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UNITED KINGDOM

21m Wind Farm Support Vessel

Outline Specification

GENERAL DESCRIPTION.

The Vessel is principally designed for Wind Farm Service operations and can operate up to 60 miles from a safe haven, MCA SCV Code Category 2.

The Vessel has fully welded aluminium double chine hulls with a flush deck incorporating sheer. A raised wheelhouse with all round vision is positioned aft of amidships with good sight lines to the boarding and working areas.

Propulsion is provided by twin marine diesel engines driving through reverse reduction gearboxes and conventional rudders.

PRINCIPAL DIMENSIONS.

Length Overall (Hull)_____21.20 m.

Length B.P._____19.45 m.

Breadth Mld._____7.50 m.

Depth Mld._____2.31 m.

Draft Mld _____1.10 m.

CAPACITIES.

Fuel Oil_____6,000 Ltrs.

Fresh Water_____400 Ltrs.

Black Water_____400 Ltrs.

Liquid Cargo_____10,000 Ltrs.

(Note: capacities will be modified to suit engine configuration and service requirements)

CERTIFICATION.

Scantlings and construction will be in accordance with Lloyds Register of Shipping rules for Classification of "Special Service Craft". (Actual Classification will be optional.)

The vessel will also comply with the MCA SCV Code Category 2.

CONSTRUCTION and MATERIALS.

The vessel is transversely framed and constructed throughout with marine grade aluminium. All plates and sections will be readily available metric sizes.

PERFORMANCE.

The vessel will have an endurance equivalent to 24 hours on a combined load cycle, within the duty cycle of the selected engine and its rating.

The free running speed of the vessel in a fully fuelled and equipped condition with passengers and no cargo will be at least 25 knots with the engines developing their maximum continuous rating and a maximum speed of 27 knots

The required engine power will be in the order of 1,200 BHP per engine and will be coupled to a reverse reduction gearbox. The engine and gearbox selection is subject to the Owners preference and will be confirmed when details are provided.

Each gearbox is coupled to a stainless steel shaft driving bronze fixed pitch propeller.

AUXILIARY EQUIPMENT

<u>GENERATOR.</u>	One 12KvA marine diesel generator in acoustic cabinet.
<u>BILGE & FIRE PUMP</u>	One engine driven fire pump of at least 8.4 m ³ /hr. clutch coupled to forward end of port Main Engine. One electric pump of a capacity of at least 4.2m ³ /hr. in the starboard engine room.
<u>ELECTRICS</u>	An additional alternator is to be fitted to the engines to charge a battery bank. A 2Kw Sin wave inverter is to be fitted to the vessel in order to power galley appliances.

DECK EQUIPMENT.

The following equipment is incorporated in the Standard Vessel:

<u>BITTS</u>	Double post bollards positioned fore and aft as shown on General Arrangement. Cruciform bollards located amidships as indicated.
<u>CARGO LASHING</u>	Cargo lashing points on the fore deck in a matrix to suit the arrangement.
<u>BULWARKS</u>	Solid bulwarks around the perimeter of the deck, with a reduced height at the aft end with top handrail. Bulwark doors port and

starboard with integral boarding ladders. Freeing ports as indicated on the general arrangement.

BOARDING
PLATFORM

Platform to suit board arrangement on wind turbine towers. Handrails and safety rails arranged to suit access arrangement.

ACCESS HATCHES

The arrangement of access hatches is to be to suit the requirements of the Operator. Flush hatches may be used for spaces not normally accessed whilst at sea. Access to spaces below deck which may be accessed at sea will be provided with suitable coamings.

ACCOMMODATION / OUTFIT.

Standard Outfitting comprises of:

WHEELHOUSE

The Wheelhouse to be ergonomically designed, with good all round visibility and a single control position. Overhead windows fitted at forward end.

A crew seat will be arranged side by side with the helmsman. Wheelhouse seating to be KAB or similar. The controls will be arranged for one man operation with chart area adjacent to the crew position.

WHEELHOUSE DECK

Aft and to the sides of the wheelhouse will be a deck area for liferaft access. Access to the deck is from an aft wheelhouse door and a ladder from the aft deck. Liferafts are arranged port and starboard, with hinge down launching ramps. The wheelhouse top can be accessed from this deck via a vertical ladder.

MAIN CABIN

The main cabin is arranged for 12 adjustable passenger seats with lap belts and arm rests. All seats pedestal mounted with a lifejacket under. The seats are removable to allow for different configurations of seating or accommodation. In the aft part of the cabin is an area for either a bench seat with table or an office space. The forward area of the cabin can be arranged for either storage space or internal access to the forward hull compartments via a stairway. A TV and DVD system is to be fitted also.

The cabin is fully glazed for good passenger visibility during transits. One window on each side is opening to act as an emergency escape. The cabin is accessed from the foredeck by a weathertight door with sill and by an internal door aft.

CREW MESS/GALLEY

The crew mess area is located aft of the main cabin and comprises of bench seating and a table for crew messing complete with a fully

equipped kitchen area including sink, fridge, electric cooker and a microwave. Storage cabinets are provided and a storage space under the wheelhouse stairs is provided. Dry storage lockers are to be fitted in the mess area.

LOBBY/TOILET A lobby area is provided aft of the galley/mess area, with access onto the aft deck via a weathertight door. A ladder allows access from here to the wheelhouse. A toilet is provided off the lobby, featuring toilet, washbasin and shower.

HULL ARRANGEMENT The hulls are each divided into 5 watertight compartments: forepeak, forward compartment, tank space, machinery space and steering gear space.

CABIN The forward port hull compartment may either be outfitted with two tier single berths (2 off) or retained as a storage space. Access will be from the Main Cabin. Additionally a flush watertight hatch will be provided on the foredeck.

TANK SPACE Both tank spaces port and starboard will comprise of a 3,000 litre capacity tank containing Fuel Oil and a tank holding the liquid cargo of a minimum capacity of 5,000 litres. The liquid cargo is to have a means of discharging by a 2" engine driven pump delivery system.

NAUTICAL AND COMMUNICATION EQUIPMENT.

Standard outfit comprises of:

- Furuno 64nm 4ft open array Radar with ARPA and AIS on 17" TFT monitor.
- Furuno 1kw dual frequency echo sounder.
- Seiwa C-Map MAX chart plotting system with 17" TFT monitor.
- Furuno NAVPilot 500 Autopilot System.
- Jotron (Class A) AIS Transponder system.
- Icom and Sailor DSC VHF Radios.
- Furuno NX300 GPS Receiver.
- Furuno GP32 GPS Receiver.
- Shock resistant PC with secondary chart plotting software and interfaced to all on board NMEA sources for datalogging.
- 1-off Magnetic compass with back light.

- 1-off rudder angle indicator.
- 1-off Navtex
- 1-off General alarm
- 1-off alarm panel.

SAFETY EQUIPMENT.

Safety equipment and lifesaving appliances fitted for 14 persons in accordance with MCA requirements for vessels complying with Workboat Code of Practice, Category 2, including, but not limited to 2x liferafts, lifebuoys, pyrotechnic set and lifejackets.