

Schedule 1
Bluenose II Restoration
Benchmark scope of work

The following benchmark scope of work is intended to describe a restored vessel, to replace the existing vessel Bluenose II.

The intention is that the restored vessel will to remain faithful to the original shape and look of the Bluenose I and II but the hull will be recreated with high quality materials and methods of construction to allow it to have a life expectancy of 50 years without major structural work assuming proper maintenance.

It is understood that certain elements of the existing vessel are to be removed from the existing vessel and re-used on the restored vessel. These items are set out in the list of Minister-Furnished Equipment. Some are to be reinstalled by the successful proponent and some by the Owner as identified below.

It is also understood that the successful proponents responsibility for rigging the restored vessel is limited to stepping the main and fore masts and that the Owner will be responsible for supervising and completing the rigging of the restored vessel using its own materials and forces before it can be operated under sail.

Finally, it is understood and agreed that the benchmark scope of work is not a performance specification and does not include bringing the restored vessel into any Class nor any costs associated with meeting any Classification Rules.

The words "or equivalent" when used in this document mean that the successful proponent expects to meet with representatives of the owner to identify alternatives, review them in terms of suitability, cost and performance and make a decision in a collaborative manner.

Principal Particulars:

Length overall 161'

Length on deck 143'

Breadth 27'

Draft 15'

Sail area approx 11,690 sf

Scope of Work

1. Deconstruction
2. Development of reconstruction site
3. Reconstruction outline specification
4. Launching and re-commissioning
5. General conditions

1. Deconstruction

Move vessel alongside a wharf

Remove and put in appropriate storage for re-use:

- masts, topmasts, booms and gaffs
- standing and running rigging and hardware
- mooring gear including anchors, chains, windlass and davits
- fo'c'sle hatch and hardware
- engine room hatch and hardware
- gangway and gangway steps
- portholes

electronics
deck hardware including vents, chocks, cleats, daisy/rig pins, fairleads, hawsepipes, fore and main sheet buffers, main title rail, sheet winch
safety equipment including life rafts, buoys and rings, whistles, horns, bells, life jackets and personal equipment
other fittings and hardware that, subject to owner approval, are in good condition and re-usable
Remove all other hardware and gear and label, cover and transfer to long term government storage as directed by government representative
Remove deck houses, interior furnishings and bulkheads, plumbing, mechanical, electrical and all other fittings and finishes and transport for appropriate disposal or recycling. Wooden components to be chipped or burned.
Remove ballast and dispose.
Haul vessel on marine slip and erect hoarding to prevent public viewing
Deconstruct deck and hull and dispose off site by chipping or burning
Retain a structural element for use in reconstruction as directed by owner

2. Development of reconstruction site

Level and prepare a site beside the existing LIFE slipways

Design and build a side transfer system to allow vessel to be moved onto the slipway for launching

Supply and install a steel frame, fabric covered temporary structure approximately 80' x 180' with sufficient overhead clearance

Provide appropriate site access, water, power and sanitary services and security

Make the construction process visible to the owner and members of the public on terms to be agreed. Note: cost of staging or platform for public viewing not included in price.

Upon or before launch of the Vessel, the Builder will dismantle the temporary shelter and the Minister shall be entitled to, and within a reasonable time thereafter shall, remove the temporary construction shelter and it shall become the absolute property of the Minister free of any claims and encumbrances.

All other infrastructure erected to support performance of the Works, including without limitation the side transfer system, shall remain in the places in which they have been erected, to be permanent improvements of the lands on which they have been erected and to be and remain the absolute property of the Builder or of the nominee of the Builder.

3. Reconstruction benchmark specification

3.1 Hull

Build hull and deck to lines and scantlings provided by LVE and generally as follows:

Keel - traditional keel construction built up of 12" wide angelique

Shoe- 3" x 12" timber fitted to base of keel and tapered fore and aft as required

Keelson- laminated angelique 12 wide x 21 high

Dead Woods, horn timber and stempost of solid angelique

Stem, fore foot, apron stanchions and knight heads of solid angelique

Frames- laminated angelique, doubled @ 27" o.c. sided 6" , moulded 8"

Floors - laminated angelique

Exterior Planking- above waterline formed of 3 1/2" thick angelique at the sheer tapering to 3" at the waterline, caulked, filled and faired.

Exterior Planking- Below waterline formed of 3" thick planks Angelique, garboards formed 4" thick Angelique, caulked, filled and faired

Bulwarks - 3 1/2" x 8" douglas fir or angelique, caulked, filled and faired

Rails - white oak or angelique or equivalent similar to existing vessel

Deck beams and carlines- laminated angelique

Deck planking 3" x 6" solid douglas fir caulked, faired and filled

Ceiling, shelf and clamp laminated fir or equivalent to dimensions as per LVE dwgs.

Rudder - Oak or angelique stock, fir or spruce blade, bronze gudgeons and pintles

Fastenings to be hot dipped galvanized steel spikes

The rods in way of main deckhouse

Hanging and lodging knees to be galvanized steel

Ballast - concrete 80 tons (40 concrete / 40 steel punchings)

Hull topsides to be painted black, four coats

Trin to be painted white, four coats

Bottom to be antifouled, two coats

Cove and scroll work to be painted yellow or gold

3.2 Hatches and deck houses

Size and location as shown on LVH drawings

Douglas fir or equivalent

Construction details generally as per existing vessel

Reinstall existing fore/cisle and engine room hatch and hardware, gangway and steps, portholes

Paint four coats

3.3 Accommodations

Layout as per LVE drawings

Watertight bulkheads as shown on LVE drawings, each with one with watertight dogged hatch

Cabin sole framed with douglas fir or equivalent, 3/4" marine plywood with non-slip resilient flooring finish, access hatches as required.

Cabin sole in officers cabins to be 3/4" hardwood, bright finish

Standard of interior fit, finish, hardware, hinges, latches etc is Schooner Papa.

Piping and wiring to be concealed where possible and exposed fastenings to be kept to a minimum.

Bulkheads 3/4" douglas fir ply clad w/ 3/4" tik. pine or spruce tongue and groove, paint finish 3 coats

Interior trim douglas fir, pine or equivalent, paint or natural finish 3 coats

Cabin doors and interior trim/ furnishings douglas fir, pine or equivalent, paint or natural finish 3 coats

Forward Accommodations-8 berths fitted against hull and following vessel's lines with built in lockers

Forward Accommodations fitted with mess table and bench seating to suit space

Hold Accommodations- Starboard side 8 berths with built in lockers / Port side 2 cabins with 2 berths in each fitted with lockers

Galley Accommodations- 1 cabin with 1 berth for cook, built in locker with hinged wooden table fastened to inboard bulkhead.

Aft Accommodations- 2 Single Cabins with berths, built in lockers, desk & sink.

Each berth approx. 6'6" x 2'2" fabricated of wood with inboard sides cut to form lee rails with reading lamps, privacy curtains and fabric covered foam mattresses

Chart room with desktop, dedicated lighting for chart plotting, shelves for navigational aids and books and drawers for chart storage

Salon/Reception Area w/ table and 8 chairs as well as perimeter seaters with padded cushions and seat backs

Washroom Spaces: 2 forward accommodations, 2 hold accommodations and 1 aft accommodations all include marine toilets, sinks and showers/ aft to have bath tub as well

Sloped stairways to fwd accommodations hold area, aft accommodations formed of hardwood stringers and steps, non-skid treads attached with stainless steel pipe rails. Some existing to be re-used.

Vertical ladders from the aft accommodations, engine room, fwd accommodations fabricated of flat bar steel stringers and square bar rungs suitably spaced

Labels on all equipment

Signage on all compartments

Owner responsible for re-installation of pictures, plaques and other small fittings

3.4 Galley

Galley equipment as follows or equivalents to suit the general arrangement,

- 1 Toastmaster Electric Heavy Duty Range RH36D4 220 V marine stainless steel galley stove/range combination fitted with rails and racks.
- 1 Toastmaster Electric Heavy Duty Range RH36D3 220 V stainless steel griddle and convection oven
- 1 Victory Refrigerator 2-door large capacity refrigerator stainless steel construction roll-in design
- 1 Victory Freezer 2-door large capacity stainless steel construction roll-in design
- 1 Panasonic NE-1064 Microwave oven
- 1 Double stainless steel sink with hot and cold water large enough to wash cooking pots

3.5 Gear

Steering gear and wheel

Reinstall existing

Mooring equipment

Reinstall existing including winlass, anchors, chain and davits

Fire fighting equipment:

Reinstall existing engine room CO2 smothering system

Reinstall existing fire extinguishers, fireman's outfit, fire blankets buckets and axes

Safety equipment

Reinstall existing life rafts and other fixed safety gear

Owner to be responsible for installation and stowage of all small and loose safety gear.

Deck hardware

Reinstall existing hardware including chocks, cleats, belaying pins, fairleads, hawsepipes, fore and main sheet buffers, main fife rail, sheet winch

Electronic navigation equipment

Reinstall existing electronics

3.6 Rig

New stainless steel chainplates, lower deadeye straps and bowsprit hardware

Balance of rig to be re-used.

Builder to install bowsprit and step lower main and foremasts and set up lower standing rigging. Owner to be responsible for all remaining rigging work

3.7 Sails

Existing to be reused. Owner to bend sails on.

3.8 Tanks

Fuel Tanks - To be fabricated of 1/4" mild steel plate with (1) inspection cover, (1) manhole cover, (1) fill inlet, (1) outlet. Includes internal 2" x 2" x 1/4" framing and baffling at 2 ft spacing

2 Fuel service tanks located in engine room - 46.5 cubic ft (290 imp gal) each

- 2 Fuel tanks located in aft accommodation - 51.2 cubic ft (319 imp gal) each
- 2 Fuel tanks located in saloon - 118.1 (736 imp gal) cubic feet each
- 1 Fuel tank located in hold - 50.4 cubic feet (314 imp gal)

Grey Water Tanks-- To be fabricated of 1/4" 304 stainless steel plate with (1) inspection cover,

- (1) manhole cover, (1) fill inlet, (1) outlet. Includes internal framing and baffling at 2 ft spacing
- 1 Grey water tank located in aft accommodations - 7.2 cubic ft (45 imp gal)
- 1 Grey water tank located in hold - 122.1 cubic ft (761 imp gal)
- 1 Grey water tank located in galley - 115.5 cubic ft (314 imp gal)

Black Water Tank-- To be fabricated of 1/4" 304 stainless steel plate with (1) inspection cover,

- (1) manhole cover, (1) fill inlet, (1) outlet. Includes internal framing and baffling at 2 ft spacing
- 1 Black water tank located in hold - 67.8 cubic ft (422 imp gal)

Fresh Water Tanks - To be fabricated of 1/4" 304 stainless steel plate with (1) inspection cover,

- (1) manhole cover, (1) fill inlet, (1) outlet. Includes internal framing and baffling at 2 ft spacing
- 2-Fresh Water Tanks located in Saloon - 78.0 cubic ft each (486 imp gal each)

3.9 Propulsion and Generators

5 - engine and generator beds

- 2 - 300HP @ 2400 rpm ISUZU UM6HK1 electronic common rail marine engines or equivalent
- 2 - Twin Disc MGX - 50/75 SC marine transmissions or equivalent
- 2 - Twin Disc Quickshift electronic gear shift stations or equivalent
- 2 - Remote main engine panels and extension harnesses
- 2 - 50 kw service generator sets with ISUZU 4JJ1T electronic engines

- 67 HP @ 1800 rpm - CGT Stamford 50 Kw generators and control system or equivalent
- 1 - 15 kw harbour generator set with ISUZU 3CE1 Diesel Engine
- 23.4HP @ 1800 rpm - CGT Stamford 15 Kw generator and control system or equivalent
- 2 - 3" SS propeller shafts (approx 16.5' long)
- 2 - 3" transmission couplings
- 2 - 3" x 6' Fibreglass stem tubes
- 2 - 3" stem bearings with cutlass
- 2 - 3" inside stuffing boxes
- 2 - 3" hull struts fabricated bronze with cutlass
- 2 - 38" x 2 blade Maxprop manganese bronze self feathering propellers or equivalent
- 3 - Generator control panels
- 2 - Main engine exhaust systems
- 3 - Generator exhaust systems

3.10 Plumbing Systems

1. LUBE OIL TRANSFER SYSTEM

- 1- Lube oil Transfer pump, Groco SPO-60R, 6 gpm, 12V, Reversible

2. FUEL TRANSFER AND SERVICE SYSTEM

Note:

- 2- Fuel transfer pumps, Viking HL493, 30 gpm@30psi, Vertically mounted
- 2 - Fuel transfer pump motors, Viking Standard IP45, 115V, 2hp, 1PH, 60 Hz TEFC
- 2- Main engine fuel/water separators, Racor 75/500 Max, 60 gph/filter, 10 Micron element
- 2- Service generator fuel/water separators, Racor

- 1- Harbour generator fuel/water separator, Racor
 - 5- Tank senders - WEMA SSL, 6 tank display
- 3. GREY & BLACK WATER SYSTEM**
- 1- Grey water discharge pump, Goulds 3642, 1" x 1 1/4" - 5", 3 9/16" IMP 48 frame 35gpm @ 25ft- 5gpm @ 50ft, 230V, 3500rpm, 1/2 hp, 1 PH, 60Hz TEFC or equivalent
 - 2- Grey water sump pumps, Johnson L2200 submersible pumps, 30 gpm @ 4 ft- 5gpm @ 16ft, 12V, 1=7.5A w/Ultima switch. Note: 1 is for spare
 - 2- Vacuumator, Jets 10 Nt, 100 flushes/hr, 220 V, 1PH, 60Hz, 1.3 Kw
 - 1 Vacuum Accumulating tank, Jets 110L SS
 - 5 Vacuum Toilets, Jets 50 M, 1.2L Flush, Floor mount
 - 1 - Tank sender WEMA SSL Grey water tank 1
 - 1- Tank sender WEMA SSL Grey water tank 2
 - 1 - Tank sender WEMA SSL Black water tank
- 4. POTABLE WATER SYSTEM**
- 2- Fresh water pumps, Goulds jet pump J10S, 18.6 gpm @ 50psi, 115V, 1HP, 60 Hz
 - 1- Fresh water Accumulator, Well mate CPV-20T, Draw Down= 20 gal
 - 1- Hot water heater, Hubbell MSE 120-0- 20 SLT, 120 gal, 20 kw, 240V, 3PH situated aft
 - 1- Hot water heater, Hubbell MSE 120-0- 15 SLT, 120 gal, 15 kw, 240V, 3PH situated for
 - 1 - Fresh Water Maker, Reverse Osmosis, Sea Recovery Corel Sea 4200, 331 Lph @ 10psi, 208V, 3Ph, 60 HZ
 - 1- Sea Water Feed Pump , Sea Water Recovery Supplied
- 5. SEA WATER COOLING SYSTEM**
- 2- Main engine S.W. strainers, Duplex Groco VD-2000, 2" Bronze w/monel basket
 - 2- Service generator S.W. Strainers, Simplex Groco ARG 1210, 1 1/4" Bronze w/monel basket
 - 1- Harbour generator S.W. Strainer, Simplex ARG-1000, 1" Bronze w/monel basket
- 6. BILGE AND FIRE FIGHTING SYSTEM**
- 1- Bilge Pump

1- Fire pump - Ampco RC2 x 2A Self priming centrifugal 100gpm@75 ft. 3500 rpm, 3Hp, NI Al Bronze Model

1- Emergency Fire Pump - Reuse existing diesel driven Self priming Centrifugal

3.11 Piping Materials and Specifications

All below watertight hull penetrations are to fitted with easily accessible bronze ball type seacocks, Groco or equivalent

1. LUBE OIL TRANSFER SYSTEM

206 Feet 1/2" diameter Pipe- all 316L SS Tubing (1/2" O.D.)

24 Fittings- Compression

22 Connections- Compression

24 Gaskets- Nitrile

5 Valves- SS threaded (5 in total)

1 Hose @ engine- Trident A1 Fuel hose (Max length 1M)

4 Hose Fasteners- SS Heavy duty clamps

2. FUEL TRANSFER & SERVICE SYSTEM

Note: LVE drawing J09056-M05 date 28-01-10 specifies pipe sizes from 1.25" to 1.5" and fuel delivery 3/8" and 1/4". Final design will be accommodated without price change.

300 Feet 2" diameter Pipe- All ASTM A-106 Gr. B - 2" Seamless SCH 40 (Check diameter. LVE thinks this refers to 1/2" fuel supply lines from tanks to engines)

60 Fittings- Socket weld # 3000 ASTM A-105

80 Flanges- Socket weld ASTM A-105

80 Gaskets- Nitrile

5 Flexible Connections- Approved wire reinforced fuel hose (Max length 1M)

8 Valves- BALL VALVES

All steel body, SS trim, ASTM A-216 Full port #3000 Socket weld

8 Valves- QUICK CLOSE GATE VALVES

- 1 1/2" Steel ASTM A-105 Wire Trip, #105 Flanged
 - 8 Valves: SPRING LOADED DRAIN
 - 1 1/2" Steel ASTM A-105 Wire Trip, #105 Flanged
3. GREY AND BLACK WATER SYSTEM

LVE requested 316 SS Schedule 10 with compression fittings. LVE wishes to discuss reliability of compression fittings in this application.

- 400 Feet 2" diameter Pipe- All 304 Stainless schedule 40
- 80 Fittings- 304 Stainless ASTM A-403
- 60 2" x 1/2" Flanges- Slip on 304 Stainless ASTM A-182
- 60 Gaskets- Garlock Blue Gard 3300 or equivalent

4. POTABLE WATER SYSTEM

Potable Water Fill

- 40 Feet 2" Pipe- NB 304L Stainless Sch 40
 - Potable Water Supply
 - 300 Feet hose (IWC Pump) Approved Reinforced Water Hose
 - 800 Feet tubing- Type K Copper Tubing ASTM B-88
 - 300 Fittings- Wrot Copper tubing ASTM B-75
 - 24 Valves: BALL & 3 WAY BALL VALVES
 - Bronze body, full port, Threaded or soldered end
 - 12 Valves: CHECK VALVES
 - Bronze body, threaded or soldered ends
 - 6 showers to be fitted with high quality low flow shower heads with a maximum flow rate of 1.5 gpm(Niagara earth or equivalent)
5. SEA WATER COOLING SYSTEM

- 100 Feet of 2" diameter Pipe- All ASTM A-53 Gr 8 Sch 40 Galvanized
- 24 Fittings- Butt weld ASTM A-234

- 24 Flanges- Slip-on ASTM A-105
 - 48 Gaskets- Neoprene
 - 20 Flexible Connections- Approved Wire Reinforced Coolant Hose(limit 1m)
 - 12 Valves: gate valves
 - All #125 Non Rising Stem Threaded Ends, Bronze body & Trim
6. BILGE PUMPING

- 120 Feet of 2" or 2.5' diameter Pipe- All ASTM A-53 Gr 8 Sch 40 Galvanized
 - 24 Fittings- Butt weld ASTM A-234
 - 24 Flanges- Slip-on ASTM A-105
 - 24 Gaskets- Neoprene
 - 6 Valves: BALL VALVES
 - All Steel Body / S.S. Trim, ASTM A-216 Full Port #300 Flanged
 - 6 Valves: SDNR & ANGLE SDNR VALVES
 - All #150 Steel Body, Bronze Trim, Flanged, R.S. OS&Y
7. FIRE FIGHTING

- 200 Feet of 2" diameter Pipe- All ASTM A-53 Gr 8 Sch 40 Galvanized
- 24 Fittings- Butt weld ASTM A-234
- 24 Flanges- Slip-on ASTM A-105
- Gaskets- Neoprene
- 6 Valves: BALL VALVES
- Bronze Flanged #150
- 2 Valves: ANGLED HYDRANT VALVE
- Bronze flanged #150

8. DRY EXHAUST
 - 120 Feet 4" diameter Pipe- All 304L stainless Steel Sch 40
 - 24 Fittings- Butt weld ASTM A-403
 - 24 Flanges- 1/2" Thick Stainless Steel Plate Flange cut to suit ANSI Dims.
 - 24 Gaskets- Graphite
 - 5 Insulation- 1 1/2" (M.E. & Service Gen.) 1" thick (Harbour Gen) Marine Grade w/ red pad cloth or equivalent oil repelling jacketing
9. WET EXHAUST AND STANDPIPE SECTIONS
 - 120 Feet 4" diameter Pipe- All 304L stainless Steel Sch 40
 - 24 Fittings- Butt weld ASTM A-403
 - 24 Flanges- 3/4" thick Stainless Steel Plate Flange cut to suit ANSI Dims.
 - 24 Gaskets- High Temp. Suitable for wet exhaust
10. SEA WATER DISCHARGE
 - 60 Feet of 2" diameter Pipe- All ASTM A-53 Gr 8 Sch 40 Galvanized
 - 12 Fittings- Butt weld ASTM A-234
 - 6 Connections- Union #300 socket weld
 - 6 Gaskets- Garlock Blue Gard or equivalent
 - Flexible Connections- Approved Wire Reinforced Coolant Hose (limit 1M)
11. GREY WATER TANKS, DISCHARGE AND VENTS
 - No price change for 304 stainless alternative
 - 80 Feet 2" diameter Pipe- All 304 Stainless schedule 40
 - 12 Fittings- 304 Stainless ASTM A-403
 - 12 2" x 1/2" Flanges- Slip on 304 Stainless ASTM A-182
 - 12 Gaskets- Garlock Blue Gard 3300 or equivalent
12. FRESH WATER TANKS FILL AND VENT
 - 80 Feet 2" diameter Pipe- All 304 Stainless schedule 40

12 Fittings- 304 Stainless ASTM A-403

12 2" x 1/2" Flanges- Slip on 304 Stainless ASTM A-182

12 Gaskets- Garlock Blue Gard 3300 or equivalent

13. FUEL TANKS FILL AND VENT

120 Feet of 2" Pipe- All steel ASTM A-106 Sch 40

24 Fittings- Butt weld ASTM A- 234

24 2" x 1/2" Flanges- 3150 Slip-on ASTM A-105

24 Gaskets- Nitrite

3.12. Ventilation System

1. SUPPLY FANS:

1- Att Accommodation Supply Fan AXC200A-Variable speed, 235 cfm@3/4" S.P., 2550 rpm, 120V, 0.72A

1- Hold Area Supply Fan AXC 200A- Variable speed, 235 cfm@3/4" S.P., 2550 rpm, 120V, 0.72A

1- Engine Room Supply Fan AXC-300A variable speed 533cfm @ 3/4" S.P., 2650rpm, 2.07 amp or equivalent

1- Saloon and Forward Accommodation Supply Fan AXC 200A- Variable speed, 235 cfm@ 3/4"S.P., 2650 rpm, 120V, 0.72A

1- Galley and Forward Accommodations Supply Fan AXC 300A - Variable speed, 553 cfm@ 3/4" S.P., 2700 rpm, 120V, 2.07A

2. EXHAUST FANS:

1- Att w/c Exhaust Fan TBF90- 2 speed, 50/80 cfm, 750 rpm, 120V, 0.2 A

1- Hold Area Common w/c Exhaust Fan, 42cfm

2- Forward w/c Exhaust Fans TBF 90- 2 speed, 50/80 cfm, 750 RPM 120V, 0.2 A

1- Forward Accommodation and Saloon Exhaust Fan AXC 150A, 132 cfm@ 3/4" S.P., 2500 rpm, 120V, 0.75 A

1- Hold Area Exhaust Fan AXC 100A 68 cfm @ 3/4" S.P., 1750 rpm, 120 V, 0.57 A or equivalent

1- Att Accommodation Exhaust Fan AXC 100A, 68 cfm @ 3/4" S.P., 1750 rpm, 120 V, 0.57A

all AXC fans -speed control

3. VENTS AND DUCTING

300 Feet Ducting- spiral or rectangular, all galvanized.

16 Vent heads- galvanized steel ASTM A-53 Sch40

16 Exhaust ventheads located along bulkheads to be fitted with inverted ball check type ventheads with permanently means of closure

Reuse existing deck vents where possible

No provision made for vessel heating system

3.13 Electrical System

1. Main panel

1 only, 24vdc Main Distribution and Charging Panel (DC-1) complete with:

Steel enclosure with engraved lamacoid faceplate.

2. alternator charge ammeters/shunts

1. paralleling solenoid.

2. battery bank charging outputs.

12. load breakers.

All necessary battery isolators.

All necessary fusing.

All breakers pre-wired to terminal blocks.

2. Service battery disconnect

1 only, "Service Battery" Disconnect Panel (SBD) complete with:

Steel enclosure with engraved lamacoid faceplate.

1. protection breaker.

3. Emergency battery disconnect

1 only, "Emergency Battery" Disconnect Panel (EBD) complete with:

Steel enclosure with engraved lamacoid faceplate.

2. protection breakers.

4. Nav aids and general service panel

1 only 24vdc Navigation Aids and General Service Panel (DC-2)

Stainless steel enclosure.

Engraved lamacoid over aluminum faceplate.

Lexan protective cover.

1. voltmeter and ammeter.

24, 15-30amp load breakers.

All breakers pre-wired to terminal blocks.

5. Emergency power panel

1 only, 24vdc Emergency Power Panel (DC-3) complete with:

Stainless steel enclosure.

Engraved lamacoid over aluminum faceplate.

Lexan protective cover.

1 voltmeters and ammeter.

20, 15amp load breakers.

1. emergency lighting contactor control relay and test circuit.

All breakers and controls pre-wired to terminal blocks.

6. Nav lights panel

1 only, 24vdc Navigation Lighting Control Panel (DC-4) complete with:

Stainless steel enclosure.

Engraved lamacoid over aluminum faceplate.

Lexan protective cover.

7. monitored, dual lamp circuits.

Visual and audible lamp failure indication.

All circuits pre-wired to terminal blocks.

7. Engineers console panel

1 only, Engineers Console Panel (ECP-1), complete with:

Engraved lamacoid over aluminum face plate.

Lexan protective cover.

Pre-wired terminal block plate with 3' cable lead.

1. dc voltmeter and ammeter for service battery.

1. propulsion engine "emergency start" battery paralleling button.

3. Clutch Control Switches with Protective Guards and Indicator Lamps

6. 24vdc Electric Bilge Pump, Man-off-Auto Switches including "Power on" and "Pump running" indication Lamps

1. dimmer control for dash lights.

1. "engine room ventilation and flammable liquids" emergency stop button.

1. main switchboard remote monitoring section complete with:

2. voltmeters.

2. frequency meters.

8. Fire alarm system

1 only, Fire Alarm System complete with:

1. Addressable main detection panel

1, remote annunciator panel

1, battery back-up

2, w/p Sirens

2, w/p Strobe lights

4, strobe/horn modules

12, smoke detectors

3, heat detectors (rate of rise)

Lamp Test Circuit

Pre-wired Terminal Blocks

9. Alarm and monitoring system

1 only, Alarm and Monitoring System complete with:

1, 10 point alarm panel (AM-1)

Engraved lamacoid over aluminum faceplate

LCD display

Terminal junction box

Internal audible alarm

1, Red flashing fault light

1, External w/p Strobe light

1, Engine room horn

1, Engine room strobe light

10. Main switchboard

1 only - 120/208vac, 3 phase, 60hz, "Non-Parallel" Main Switchboard complete with:

NEMA 12 steel enclosure, including hinged compartment doors with positioners.

Engraved lamacold faceplates and equipment tags

Wooden hand rails

2, (90.0 Kva max), 3 phase main diesel generator protection and control sections, each including:

Voltmeter and selector switch.

Ammeter and selector switch.

Frequency meter.

Kilowatt meter.

"Generator Available" indication lamp.

"Breaker Open" indication lamp.

"Breaker Close" indication lamp.

Generator heater MANUAL-OFF-AUTO switch.

Generator heater "On" indication lamp.

Solid-state, protected circuit breaker.

1, (50.0 Kva max), 3 phase "harbour" diesel generator protection and control section, including:

Voltmeter and selector switch.

Ammeter and selector switch.

Frequency meter.

Kilowatt meter.

"Generator Available" indication lamp.

"Breaker Open" indication lamp.

"Breaker Close" indication lamp.

Generator heater MANUAL-OFF-AUTO switch.

- Generator heater "Or" indication lamp.
 - Solid-state, protected circuit breaker.
 - 1, 100amp, 120/208vac 3 phase, 60Hz shore power protection and control section, including:
 - Voltmeter and selector switch.
 - Ammeter and selector switch.
 - 1, "Shore Power Available" indication lamp.
 - 2, phase change-over contactors
 - 1, Power control section including:
 - 7 position source select switch: (Gen 1-Off-Gen 2-Off-Gen 3-off-Shore).
 - 1, 120/240vac, 1 phase load section including:
 - Ground fault ammeter and test switch.
 - Ground fault alarm relay-out put to (AM-1)
 - Tinned copper buss.
 - 4, 100 amp frame, 4 pole, load breakers.
 - 12, 100 amp frame, 3 pole load breakers.
 - 10, 100 amp frame, 2 pole load breakers.
11. Forward accommodations panel
 - 1 only - 120/208vac, 3 phase, Forward Accommodations Panel (AC-1), complete with:
 - Stainless Steel enclosure.
 - Engraved Iamacoid over aluminum faceplate.
 - Lexan Protective Cover.
 - Tinned Copper Bus.
 - 20, 2 pole, 15-40 amp load breakers.

12. Galley panel

1 only - 120/208vac, 3 phase, Galley Panel (A-C-2), complete with:

Stainless Steel enclosure.

Engraved Iamacoid over aluminum faceplate.

Lexan Protective Cover.

Tinned Copper Bus.

4, 3 pole, 30-50 amp load breakers.

14, 2 pole, 15-40 amp load breakers.

13. Aft accommodations panel

1 only - 120/208vac, 3 phase, Aft Accommodations Panel (A-C-3), complete with:

Stainless Steel enclosure.

Engraved Iamacoid over aluminum faceplate.

Lexan Protective Cover.

Tinned Copper Bus.

20, 2 pole, 15-40 amp load breakers.

14. Engine room panel

1 only - 120/208vac, 3 phase, Engine Room Panel (A-C-4), complete with:

Steel enclosure with engraved Iamacoid faceplate.

Tinned Copper Bus.

20, 2 pole, 15-40 amp load breakers.

15. Shore power

1 only, 208vac, 100 amp, Shore Power Inlet Panel complete with:

Polycarbonate enclosure with engraved lamacoid faceplate.

1, 2 pole 100amp protection breaker.

1 power available indication lamp.

1, 100amp inlet with w/p cover.

Interconnect terminals to main switchboard.

All necessary fusing.

16. Motor starters

4 only, pump motor starters (Fire, Bilge, Wash-down & Fuel Transfer), each complete with:

Steel enclosure with engraved lamacoid faceplate.

Lockable disconnect switch.

Control fusing.

Local stop/start station in cover.

"Motor Running" indication.

Motor starter and overload protection devices.

Pre-wired terminal blocks.

17. 2 only, remote stop/start station complete with polycarbonate enclosure

18. Motor protection

2 only, manual motor protectors each complete with:

Adjustable overload device.

Molded plastic enclosure.

Lockable disconnect switch.

19. 2 only, 24-12vdc, 30 amp voltage converters.
20. 1 only, 24vdc, 95 amp electronic, 3 stage electronic battery charger.
21. 2 only, 24vdc, 40 amp electronic, 3 stage electronic battery chargers.
22. 1 only, 12vdc, 25 amp electronic, 3 stage electronic battery charger.
23. 1, 50 kva, 208-120/208vac, 3 phase shore power isolation transformer complete with isolated core.
24. Shore power connection
 - 1 only, 208vac, 100 amp, 3 phase, 60 Hz shore power cable complete with:
 - 1, 100 amp, female "sleeve type" cord connector.
 - 1, 100 amp, male "pin type" cord connector.
 - 15m, 4 conductor #2 SOW cable.
25. 4 only, battery disconnect switches, 450amp continuous and 1200amp intermittent rated.
26. 2 only, 12vdc, 30amp (Lighter Type) Receptacles.
27. Lighting Package
 - 1 only, ColorLight Model CL02-11 24vdc Searchlight.
 - 4 only, 120vac, 500 watt, Stainless Steel, Quartz Halogen Floodlights.
 - 2 only, 24vdc, 55 watt Polycarbonate Emergency Floodlights.
 - 8 only, Light Partner, TL45, 4ft, 2 tube, polycarbonate, W/T fluorescent light fixture.

- 38 only, Imtra, Resolux 551, 24vdc, LED, Fibreglass, W/T, Lights.
- 2 only, Imtra, Portland, 24vdc, LED, Red/White Lights.
- 4 only, Imtra, Resolux 805, 24vdc, LED, Linear Lights.
- 8 only, Imtra, Resolux 852, 24vdc, LED, Linear Rotating Lights.
- 25 only, Imtra, Hobart, 24vdc, LED, Berth Reading Lights.
- 46 only, Imtra, Marstrand, 24vdc, LED, Ceiling Lights CMV Mounting Ring.
- 1 only, Imtra, Touchied, 24vdc, LED, Red/White Chart Light.
- 2 only, Peters + Bey, 24vdc, LED, Mast Head Navigation Lights.
- 2 only, Peters + Bey, 24vdc, LED, Stern Navigation Lights.
- 2 only, Peters + Bey, 24vdc, LED, Port Navigation Lights.
- 2 only, Peters + Bey, 24vdc, LED, STBD Navigation Lights.
- 4 only, Peters + Bey, 24vdc, LED, All Red Navigation Lights.
- 2 only, Peters + Bey, 24vdc, LED, All White Navigation Lights.

28. Cable, wire, connectors, replacements and related small parts required to complete the distribution system

4. Launching and commissioning

Launch vessel and move alongside WDC wharf

Protect all surfaces from weather and wear as required to protect finishes until handover to owner

Step main and fore masts, install bowsprit and connect lower standing rigging

Conduct static and dynamic tests of all mechanical and electrical systems

Cooperate with the owner as it steps topmasts and completes rigging and bending on of sails

Coordinate inspections by owner and regulatory bodies

Fill fuel tanks and provide lube oil

Conduct sea trials

Provide shop drawings and operating manuals for all equipment

Correct deficiencies

Respond to warranty claims and do necessary work within the one year warranty period

5. General conditions

Supply the following for smooth functioning of the deconstruction and reconstruction process:

safety program and equipment

security fencing as required

snow removal

waste removal

power, water, lighting, sanitation

temporary heat

hoisting and lifting and materials management

builder's risk and P&I insurance for the benefit of the owner and the builder