2.1.12 IP Code, International Protection Marking, IEC Standard 60529

3 TECHNICAL REQUIREMENTS

3.1 The requirements for the proposed lifeboat and davit system are broken down by vessel requirement, davit requirements, and lifeboat requirements as per the subsections below and must comply with the standards as listed in Part 2 of this SOR.

3.2 References

Drawing Number	Description
13-0075-01	General Arrangement Flight, Boat & Foc'sle Deck
15-0243-01	Lifeboat Davit arrangement

3.3 Vessel Installation Requirements

3.3.1 The proposed davit system, complete with stowed lifeboat, must fit within the following dimensions, 7.50M Length, 3.70M width and 4.75 in Height.

3.3.2 The proposed lifeboat must be a minimum of 7.3 meters in length. Embarkation height to be a minimum of 2.20 meters from deck.

3.3.3 The proposed davit system, complete with stowed lifeboat, must not impede access or otherwise block passage around or under the davit for proposals of an elevated design as currently fitted. For lowered installations, the installation must not impede access or otherwise block passageways adjacent to the installation area.

3.3.4 The installation must operate on a supply of 600 VAC / 3 ph / 60 Hz. For the lifeboat requirements, the proposal must include 600VAC / 1 ph / 60 Hz step-down transformers to the required operational voltage not to exceed 55VAC. The transformers are to be mounted separately inside the ships adjacent machinery spaces and are to be marine rated with Nema 4x enclosures.

3.3.5 All metal structures of the davit are be coated with two (2) coats of primer followed by two (2) coats of RAL 9010 Pure White for a final DFT of 5 mils. This excludes any bearing surfaces, greased connections, or non-corroding material.

3.3.6 The proposed lifeboat and davit system must be provided with all equipment and parts necessary for a complete and fully functioning installation permitting deployment and recovery of the lifeboat in normal and emergency situations.

3.4 Davit Requirements

3.4.1 The davit must be electro-hydraulic and must have all major electric and hydraulic components housed internally for protection from water, ice and debris. The internally housed electric and hydraulic components must be provided with inspection covers for access and maintenance. Inspection cover fasteners must be stainless steel.

3.4.2 The davit must be fitted with one (1) or two (2) shore connections as required for the purpose of battery chargers and heating devices as required by the lifeboat design and outfit subject to the condition of 3.5.14 and 3.5.15 of this specification. Where two (2) different voltages are utilized, the receptacles must be of different designs to prevent interconnection with the incorrect voltage.

3.4.3 The machinery compartment as identified in 3.3.4 must be fitted with a thermostatically controlled space heater for the purpose of maintaining a dry environment.

3.4.4 The lifeboat and davit must be capable of launching with its full complement of personnel and equipment, a vessel trim under 10° and listing at 20°.

3.4.5 The davit must be fitted with a 2 speed winch for the purpose of recovery.

3.4.6 The davit must be fitted with a lifeboat securing system, i.e. gripes, for the purpose of securing the lifeboat when the vessel is in service. These gripes must be automatic release upon the davits movement from the stowed position.

3.4.7 The davit must be capable of remote operation from the helm position within the lifeboat for the purpose of deployment and for local operation for deployment and recover from the operator station on the vessel.

3.5 Lifeboat Requirements

3.5.1 The lifeboat must be of a totally enclosed and designed for a minimum complement of 68 persons.

3.5.2 The lifeboat must be a rigid hull construction of a self-extinguishing glass fibre reinforced plastic (GRP) material. This material must be resistant to rot, corrosion, seawater, oil, fungus, and sunlight and deterioration from air temperature in the range of-30°C to + 65.5°C.

3.5.3 All lifeboat release and retrieval systems must comply with the requirements of Resolution MSC. 317 (89).

3.5.4 The exterior hull and canopy of the lifeboat must be of gel coat resin with a final colour of RAL 2008 Bright Red Orange or equivalent international standard. Lifeboat interior must be a finish colour of RAL 7035 Light Grey or similar.

3.5.5 Lifeboat markings must include the vessel's name, IMO number, port of registry, boat # and capacity marked on the port and starboard bows. The vessels call sign CGHL must be on the top of the lifeboat in retro-reflective markings.

3.5.6 The lifeboat must have an identification plate affixed to the interior hull with the following information provided: serial number, dimensions, date of manufacture, date of inspection, number of persons and load capacity.

3.5.7 The lifeboat must be fitted with retro-reflective tape as per the Life Saving Equipment Regulations and LSA Code.

3.5.8 All walking surfaces, interior and exterior, must be fitted with non-skid coatings of the same colour as above.

3.5.9 The lifeboat must be fitted with a hull drain. The drain must be self-sealing in the event the drain plug is dislodged when the boat is in operation.

3.5.10 The lifeboat passenger cabin must be fitted with a ventilation arrangement that can be manually closed for passage in toxic atmospheres.

3.5.11 The lifeboat must be fitted with a manual bilge pump with valved connections to the passenger space and the engine compartment.

3.5.12 The lifeboat must be fitted with a rubber fender to protect the exterior hull. All fasteners must be 316 stainless steel.

3.5.13 The lifeboat must be fitted with buoyant grab lines along the exterior of the hull as per the requirements of the LSA Code.

3.5.14 The lifeboat must be fitted with a shore power connection receptacle for the supply of the battery charger(s) and lifeboat electrical system when not in operation. The shore power receptacle must be marked clearly as such and must be of a different design as that in the requirements of 3.3.4.

3.5.15 The lifeboat must be fitted with internal cabin heaters. Voltage is to be the same as the onboard voltage for the lifeboat and cannot exceed 55VAC. The heater total rating must be a minimum of 300 watts.

3.5.16 The lifeboat must have the following electrical equipment installed; two (2) x canopy light, handheld search light, position indicating light , and illuminated

compass. The switch panel containing the circuits for these devices must be protected with fuses.

3.5.17 The lifeboat must be supplied with a full stock of standard life saving appliances and equipment as per LSA Code and Life Saving Appliance Regulations for a Canadian SOLAS convention vessel; these must be stored in clearly marked storage cabinets. The storage cabinets must be constructed within the interior of the lifeboat.

3.6 Lifeboat Propulsion Requirements

3.6.1 Prime mover must be an inboard compression ignition engine complete with pre-heater and dual electric start. This engine must be capable of running in any position in the event of capsize or inclement weather and continue to run once the vessel has been returned to an upright position as per the requirements of the applicable Regulations from Section 3 above.

3.6.2 All engine exhaust piping and the exhaust silencer are to be suitably insulated with a thermal insulating material.

3.6.3 The engine instrumentation panel must contain controls for engine start / stop, alternator output (voltage meter), battery charge / level indication, tachometer, jacket water temperature gauge, high jacket water temperature alarm, lube oil pressure gauge, and a low lube oil pressure alarm.

3.6.4 The lifeboat fuel tank must be constructed of stainless steel and have a capacity to operate the vessel underway at full rated speed for at least 24 hours as per the LSA Code and Life Saving Appliances Regulations for a Canadian SOLAS convention vessel. The fuel tank vent must be routed to the exterior of the vessel and be fitted with a spark arrestor at the exterior. The fuel system must be fitted with a disposable cartridge type in-line filter with isolation valves. The tank must be fitted with a level indication and fuel shut-off valve.

3.6.5 The helm position must be fitted with a reversible transmission and throttle control and steering system. An emergency tiller steering system must also be incorporated within the lifeboat which disengages the helm control for steering.

3.6.6 The helm position must be fitted with a battery selector switch with positions of “Battery One, Battery Two, Both, and Off”.

3.6.7 The lifeboat must be fitted with a dual battery charger capable of maintaining the charge on the batteries when the lifeboat is stowed. The required operational input voltage not to exceed 55VAC . The batteries must be capable of receiving a charge from the battery chargers and the engine driven alternator.

3.6.8 Batteries must be supplied with the lifeboat and must be maintenance free, mounted in c l a s s approved containers, and be vented to the exterior of the lifeboat.

3.6.9 The lifeboat propeller shaft must be supported in water lubricated bearings and be fitted with a sealing arrangement fitted to the interior of the lifeboat.

3.6.10 The fitted propeller must be fabricated from a non-corroding material and be fitted with a guard.

3.6.11 The lifeboat engine cooling system must be a sealed system comprised of a keel cooler arrangement and be filled with a distilled water / antifreeze mixture suitable to -

40 °C. This system must permit the running of the lifeboat in the stowed for a minimum time as defined by the LSA code and the Life Saving Appliance Regulations.

4 QUALITY ASSURANCE

4.1 The lifeboat and davit systems must be tested in accordance with regulatory requirements. Factory Acceptance Testing (FAT) procedures must be carried out at the manufacturer's facility.

4.2 The CCG Technical Authority (TA) must witness the FAT. A minimum of 30 days notice of the FAT test date must be given to the TA for the purpose of arranging travel.

4.3 Two (2) typewritten copies of all above–noted test data must be provided to the CCG TA prior to acceptance.

4.4 Upon completion of testing, the lifeboats and davit systems must be prepared for delivery, i.e. crated / packaged as per manufacturer's recommendations.

5 DELIVERABLES

5.1 The following technical data must be supplied for the proposed lifeboat and proposed davit system; the documentation must be supplied in two (2) typewritten and two (2) electronic copies in Adobe PDF documents. All documents provided shall be provided in English and French .

5.1.1 Material List

5.1.2 Operation, Service, and parts manuals

5.1.3 Equipment Drawings

5.1.4 Mounting Arrangements and Dimensions

5.1.5 Electrical Wiring Diagrams

5.1.6 Individual masses, including Center of Gravity (CoG) indication, of the proposed lifeboat, davit, and as a combined system.

5.1.7 Original Class Type Approval certificates for the lifeboat and davit, along with two (2) copies.

5.2 The Contractor must provide all mechanical and electrical spares required to perform two (2) years of the recommended regularly scheduled maintenance. The required spares must be genuine OEM parts as published in the manufacturer's maintenance manual.

5.3 The Contractor will provide a list of manufacturer recommended spares for a fifteen (15) year lifespan as published in the manufacturer's maintenance manual. The list must include part numbers, lead-time to order, retail prices at time of bid submission, complete with a list of Canadian distributors and service centers.

5.4 Electronic documents must be supplied within sixty (60) days of award of contract and be Adobe PDF. Electronic files must have a resolution no less than 300 dpi, be manufacturer approved, and retain the colors of the original documents.

5.5 Delivery of the two (2) new lifeboat and davit systems is required by March 31st, 2018 at the Canadian Coast Guard Base in St. John's, NL.

6 WARRANTY

6.1 The supplier must provide a minimum of one (1) year warranty from the date at which each lifeboat and davit system becomes operational.

6.2 For the purpose of the installations the various components may need to be separated and subsequently reassembled. If separation and reassembly is required this practice must not void the manufacturer's warranty.

6.3 Supplier must indicate if warranty requires Field Service Representative installation and commissioning.