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19.9-METRE SURVEY LAUNCH OF THE DANISH ADMINISTRATION OF NAVIGATION AND HYDROGRAPHY

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INTRODUCTION

The Danish Administration of Navigation and Hydrography has the responsibility of performing hydrographic surveys in the waters around Denmark, the Faroe Islands and Greenland. The Royal Danish Navy provides ships, personnel and equipment for such surveys. Since 1960, the archipelago and fjords of Greenland have been surveyed by 4 launches – SKA 3, SKA 4, SKA 5 and SKA 6 (**). These launches were planned for replacement in 1982 and 1983, and therefore in 1979 the following specifications were drawn up.

The new launches should be constructed of fibreglass reinforced polyester. They should accommodate a crew of 5 to 6 men. Their speed should be around 12 knots, with excellent manœuvring capabilities in the spectre from 2 knots to maximum speed. They should be able to carry the automatic electronic surveying system in use in Danish hydrographic surveys.

JEROS MARINE, Svendborg, Denmark, was contracted by the Danish Material Command to build the four survey launches.

Details of the launch

Length overall	19.96 metres
Length p.p.	19.20 metres
Draught	2.10 metres

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(**) See *I.H. Review*, Vol. XXXVII (2), July 1960, page 25.

Displacement	52 tonnes
Engine	General Motors Detroit Marine diesel engine type 16V-71N with 540 HP
Propeller	Hundested type FR-HVP with controlled pitch
Rudder	A flapped rudder
Speed	12.5 knots
Hull	Fibre glass reinforced polyester
Power supplies	Two BUKH diesels, type DV 36AU with two generators designed for parallel operation. Output : 3 × 380 VAC, 50 Hz, max 15 kW
Tank capacity	Fuel oil ..... 10,000 litres Fresh water ..... 3,000 litres Sewage water ..... 1,000 litres

Equipment fit

Echo sounder	Navitronic RT-1, 30 kHz
Position fixing	Choice of Motorola Mini-Ranger Magnavox Sat. Nav. Decca MK-21 (only in Danish waters) Toran, or Syledis
Radio	SSB station, 400 W PEP, SAILOR type T 126. Receiver SAILOR type 5 105. VHF : SAILOR type RT 144 C, 25 W, 60 channels.
Other equipment	Autopilot with EMRI analog steering system. Terma Elektronic A/S X-band navigational radar system, 7′ antenna, 16″ PPI, 20 kW. Sperry Mark 37 gyro compass

Crew

The normal crew when surveying will be 5 or 6 men, with a surveyor as master.

Layout

The layout of the launch is shown in figure 1. In addition, the toilet/bath is equipped with vacuum toilet, wash basin and shower. The mess room and pantry have a refrigerator and freezer each with a capacity of 200 litres. The launch has two WEBASTO hot-air generators.

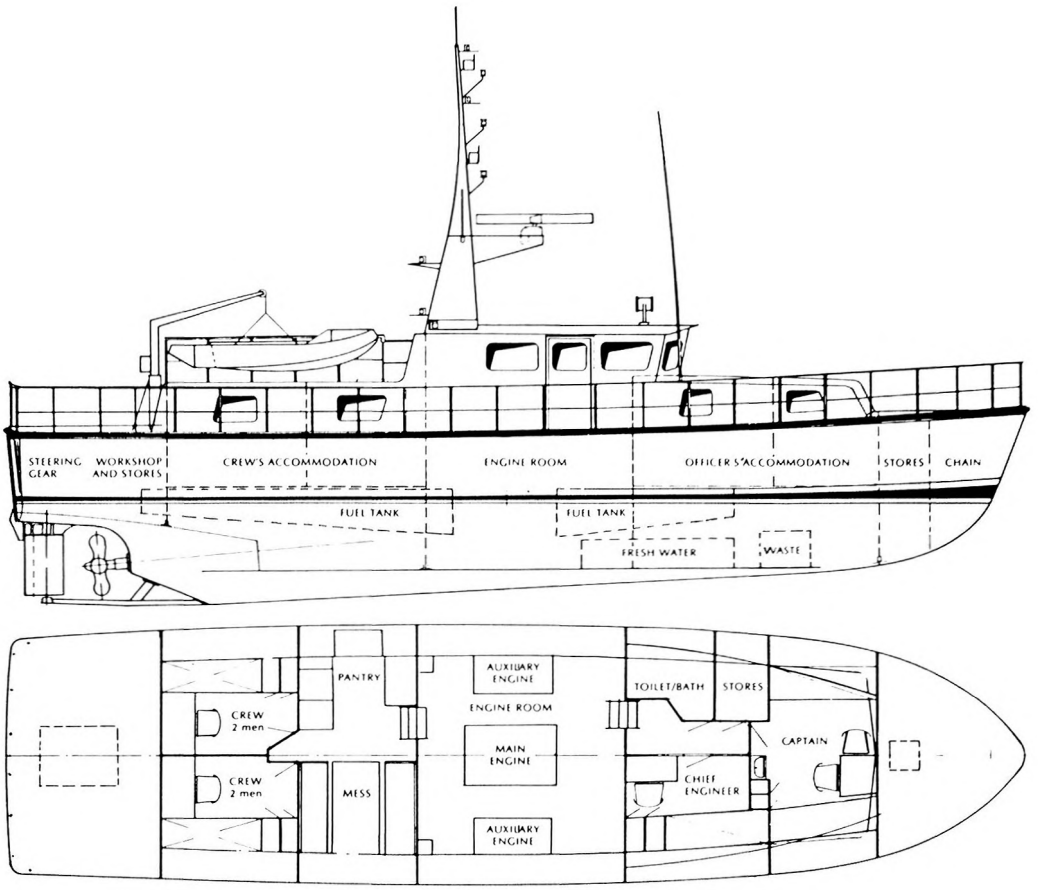

FIG. 1. – The layout of the new Danish surveying launch.

FIG. 2. – The new Danish surveying launch leaving harbour.

CONCLUSION

The two launches – SKA 11 and SKA 12 – have now been in commission since April and May 1981. Experience has shown that performance is according to expectations.

The diameter for a full turn is approximately 20 metres – the length of the launch. Acceleration from zero to 12 knots can be achieved in less than 2 minutes. Stop manœuvre from 12 knots to zero is possible in less than 30 seconds or about 30 metres. Consumption of fuel oil is about 70 litres per hour for the main engine and one generator.

The electronic data logging system is also working according to expectations. The launches are able to keep the predicted surveying lines within the stated margin of ± 2 metres.