

Missions for America  
*Semper vigilans!*  
*Semper volans!*



## The Coastwatcher

Publication of the Thames River Composite Squadron  
Connecticut Wing  
Civil Air Patrol

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### SCHEDULE OF COMING EVENTS

05 MAR-CTWG Commander's Call  
11 MAR-TRCS Meeting  
13-15 MAR-CTWG Staff Assisted Visit  
18 MAR-TRCS Meeting-AE Briefing  
19 MAR-CTWG Staff Call  
22 MAR-TRCS SAREX  
25 MAR-TRCS Meeting  
29-30 MAR-CTWG West Group SLS-DXR  
  
19 APR-CSRRA AR-15 Rifle Rifle Clinic  
26 APR-04 May-NER Mission Aircrew School  
26 APR-Wing Wide SAREX-GON  
  
10-11 MAY-CTWG East Group CLC-HFD  
17 MAY-Commander's Cup Rocketry (tentative)  
17-18 MAY-Quonset Airshow  
30 May-Ledyard Aerospace Festival

16-21 JUN-Tri-State SAREX (CT/RI/MA)  
19 JUL-02 AUG-Nat'l Emergency Services Acad.

08-16 AUG-CTWG Encampment-Camp Niantic  
23 AUG-Wing Wide SAREX-HFD  
20 SEP-Cadet Ball-USCGA (tentative)  
01 OCT-CTWG Commander's Call and CAC  
17-19 OCT-CTWG/NER Conference  
18-25 OCT-NER Staff College-New Jersey

### CADET MEETING

*04 March, 2014*

*submitted by*

*C/SrA Virginia Poe*

C/Capt Schultz administered a learning assessment which tested cadet knowledge about the chain of command. Later, C/SMSGT Vandevander reviewed the structure of the chain of command.

Maj Wojtcuk led a character development seminar in which the choices of style, clothing, and appearance effect the perception of those who observe us.

Squadron Commander Major Noniewicz and Deputy Commander of Cadets Lt Rays showcased the Cadet of the Year Plaque and the Air Force Association Plaque which will now be displayed in the meeting room. The Cadet of the Year plaque, a CAP award will list the names of each cadet who is selected for this annual honor.

The Air Force Association (AFA) plaque will record those cadets chosen for outstanding achievement in leadership and academic standing. This award is accompanied by a citation, silver medal, and medal ribbon.

The AFA is a citizen's group which advocates for aerospace power, education in science, technology, engineering and mathematics and supports the entire Air Force family. Their support of CAP includes not only the cadet award cited above but promotion of the "CyberPatriot" competition and aerospace grants to individual units. Thames

River has been the beneficiary of several of these grants, the current one assisting in the installation of our weather satellite downlinking system.

### **SENIOR MEETING**

*04 March, 2014*

*submitted by*

*S/M Douglas Corrigan*

A command group met to plan details of TRCS support for the upcoming CTWG SAREX which will be held in Groton.

Individual officers worked on administrative duties.

C/CMSgt Johnstone met with LtCol deAndrade and successfully demonstrated the theoretical and practical knowledge of radio communications to qualify for ICUT certification.

### **CADET<sup>2</sup> FLYNN MEETS WITH OFFICERS**

C/Maj Brendan Flynn, now Cadet 4/C Brendan Flynn, USCG Academy, Class of 2017 met with LtCols John deAndrade and Stephen Rocketto for dinner after the two officers had returned from the Pilot's Meeting on Saturday, 01 March. While at the Thames River Composite Squadron, Flynn achieved the grade of C/Major, served as Cadet Commander, and earned his FAA private pilot certificate.

Cadet Flynn reports that he is faring well at the Academy. His left breast pocket sports two stars, one of achieving Dean's List status and a second for his military acumen. He has been active on the sailing team and with the flying club. Rocketto urged him to try out for the rifle team next year and he said he will take a look at the their program.



Flynn stands besides a 37 mm Hotchkiss revolving cannon. The cannon, invented by Waterbury native Benjamin Hotchkiss, was a prize taken from the Spanish cruiser *His Most Catholic Majesty's Ship Reina Christina*. The ship was sunk in shallow water during the Battle of Manila Bay in 1898. War trophies were recovered and Commodore George Dewey, commander of the US squadron, presented the gun to the *US Revenue Cutter McCullough* in honor of its service to his fleet.

During the dinner Flynn explained many of the options which are open to him as a cadet. He will be taking his first cruise on the *USCG Barque Eagle* and is looking forward to an opportunity to serve on a cutter or buoy tender. He also maintains an ambition to qualify as a Coast Guard helicopter pilot.

### **CTWG PILOT MEETING**

LtCols deAndrade and Rocketto attended the CTWG Pilot's Meeting on the first of March. Capt Johnny Burke, CTWG Standards/Evaluation (STAN/EVAL) Officer organized and directed the event which was held at Meriden-Markham Airport. Maj Roger Malagutti and the Silver City Composite Squadron graciously hosted the gathering, attended by 38 members.



*LtCol deAndrade clarifies a point for Capt Burke.*

Col Lloyd Sturges, Director of Operations presented the keynote address. Col Sturges said that CTWG is a leader in aircraft utilization and has only been slowed over the winter by unfavorable weather. Exciting news about future operations was also offered. Some possibility exists for the acquisition of another aircraft. Aircraft allocations are decided by the geographic area of the wing, the number of active mission pilots, and an the average hours flown by a wing's fleet. CTWG is close to qualifying for a sixth plane. Col Sturges also announced that funding is possible for mission pilot proficiency training and G1000 transition training, new rules allow qualified 18 year old cadet to occupy mission aircrew slots, and the Wing is working to obtain a glider and a memorandum of understanding with the glider club at Danielson.

LtCol Peter Sanderson offered the safety briefing. The process of operational risk management (ORM) was explained and a number of alternate but useful methods were outlined. His session concluded with a mock ORM exercise and the lyrics of the song "Why Paddys not at Work Today," a clear message that those who do not know physics and fail to practice ORM are standing in harm's way.

Capt Oran Mills, Flight Operations, focused on the use of standard operating procedures to ensure the

consistency of outcomes during flights. Planning, documentation, check lists, currency, and task priority were all topics considered.

Dr. Robert Dudendoff, a Senior Aviation Medical Examiner spoke about the dangers of ear and sinus blockage. He illustrated is talk with imagery of healthy and damaged ears and warned of the danger in using many over-the-counter medications. The point made was "Don't fly with sinus or ear congestion."

Maj Robert McGuire, illustrated the use of preflight weather briefing using the free information available on the internet an the added value of applications which can be purchased or obtained by subscription. Aviation Digital Data Service (ADDS), Intellicast, SkyVector, and Direct User Terminal Access Service (DUATS) were all described and illustrated using live downloads from the World Wide Web.

LtCol John deAndrade, STAN/EVAL, explained the purpose and the philosophy of the Form5 flight evaluation. DeAndrade pointed out that the Form5 flight is neither a check ride nor a flight lesson. Rather, its purpose is to determine if the candidate is a safe pilot in control of the aircraft. He noted that it is important that candidates come prepared with all required documentation and a filled-out Form5. The session was conducted interactively as pilots raised questions and offered suggestions.

Capt Mark Capen, Operations, explained about the importance of filling out fuel slips legibly and correctly.

The concluding speaker, LtCol Matthew Valleau, CTWG Vice Commander, explained that the reprogramming of the CAP FM radios in the aircraft is nearly complete. Many channels have been added to increase the interoperability of our aircraft with other emergency services and search and rescue agencies.

## AEROSPACE CURRENT EVENTS

The 2015 Pentagon budget planners, defense analysts, commercial interests, and politicians are scrambling to find ways to best use the limited funding which will be available for aerospace applications.

Solutions tend to favor retirement of legacy programs, upgrades of older equipment, and studies for replacement of current hardware and systems.

The USAF is eagerly promoting the Lockheed-Martin F-35, the badly needed KC-46A, a new combat rescue helicopter, and a future manned strategic bomber.

Various sources propose savings by retiring the Republic-Fairchild A-10 "Warthog" ground attack and forward air control aircraft, the Lockheed U-2 surveillance platform, and the B-1B bomber. Eight less F-35s would be purchased in 2015. Unit costs, for many reasons are difficult to calculate but the reduction in F-35 acquisition might save around 1.5 billion dollars.

Difficulties are anticipated in retiring the "Warthog" because it enjoys strong congressional and Army support. Currently, A-10 units are based in Europe, Afghanistan, Korea, and eleven states, seven of which are National Guard units.

To balance the loss in aircraft, the Air Force proposes to upgrade the B-2 bomber, F-16, and F-15E making them more capable of meeting former and future military requirements.

The Navy and Marine F-35 programs will also suffer cutbacks. McDonnell-Douglas has been touting an upgraded version of the F/A-18, called the Super Hornet, but defense department interest has not developed.

The Army plans to retire the Bell OH-58 Kiowa Warrior, an armed reconnaissance helicopter, and upgrade Sikorsky Blackhawks for the same mission.

NASA, in search of a fundable high profile mission like the Apollo Project, is also suffering from reduced budgets. The popular Curiosity Rover on Mars and the Cassini Mission to Saturn will be funded by the Stratospheric Observatory for Infrared Astronomy (SOFIA) will probably be cancelled.

The White House is proposing a \$100/flight fee to fund air traffic control services but there may be strong bi-partisan support to reject the proposal.

The Federal Aviation Administration NextGen air traffic modification program may suffer a cutback to 836 million dollars from the previously granted \$901 million.

The FAA budget also proposed taking 2.9 billion dollars from large airports and transferring the funds to support the smaller airports which have no recourse to airline user fees.

## AEROSPACE HISTORY

### *A Short History of the U.S Navy's Dirigible Program*

#### *Part II-The U.S.S. Akron and the U.S.S. Macon*

##### *Review of the First Stage of the U.S. Navy Program*

The first stage of the Navy's rigid airship program involved three dirigibles. In 1925, the German designed but Navy built ZR-1, the *U.S.S. Shenandoah* fell victim to inherent structural weaknesses and a "publicity" flight which encountered a mid-western line squall. Fourteen members of the crew of 43 were lost.

The British built R-38, to be named designated ZR-2, never reached the United States. On its fourth test flight, in 1921, it succumbed to structural failure during high speed maneuvering tests and crashed into the Humber River near Hull, England. Sixteen of the 17 U.S. navy men on board, some of the most experienced lighter-than-air (LTA) aviators were killed, causing a serious disruption to the LTA program.

The third rigid, the *U.S.S Los Angeles* (ZR-3) was built by the Zeppelin works in Friedrichshafen, Germany. The builders, under the direction of Dr. Hugo Eckner, the leading authority in airship design, construction, and operation, took extraordinary care in turning out a product in which they took pride with the hopes of rejuvenating German industry and morale after the devastating terms imposed by the treaties which ended World War I.

Prevented from engaging in direct military activities by restrictions placed on its operations by Great Britain, France, and Japan, the *Los Angeles* remained in commission for a decade and served as a test bed to study a wide range of airship operations and features: mooring, weather, communications, and scientific research, air crew training, and the launching and recovery of heavier-than-air (HTA) planes while in flight. After decommissioning, the *Los Angeles* served as a test-bed for structural and materials research before being broken up for scrap in 1939.

### *The Second Stage-Fleet Operations*

The Navy's LTA program had been fraught with difficulties. Two of the three airships had crashed, the Great Depression cut back on funding, the Army Air Service interfered politically, and internally, many naval officers had serious doubts about the cost and utility of the airships.

At the time, the U.S. Navy was starting to build up its aircraft carrier fleet. The first, the U.S.S. Langley, (CV-1) converted from a navy collier, entered service in 1922 and was used to develop the necessary techniques and equipment for carrier aviation. In 1927, both the U.S.S. Enterprise (CV-2) and the U.S.S. Saratoga (CV-3) joined the fleet. But with the onset of the Great Depression in 1929, the HTA and LTA partisans had to fight each other to gain the funding which they considered sufficient for their needs.

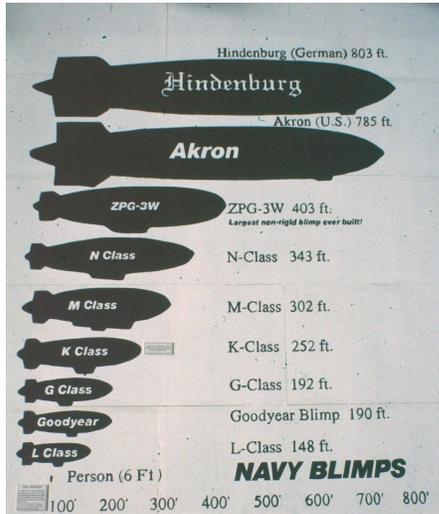
The use of dirigibles as scouts in the North Sea during World War I and the participation of the *Los Angeles* as a scout in the fleet problems suggested possibilities for employment of airships in naval warfare but a comprehensive and coherent doctrine had never been drafted.

One role of the cruiser in surface warfare was acting as the "eyes" of the battle fleet. Cruisers would operate at some distance from the main force with the hope that one of them would sight the enemy and transmit this intelligence back to their command. Initially, the dirigible was seen as the airborne analog of the surface cruiser. During Fleet Problems, large scale naval exercises in which two forces would engage in mock combat, the *Los Angeles* was used in this strategic role.

But a tactical role for the airship emerged. Rather than engaging in long range searches for the position of an enemy fleet, the airship might also determine the disposition, course, and speed of the enemy battle fleet and communicate this tactical intelligence to their own fleet commanders. However such close surveillance placed the dirigible in jeopardy for she was a very large and very slow target once spotted.

The first airships had demonstrated both unreliability and inflexibility in carrying out either of these missions and their usefulness was

viewed skeptically by many in the surface warfare community. The LTA community's reply was to propose flying aircraft carrier, *U.S.S Akron* (ZRS-4) and *U.S.S. Macon* (ZRS-5).



Compare the size of the Akron with the familiar Goodyear Blimp!



Another dramatic illustration of scale. The aircraft parked in front of these Moffett Field hangars are Lockheed P-3 Orions. Each on just over 100 feet long, the length of the Goodyear blimp.

In the mid 1920s, the Navy came up with a plan and won authorization to build two new airships. A key element in this plan was to equip the new airships with four or five aircraft. These aircraft could be launched and recovered in flight. The tactical doctrine would have these aircraft fly abreast some thirty miles apart and search for the enemy fleets. The mothership would remain behind, out of harm's way.

The plan both protected the airship and extended area which could be searched. Some 15,000 square miles of ocean, three times the area of Connecticut could be covered in one mission. The seriousness of the Navy's purpose was indicated by the designation of the new crafts as "ZRS." The letters "Z" and "R" stood for "lighter than air" and "rigid." The appended "S" meant "scout."

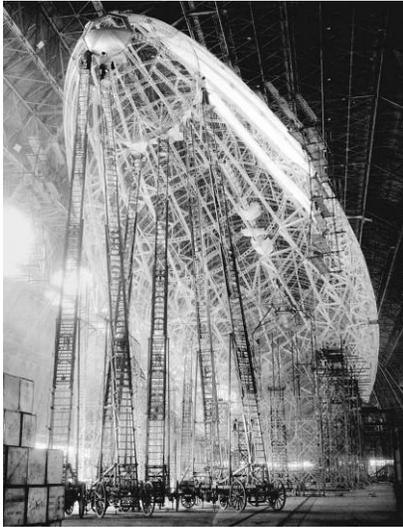
Ohio's Goodyear-Zeppelin, a branch of Goodyear Tire and Rubber won the contract for the new dirigibles. Goodyear had arranged to secure the patents and technical assistance from *Luftschiffbau Zeppelin* and with German cooperation, set about to design and construct the most technically advanced military airships in the world.

When finished, the two sisters would be the largest airships in the world. Their design was under the direction of Karl Arnstein, the chief designer of *Luftschiffbau Zeppelin* who assumed the role of vice-president of engineering at Goodyear. The ships would be assembled in the Goodyear Airdock in Akron.



The Airdock is 1175 feet long and 325 feet wide. It is now owned by Lockheed-Martin.

The traditional triangular girders supported by bracing wires would give way to a system of three keels, one on top and two others, running along the sides about 45 degrees below the centerline of the fuselage. This allowed the placement of an T-shaped access hatch in the bottom for aircraft recovery and a hangar capable of holding three small aircraft.



*The Macon under construction in Ohio. This photo illustrates the complex internal structure of a dirigible.*

To help remedy this problem, a water recovery system was conceived. The system was tested on the *Los Angeles* and found to have merit. The exhaust from the engines passed through condensers and the water was recovered and used as ballast. Consequently, the optimal weight of the ship could be maintained and endurance increased since lift gas and ballast could be conserved.

The most innovative feature of the *Akron* and *Macon* was the aircraft stowage, launching and recovery system. Scout planes could be stowed in the hangar and launched on missions and later recovered. After some experimentation, the Curtiss F9C Sparrowhawk was selected.

These ships were not as slender as the earlier dirigibles so their stabilizers were made deeper so as to be visible from the control car when landing, a Navy requirement and against the recommendation of Karl Arnstein. Nothing is gained without some price paid and the modified stabilizers had to be shortened. Consequently, the fittings which attached them to the main structure were compromised and weaker than originally planned.

The airships would be filled with helium so the engine compartments were internal, four to a side.

Drive shafts connected the engines to the propellers which were mounted on outriggers. The propellers could be swivel through 90 degrees and were reversible provided what is now called vectored thrust.

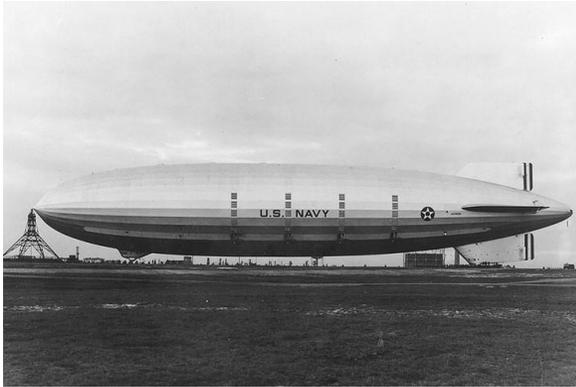
A major problem faced by airships is that in order to maintain altitude, they are forced to either drop ballast or release some lifting gas. As fuel is used, the aircraft gets lighter and rises. At what is called the pressure altitude, the gas bags are filled and gas must be released. Given this scarcity and cost of helium, this was to be avoided whenever possible. The heating of the gas cells during the day also created lift and gas might have to be vented.



*This sole surviving F9C-2 served on board USS Macon. Note the "Man of the Trapeze" insignia and the apparatus used to connect the Sparrowhawk to the dirigible.*

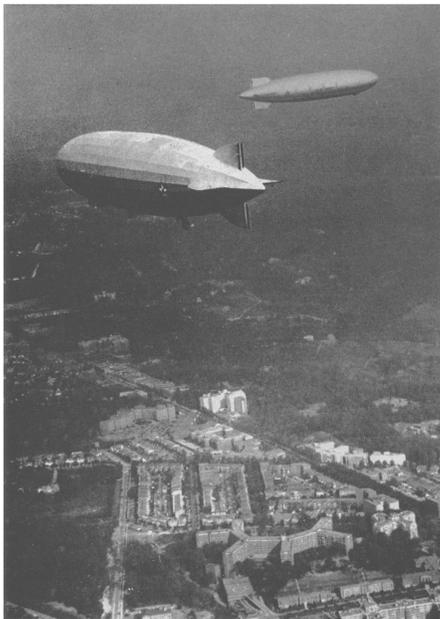
The Sparrowhawk was a small biplane fighter. It was about 20 feet long with a 25 foot wingspan and carried two .30 caliber Browning machine guns.

But as previously related, the doctrine for their use had not been settled. Senior surface officers preferred that the dirigible fly near the scene of the battle, protected by its covey of fighters. The contrary view was to keep the airship far away from the surface melee and use the aircraft for long range reconnaissance and tactical intelligence.



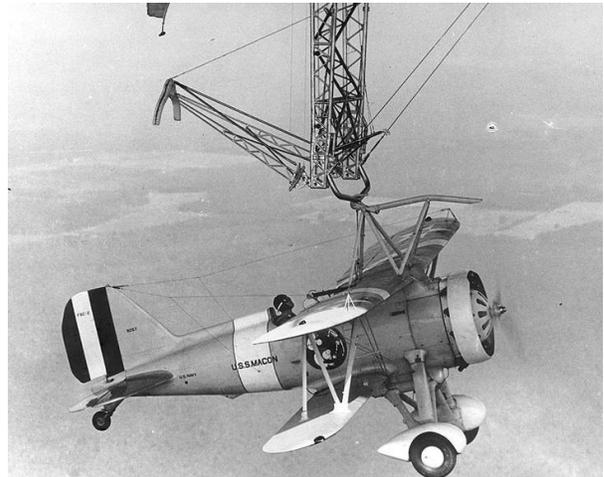
*USS Akron attached to a moveable stub mast at Lakehurst.*

The *Akron* took flight in 1931. Based at Lakehurst, toured the east coast in company with the *Los Angeles*. This was the only time that two United States dirigibles ever flew together.



*The Los Angeles, foreground, and the Akron, background, maneuver over the nation's capital.*

Over the next two years, the *Akron* participated in exercises with both the Atlantic Battle Fleet and the cruisers of the Scouting Fleet with little initial success. The aircraft launching gear was incomplete and the Sparrowhawks and pilots were late to arrive. The launching gear was modified and practice commenced, pilots commenting that "hooking on" was simpler than an ordinary landing.



*A Sparrowhawk "hooked on" to the trapeze of the USS Macon.*

*Akron* was then sent west and made a publicity cruise along the coast. Without her aircraft for protection, she took part in an exercise with the Scouting Force but the cruisers launched their floatplanes and "shot her down." Some considered way in which the *Akron* was employed tactically unsound and the Commander-in-Chief of the U.S. Fleet, Admiral Frank Scholfield, not friend of dirigibles filed as scathing report.

With the decommissioning of *Los Angeles*, *Akron* assumed her duties of training the crew of *U.S.S. Macon*, her sister ship, and almost ready for launching. Air to air communications and a homing radio were tested and practiced.

Late in the afternoon of 03 January, 1933, *Akron* departed Lakehurst on a routine training mission. Admiral Moffett, the driving force behind naval aviation was aboard. She ran into an intense cold front and headed out to sea off Barnegat Light, New Jersey. Shortly after midnight, turbulence and convective activity made the airship difficult to control. *Akron* descended in a nose up attitude and the lower fin struck the ocean. Full power failed to loosen the grip of the sea and she crashed. *Akron* carried neither life vests nor life rafts. Seventy-three of the 76 aboard perished in what was then, the worst air disaster in history.

Three months after the *Akron* went down, the Navy commissioned NAS Sunnyvale near Palo Alto, California. Sunnyvale was purposely built as an airship base. Karl Arnstein, Goodyear-Zeppelin vice-president was the architect of the main hangar. Hangar No. One at Sunnyvale would have a different door design that Hangar No. One at Lakehurst. The doors opened, fittingly, like the segments of an orange peel. This reduced turbulence and eased the task of moving airships in and out of the hangar.



*The Macon moored to a stub mast in the new Sunnyvale hangar.*

The *Macon* was christened by the widow of Rear Admiral Moffett who had been killed when the *Akron* crashed. After some test flights, she departed for Lakehurst where she spent the summer engaged in training flights with her brood of fighter aircraft. In the fall, *Macon* transited the United States to its permanent base at Sunnyvale, soon to be named NAS Moffett Field.



*Macon moored to an expeditionary mast at Camp Kearney, California. Note the arrangement of the swiveling engines.*

Fleet officer generally insisted that the *Macon* itself maintain close contact with the purported enemy during fleet problems. As a result, the *Macon* was repeatedly ruled “shot down” by the opposing forces. The experienced pilots of the airships Sparrowhawk's maintained that this was a faulty deployment of the dirigible. They argued that the airship was not a scout itself but a means of extending the range of its scouting aircraft. Their relatively junior rank in the naval hierarchy gave them little influence. This was to change.

An incident occurred in April of 1934 which was to have grave consequences. While returning to Lakehurst from a transcontinental trip, the ship entered extreme turbulence in southwest Texas. Some girders near the tail fins buckled. A repair was jury rigged but unable to go back through the rough air, the *Macon* headed for the nearest repair facility, Op-Locka, Florida where more permanent repairs were made. The damage had occurred in that same part of the structure which had been changed under Navy orders so that the lower fin would be visible from the control cab!

In July of 1934, Lt. Cmdr Herbert Wiley assumed command of the *Macon*. Wiley was a committed and experienced airship officer and has served aboard the *Shenandoah*, commanded the *Los Angeles*, and, as executive officer, was one of the three survivors of the *Akron* disaster. More importantly, he had recently served in the surface navy and knew of their contempt for airships. Loyal to his assignment, he intended to improve the performance of the airship and was bold enough to take the necessary career risks.

Wiley was eager to use the airship efficiently and he was willing to “push the envelope” to achieve this end. Improved radio communications and radio direction finding equipment allowed an airship commander to better control his force of scout planes. Wiley adopted the doctrine favored by his aircraft pilots and decided to use the *Macon* as a carrier of scouts rather than a scout itself. The *Macon* would deploy its aircraft in a scouting line and remain in the rear, out of harm's way, and controlling the search.

Ten days after taking command, Wiley order “Up Ship,” and the Macon took off on what was to be her longest flight. The plan was to search for two cruisers, U.S.S. Houston and U.S.S. New Orleans. The cruisers were outbound from Panama for Hawaii. President Franklin D. Roosevelt was aboard *Houston*!

Wiley is as wily does. His name befits his nature. He had previously prepared the aircraft by removing their landing gear and installing a 30 gallon belly tank. This increased their speed by 25 mph and extended their range. He also prepared some special items for airdrop. The packages contained current newspapers and specially franked envelopes. Roosevelt, politician and philatelist, would relish such a present.



*Sparrowhawk with belly tank and sans landing gear approaches the USS Macon.*

A day later, some 1600 miles off the coast, two of the Sparrowhawks sighted the cruisers and returned to the *Macon* to pick up the gifts for the President. Relunched, the aircraft made a successful delivery and a radio message stating “Well done..for fine performance and excellent navigation” was received from Roosevelt.



*View of Sparrowhawk “hooking on” as seen from Macon hangar.*

The *Macon* returned to Sunnyvale 82 hours and forty minutes after her departure, her longest mission. The Navy was not amused. Admiral Joseph Reeves, Commander-in-Chief U.S. Fleet offered the left-handed compliment that Wiley displayed “misplaced initiative.” but Capt. Ernest King, Chief of the Navy's Bureau of Aeronautics supported Wiley resourceful activities.

More experiments followed and for the balance of the year, the Macon logged an average of 131 hour per month. The Sparrowhawks simulated enemy aircraft and defensive tactics were practiced. Devices to rescue pilots and pick up water ballast from the ocean were tried. Macon proved valid the concept of using the aircraft as advanced scouts and Macon was approved for operations with the Pacific Fleet between the mainland and Hawaii.

The Macon was scheduled for a major overhaul in March. The damage to the fin attachment points which had occurred over Texas and partially repaired in Florida had been worked on at Sunnyvale when time allowed. Most of the work had been completed but the top fin reinforcements had not been completed. This work was to be done during the upcoming major overhaul.

In February, a month before overhaul was due, the *Macon* sortied. The reconnaissance mission required the Macon to determine the position and courses of the fleet units while remaining unobserved, exactly the mission Wiley and his shipmates had trained to do.

A day later, released from duty, the *Macon* recovered her aircraft and set a course back to her base. Around 5 P.M, the Macon was abeam the Point Sur Lighthouse. Some convective activity was evident and Wiley ordered the *Macon* turned to port to avoid some clouds. An extremely strong gust struck and the ship rolled in the opposite direction of the turn. The weaker top tail fin tore away, ripping open several gas cells. The ship inclined upwards and damage control parties and ballast and fuel aft of midship was jettisoned. The engines were idled to reduce the stress on the

structure but the ship continued to rise to an inclination near 30 degrees. Spare crew were ordered forward but all efforts were in vain. The Macon sank towards the surface and a decision was made to ditch. Lifejackets were donned. More ballast was dropped and the engines were reversed to slow the rate of descent. She struck tail first and the crew abandoned ship and swam to the life rafts. Thanks to the survival gear, only two of the crew of 83 were lost.

The dirigible program had been weakened by internal politics, financial weaknesses, technological difficulties, and bad luck. The loss of the Macon put the last nail in the coffin of U.S. Navy rigid airship flight. Four of the five airships had been destroyed in crashes and 105 airmen killed and one, the most successful, was laid up and condemned to be broken up and sold for scrap. The U.S. Navy's dirigible fleet would be no more.

*AFTERWORD*

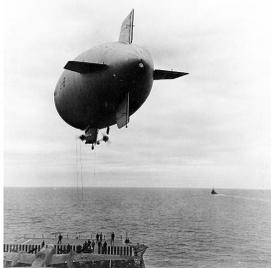
The lighter-than-air traditions would be carried forward by the convoy escort and anti-submarine blimps of World War II. They were based not only in the United States but places as far afield as Brazil and North Africa.



*USCGC Duane signaling a K type blimp during WWII North Atlantic Operations.*

But blimps performed other tasks.....

*The L-8 delivering vital parts to the USS Hornet for the Doolittle Raid. Note the B-25.*



During the Cold War, blimps were utilized as radar picket to give warning of incoming Soviet aircraft. The blimp program ended in 1960.



*A ZPG-3W radar pickets were the largest blimps ever built.*

The Navy would also experiment with high-altitude manned balloons. The last flight, Strato-Lab V was launched from the U.S.S. Antietam on 04 May, 1961 and reached 113, 740 feet. One of the two crew drowned in the Gulf of Mexico during recovery operations. The next day, Navy Lt. Cmdr. Alan Shepard rode a rocket into sub-orbit.



*USS Antietam and Strato-Lab Balloon*

But the LTA story may not have ended. In 2011, Navy Lakehurst operated MZ-3A as a test platform for testing sensor technology.



*MZ-3A at Lake Front Airport, New Orleans supporting the Deep Water Horizon Oil Spill mission.*

(photo credit: Petty Officer 2nd Class Andrew Geraci, U.S. Navy. )

In 2013, the TIF-25K aerostat, an unmanned LTA vehicle was tested. A tethered aerostat is a cheap solution to some of the surveillance problems faced by the military. The future may hold more missions for naval LTA operations.

(All black and white photographs in the preceding article are credited to the US Navy and the Naval Heritage and History Command.)