GREEN INITIATIVES LIFE-BOATS

The material used in the hull of the Life-Boats is cement molded over a steel mesh structure. This construction is very strong and resistant to external loads. In principle, deterioration will be very slow, and with regular maintenance it can last for several hundred years. If an accident should occur, almost any damage, such as a hole in the hull, collision, etc., can be repaired with a sack of cement, which makes this type unsurpassed compared to other constructions.

We have chosen to equip the individual vessels with a 26 kW direct current (DC) motor consisting of two independent motors, as well as bow and stern propellers that also run on DC. This solution, which uses the latest technologies, results in a very efficient utilization of the available energy. *See motor references at the bottom!*

In this way we can avoid using fossil fuels and the pollution they cause to the surrounding environment, while also completely avoiding diesel and oil spills. Maintenance costs for electric motors are very low compared to, for example, diesel engines, which are the most commonly used on ships.

To increase the vessels' maneuverability, a bow and stern thruster has been installed, model
Max.Power. Each of these is powered by 2 batteries of the same type as the vessel's other
batteries, but slightly larger. The thrusters develop 5.4 HP, or a water thrust of 60 kg. See
thruster reference below!
As mentioned, the motors are powered by electricity, which means that we have a considerable number of batteries onboard. In fact, there are 84 pieces of 12 V DC, 87 AH for the main motor.

These batteries are based on one of the latest technologies, as they do not contain liquid like traditional lead-acid batteries known from cars, etc. Being dry-cell batteries means they can tolerate being laid on their side without fluid leakage and require no maintenance in the form of refilling fluid. There are no

requirements for special ventilation in the "battery room", as "hydrogen gas" cannot form as with lead-acid batteries. Battery maintenance costs are very low,
as only an inspection of secure mounting and a dry cloth are required. But an important reason for choosing these batteries is that they can be recycled when they finally give up after long and faithful service, since 98% of the materials can be reused. Under the type of operation we expect to use, the manufacturer states that we can recharge more than 1,000 times. It should be noted that recharging only takes place with shore power and therefore not during sailing. This means the batteries are exposed to a fairly large and long-lasting load — a load the batteries are designed to handle both functionally and physically.

Because the batteries are "maintenance-free", they are suitable for the use offered by Life-Boats, with the many different crews and locations. See battery references below!

Times are moving toward increasingly environmentally friendly shore power, wind turbines, solar cells, etc. This means that the future operation of Life-Boats will become increasingly environmentally friendly.

Motor references:
LMC Swordfish Twin Drive System.
The electric motor develops 26 kW and is driven at 72 V DC.
Torque 72 Nm.
Maximum power is 53 kW at a consumption of 400 Amps.
Maximum torque 144 Nm.
For further information see:www.lynchmotors.co.uk

Thruster referencer:
www.Palby.dk

Battery references:
http://www.lynchmotors.co.uk/
http://www.palby.dk/
Manufacturer: Discover Energy Corp. Canada.
Discover Type EV27A-A. EV Traction Dry Cell Series.
12 V DC. 87 AH.
The 84 batteries are connected in two sections with 42 units in each.
The batteries are connected in series groups of 6 so that they collectively have a battery voltage of 72 V DC.
These groups are then connected in parallel in 7 sections.
The battery capacity is thereby increased from 87 AH to 609 AH, or almost 44 kW.
For further information see: www.discover-energi.com