

HM AIRSHIP NS11 AND THE WORLD ENDURANCE RECORD



by Mike Dunn

All photographs via the author unless stated otherwise

ON 9th February 1919, the RAF's North Sea class airship NS11 left its base at Longside, Aberdeenshire, on a flight that was to establish a world endurance record for airships. The trip, which lasted for 4 days 4 hours and 50 minutes, was a logical outcome of British airship development. The record marked the transition of the airship service from wartime operations to peacetime activities. The story of NS11's achievement is described below.

British Airship Development

DURING THE GREAT WAR, the Royal Navy's airships were employed on escorting convoys, detecting mines and hunting for U-boats. Their greatest value lay in their deterrent effect; the very threat of their presence forced enemy submarines to stay submerged and warships keep their distance. Operating out of the most northerly air base in the country, airships from Longside provided the bulk of the air support against German submarines operating in northern waters.

At the start of the Great War, the RNAS used a mix of non-rigid, hydrogen-filled airships of varying designs and sizes. It was only in February 1915 that work began on the first of a standard class of over 50 airships, the Sea Scout (SS) class. SS airships were relatively small (60-70,000 cuft) and of simple design. Redundant aircraft fuselages, e.g. BE2cs, Maurice Farmans and Armstrong Whitworth FK3s, complete with engine, were used for their cars. SS airships were followed by the generally similar, 6-strong SSP class and the 77-strong Sea Scout Zero (SSZ) class. All these classes had limited endurance (under 12 hours at full throttle in the case of the SS class) and provided very bleak operating conditions for the crew. Their disposable payload, needed for crew, petrol and armament, was also limited.

In 1916, the RNAS introduced a distinctly different design of airship: the Coastal class. The Coastals were followed by the larger Coastal Star class. Their envelopes were constructed round three separate lobes (internal compartments), similar to the Astra Torres airship, HMA 3, purchased from France in 1913. Coastals had a capacity of 170,000 cuft and a disposable lift of 1.7 tons, more than twice that of the SS and SSZ classes. They operated with a crew of four, sometimes five, and, when fully laden, could carry nearly half a ton of bombs plus two Lewis guns. However, the crews still worked from open

cockpits that offered little more comfort than was provided in the earlier airships.

The North Sea class, introduced in 1917 represented the ultimate in British non-rigid airship design during the Great War. 14 North Seas were completed. Like the Coastals, the North Seas were constructed with a tri-lobe envelope. They were faster (up to 57mph), had a disposable load of 3.8 tons and were designed with an endurance of up to 24 hours. The North Seas had a capacity of 360,000 cuft and were 260ft in length. They were armed with up to six 230lb bombs and five Lewis guns. Earlier North Seas were fitted with two 250hp Rolls Royce Eagle VIII engines but later ones (like NS11) had two 240hp Fiats.

Early North Seas suffered from a number of design faults, mainly associated with the engines and their drive shafts. Two, NS3 and NS5 were wrecked (NS3 with the loss of five of its crew) and NS production was halted in order to resolve the defects. This resulted in several design variations of the North Seas' cars. Unlike earlier airships, the cars were not converted from aircraft fuselages. They were purpose-built, enclosed, relatively spacious and offered an increased degree of comfort to the crew, normally of ten, divided into two watches.. They were now much better equipped to carry out very long patrols. Some of the North Sea class were fitted with what was known as a Wheelwright design car in which the control section was integrated with the engine compartment at the rear, into a single, enclosed car.

Others, like NS11, were equipped with a control car forward and, behind it, a separate power car. NS11 was fitted with an 'East Fortune' type control car. This comprised a control room for the coxswain and watch officer, a navigation office, a W/T shack and the crew's accommodation and sleeping spaces. Cooking was done using a special hotplate welded onto an engine exhaust. The main control car was connected to the power car by an open walkway slung from steel cables. The airship's two engines were mounted next to the power car and were managed by the engineer working in the car.

NS11's Early History

NS11 was completed at Kingsnorth and in September 1918 was flown to Longside (also known as RNAS Lenabo) under the command of Captain Walter Kemeys Francis Goodall Warneford. He was the cousin of Flight Sub Lieutenant