

Scope of Work (SOW)

General Requirements

- Provide daily report to LabMar representative. Provide weekly project schedule with major milestone and delivery dates.
- Transfer all fuel from the vessel to holding tanks, and clean and gas free the vessel's fuel oil tanks and engine room bilges. Return fuel to respective tanks upon completion.
- Diesel storage cost. Fuel oil tanks: Cargo tank 1 port: 366 gal. max capacity; Cargo tank 1 stbd: 366 gal. max capacity.
- Drain potable water tank and pressure wash inside tank (capacity 125 gal).
- Drain sewage tank and clean inside tank (capacity 125 gal).
- Provide a Marine Chemist's Certificate including Safe for Workers and Safe for Hot Work – Whole vessel.
- Provide services of a competent person to maintain a daily log as required for a marine chemist gas free certificate.
- Provide service for access to and from vessel while dockside and/or in dry dock.
- Provide tug service to shift vessel within contractor's facility, and to shift vessel on dock as necessary.
- Disconnect and lock out CO2 system; reconnect upon departure of shipyard. 3rd party vendor to certify CO2 system, replace hoses as necessary.
- Provide shore power to vessel, hook up and disconnect as needed.
- Provide crane, forklift, and rigging service for project duration.
- Provide blue drums as required for hazardous material disposal.
- Provide a 5-yard trash tub for material disposal.

Hull & Underwater Work

- Dry dock vessel, maintain minimum 3-foot clearance under hull. Provide shore power throughout.
- Survey underwater portions of the vessel and assist in inspection of all tanks and spaces for USCG. Coordinate inspection with customer Rep.
- Survey propellers, including dye check. Check pitch, blade width, thickness, and diameter. Provide written report. Balance wheels, polish blades, final survey to customer Rep.
- Check the blue fit of Port and Starboard propellers to shafts. Provide findings.
- Remove and reinstall port and starboard tail shafts. Dray to machine shop for survey/repair.
- Perform NTD (dye pin) on tail shafts. Clean, repair as required, survey wear down/run out, and check straightness. Report findings.
- Rig Port and Starboard couplings out for survey/repair. Reinstall and check trueness/runout. Report findings.
- Check the blue fit of shaft couplings to shafts. Report findings.
- Renew all shaft tube and strut tube cutlass bearings (Johnson Duramax code 'KIM', qty 6).
- Renew P/S PSS Pro shaft seals (3" diam shaft, 6" shaft tube).

Fit and weld tight wire bracket at stern for gear alignment check. Report findings.
Remove/reinstall steering rudders after survey/repair. Survey rudder linkage, tiller, quadrants, rams, trunks, bushings, and rudder stocks. Provide findings.
Renew Johnson Duramax 'DuraBlue' rudder bearings and bushings (upper and lower).
Install shock mounts on PLC.
Replace miscellaneous aluminum as directed by USCG or customer Rep (approx. 1,000 lbs). Replace damaged fendering. Extend lower fender to bow. Renew stern boarding door support, hinges, roller guide. Straighten/replace port forward handrail.
Remove and replace all anodes.
Remove and clean manhole covers (8 @ 15x24 and 4 @ 24x24). Provide new gaskets.
Air test all spaces to USCG satisfaction. Provide written report.

Pumps & Piping

Clean, inspect, and check proper operation of vents and ball checks. Includes 8 compartment vents (Wager 150# 2.5"), 2 fuel vents (Wager 150# 2.5"), 1 potable water vent (Wager 150# 1.5"), 1 sewage vent (Wager 150# 1").
Prove proper operation of all fuel shut-off valves. Operational test for USCG only. Includes port/stbd main engine fuel tanks.
Open, inspect, and clean all fire main valves and fire hose valves. Open, inspect, and clean strainers. Demonstrate all seal valves for USCG. Reinstall with new gaskets. Qty: 2 fire hose stations.
Open and rebuild fire pump (MP 36280) as per specification. Reinstall with new gaskets.
Remove, disassemble, recondition, or replace valves and strainers including: sea suction & discharge valves, check valves, overboard discharge valves (qty 8 @ 2" Bilge System, qty 2 @ 2.5" Exhaust Water System), sea chest valves (qty 2 @ 2.5"), engine cooling (qty 2 @ 2" gate valve).
Add 2" check valve to each generator suction below sea strainer.
Add Groco 1.5" stainless steel strainer to each fire pump. Verify fire system pressure after installation.
Reassemble and reinstall all valves and strainers. Grease fittings. Prove operation.
Remove sea chest screens from hull. Inspect and clean sea chests. Reinstall screens.
Inspect bilge pump (qty 8 Goulds Water Technology 1DQ0511), overhaul as necessary. Test bilge alarms.
Open, inspect, and clean all bilge suction and discharge valves. Clean strainers. Demonstrate all seal valves for USCG. Reinstall with new gaskets.
Test bilge system for USCG.
Inspect and replace mini hot water heater at 3 sinks due to low flow. Replace braided water flex lines (Rheem Interket RTEK-04).
Inspect and flush out deck drains. Clean lines.
Inspect and clean grey water lines as needed.
Replace 14' of 2" sewage discharge piping and fittings. Renew sewage pump (TorTuga-1pro pump with Leeson Washguard motor).

Hydraulic & Mechanical

Remove all steering hydraulic cylinders. Inspect, clean, overhaul, and replace seals. Renew all hydraulic hoses with double braid hoses. Reinstall cylinders.
Install new hydraulic directional control valves (HD-3C6-G02-DL-B, qty 2).
Drain, clean, and flush steering pump oil sump and hydraulic lines. Refill system with new oil.
Test hydraulic system for leaks and operation.

Propulsion Mechanical & Thrusters

Inspect and perform main engine work per CSA agreement.
Open and inspect main gearboxes. Authorized manufacturer to perform work with OEM parts.
Owner to approve vendor.
Replace bow thruster with ABT TRAC X2 12" TRAC AC 20 HP. Replace gear oil hose and fittings.
Relocate hoses. Inspect and grease universal joints.
Replace vessel generators as per attached quote. Remove/reseal hatch. Disconnect/reconnect.
Rebuild old generators as spares.
Renew all main engine fuel/water hoses, generator hoses, bilge and fire pump hoses. Use double braided USCG approved hoses.

Painting

Hull blasting, cleaning, and painting (hull & decks). Near white metal blast per specification. Areas: keel to waterline, waterline to main deck, main deck aft, upstairs passenger deck, bow deck.
Paint draft marks, vessel name bow/stern. Replace nonskid with same material and finish.
Sand sweep or spot blast superstructure as necessary per paint specification.
Blast, clean, and paint all exterior areas of house.

Electrical

Inspect navigation system (per specification).
Inspect general alarm system (per specification).
Inspect and clean main switchboard. Check/tighten connections (per specification).
Replace all vessel batteries. Check and inspect chargers. Replace as needed. Batteries: 2 UB8DK AGM 12V, 8 31-5T CCA 950 RC 175.
Replace lights as needed (Lunasea LLB-35MC-51RM floodlight 85-260VAC, 50W).
Perform PSTP on vessel automation (per specification).
Replace cameras/lenses as required (Hikvision, locations: Bow, Midship, Stbd Aft, Aft Stairwell).
Inspect P/A system and test all speakers. Inspect corded mic.

Life Saving & Fire Fighting

Recertify all fixed and portable fire extinguishers (per specification). Includes: Wheelhouse CO2 10#, Cabin fwd ABC 10#, Cabin aft ABC 10#, Port Outside BC 5#, Stbd Outside BC 5#, Port Engine Room Fireboy 56# fixed, Stbd Engine Room Fireboy 56# fixed.

Repair/replace CO2 controls and pull stations as needed.

Replace obsolete fire detection system with new compatible system (Fireboy Xintex Marine Safety System Elite #397477-09).

Renew Rescue C Hero davit rope as per manufacturer specifications.

Lower anchor and replace hawser. Check anchor release/securing devices.

House General

Renew all watertight/weathertight door gaskets. Chalk test doors. Renew forward door locking mechanism (Trio Ving - Assa Abloy).

Replace flooring (stbd forward area). Flexco SE-058 IMO 18x18x1/8 solid Blue Shadow.

Replace Port & Center wiper motors/assemblies (Roca Motor 24V Item #351012 W38).

Replace upper deck seats (13 seats).

Inspect and clean HVAC system. Recharge as needed. Clean/blow drain lines. Replace HVAC covers inside house: 1 wheelhouse Daikin FXHQ24MVJU, 12 cabin Daikin FXFG24TVJU, 1 crew room Daikin FXAQ07PVJU.