

International Journal of Naval History

August 2008

Volume 7 Number 2

William T. Althoff, *USS Los Angeles: The Navy's Venerable Airship and Aviation Technology*, Potomac Books Inc., 2004. 289 pp. heavily illustrated with B& W photographs; maps, chronology, glossary, appendixes, bibliography, notes, index.

Review by Andrew Lambert

King's College, London

In 1990 *Sky Ships: A History of the Airship in the United States Navy* established William Althoff as the expert on the United States' rigid and non-rigid lighter than air naval aviation. This study shifts the focus from the broad range of airships and blimps to the iconic vessel of the rigid programme, the longest lived zeppelin of them all, and the only American rigid airship to end her career in one piece. *Los Angeles* was the most successful of three rigid airships procured by the Navy in the latter stages of World War One and the immediate post-war years. Her American and British sisters, developed from a 1916 vintage German design, suffered catastrophic structural failure. By contrast *Los Angeles* was designed after 1918, when the Germans had digested their extensive experience of lighter than air operations between 1914 and 1918. In consequence the new ship was significantly larger than her precursors, and much stronger. She was also the third aircraft, and second airship, to cross the Atlantic .

Los Angeles , built as LZ-126, was a lucky ship: she saved the Zeppelin company from collapse, leading to the construction of larger sisters, the world-circling *Graf Zeppelin* and the ill-fated *Hindenburg*. With Germany bankrupt and banned from operating any type of military aviation after 1918, the company needed American money and support. *Los Angeles* was intended to serve two functions, to provide the Navy with experience of cutting edge lighter than air operations, and kick-start a commercial airship

industry. Admiral Moffett, Chief of the Bureau of Aviation and Hugo Eckener, the German Zeppelin expert, shared a vision and a remarkable facility for publicity. American manufacturer Goodyear linked up with Zeppelin to exploit German expertise in the United States , towards a shared vision of international airship passenger traffic. Building on their successful military balloon and non-rigid programme Goodyear erected an airship building shed at Akron Ohio .

The new vessels required a purpose built base, with a vast shed to protect the fragile ships. The site chosen, Lakehurst New Jersey , turned out to be a very bad location, prone to catching the tail end of hurricanes. Another shed would be erected at Sunnyvale California , later Moffett Field, and a landing circle was installed in Hawaii . However, the most significant ‘base’ for the new airship was the USS *Patoka*, a converted tanker fitted with a mooring mast, gas tanks and other stores. The *Patoka* linked the strategic scouting airship and the fleet, providing a mobile ‘home’ for rigid airships that would search ahead of a fleet executing War Plan Orange, the march across the Pacific. This ungainly union between base that moved with the fleet train and the airship held the key: if airships could operate with the fleet for prolonged periods they could solve the greatest problem then facing naval planners – finding the enemy first in vast ocean. There were other options: on one occasion the *Los Angeles* touched down to refuel on the deck of the massive carrier *Saratoga* , briefly linking rival aviation technologies.

Althoff stresses that the Americans handled their airships much more aggressively than the Germans. While the German drove these delicate, fragile craft as if they were made of glass, the Americans sought extra strength, an engineering delusion. Even the sensible decision to use helium in place of highly flammable hydrogen caused problems. In their anxiety to preserve the scarce, costly gas the Americans cut operations and drove the airships downward to the mooring mast, rather than simply releasing gas. Little wonder they failed. To make matters worse the Army, which had tried to take control of *Los Angeles* while she was being built, controlled half the national supply of the scarce

gas. The airship *Shenandoah* crashed in 1925 and the Navy lost most of its helium, severely restricting the operation of *Los Angeles* for many months.

Nor was this the only problem: by international agreement *Los Angeles* was unarmed, and her use for military tasks was severely circumscribed throughout the 1920s. Although cruises to the Caribbean, Panama and the West Coast demonstrated her potential the airship was never fully integrated into the Fleet Problems. Later the airships were misused as tactical assets, which emphasised their vulnerability, rather than emphasising their strategic scouting capabilities. In part this was Moffett's fault, he sent the big airships into middle America, thousands of miles from the sea where they belonged, to help raise awareness and secure support for his programs. His decisions were driven by the difficulty of selling the program, something he considered his most difficult task – a point emphasised in William Trimble's biography of the Admiral, a publication not cited in the bibliography. Consequently the hard work of integrating airships into fleet operations was far from complete when the new airships *Akron* and *Macon* appeared in the 1930s. For Althoff the combination of publicity cruises, limited budgets and shortage of gas denied rigid airships the opportunity to do much more than hint at their capabilities with the fleet. Despite those handicaps when Eckener's *Graf Zeppelin* circumnavigated the globe in 1929 it must have seemed that the airship was the future of international aviation.

The tragic loss of R34, *Shenandoah*, *Akron* and *Macon* damned the rigid as dangerous and costly, the final blazing denouement came at Lakehurst in 1937 when the *Hindenburg* provided an early newsreel actuality story. By then the tighter budgets of the 1930s meant there was no money to spare for experimental types.

It is unlikely the rigid would ever have met the fond hopes of Moffett and Eckener. Cost, fragility and dependence on base facilities, not to mention the tragic loss of life when they failed, doomed the concept. Moffett's death in the wreck of *Akron* in 1933 ended *Los Angeles*'s career as a technology demonstrator, the rigid was finished. The Wall Street crash cut funding just when the rigid programme needed to grow: by

contrast carrier aviation had already made the critical breakthrough to become a core element of the fleet. Moffett pushed for similar operational improvements from *Los Angeles*, and Commander Charles Rosendahl, one of Althoff's heroes, responded magnificently, but it was too late.

If the rigid programme was a costly failure, lighter than air did not die with the *Los Angeles*, the Second World War filled the sky over American coastal convoy routes on the eastern seaboard with advanced blimps, trained and based at Lakehurst. The airship has been a weapon of the future ever since Count Zeppelin first took to the sky; but tomorrow never came.

Althoff's expertise, insight and enthusiasm shine through this excellent book, both an epitaph for a great ship and her type, and a classic case study in the realities of technological innovation. Not every new weapon or system achieves the expectations of its pioneers, for every success story like carrier aviation there will be a rigid airship, a brilliant idea, developed by brave and resourceful men, only to fail. The rigid was a dead end because other technologies developed faster; they had more potential, and secured greater investment. In truth heavier than air aviation had already doomed the type for tactical work **before** the first American airship was ordered: they demonstrated great potential for strategic reconnaissance and commercial traffic in the 1920s, only to be overtaken by the rapid advance of the all-metal monoplane and improved engines. In 1939-40 *Los Angeles* and the two *Graf Zeppelins* were broken up, they had no wartime role in a world of transatlantic four engine bombers and 350 mph fighters.

This book should be required reading for the team leaders of every new technology project, a salutary lesson and a striking record of human ingenuity, skill and endeavour.



The Editors
International Journal of Naval History
editors@ijnhonline.org

© Copyright 2008, International Journal of Naval History, All Rights Reserved