

Coast Guard Aviation Update

Coast Guard Aviation; One Hundred Years "Into the Storm"

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During 2016, the Coast Guard will celebrate its Centennial of Flight marking 100 years of service to our nation. For more than a century, the men and women of Coast Guard Aviation have enforced laws, saved lives, protected our maritime environment and supported military operations. Today the service holds an inventory of about 200 aircraft, both fixed-wing and helicopter, assigned to 26 air stations located around our coast from Kodiak, Alaska, to Borinquen, Puerto Rico.

Responding from these locations, Coast Guard aircrews are routinely called on to provide rescue services ranging from the medevac of an injured seaman aboard a commercial fishing boat to mass casualty evacuations from large vessels in distress. While the majority of the several thousand yearly calls are fairly routine in nature, occasionally disasters present themselves with little notice. As experienced in the aftermath of Hurricane Katrina in the New Orleans metropolitan area, thousands of people were in peril. Coast Guard units from across the country responded, resulting in the rescue of more than 30,000 people, often at night in congested and obstructed locations. Fixed and rotary wing crews combined with other military and public service agencies, coordinating not only the rescue of thousands, but humanitarian relief for hundreds of thousands who remained in the area as the flood waters receded.

In December 1903 at Kill Devil Hills, NC, Life Saving Service Surfmen (predecessors of today's Coast Guard) assisted the Wright Brothers in their first flight efforts. Surfman Daniels photographed the initial liftoff of the Wright Flyer. The LSS crew was amongst the very few witnesses to the historic event which took place in that lonely and remote location.

Coast Guard Aviation traces its actual roots to 1916 when Third Lieutenant Elmer Stone and five other officers received orders to the Naval Aviation School at Pensacola. As the first Coast Guard Naval Aviator, Stone went on to a distinguished career as a pilot and engineer contributing much to the enterprise. He led design efforts on the first carrier catapult systems, served aboard naval air stations during WWI, set world speed records, commanded both aviation units and cutters, and helped establish the framework for Coast Guard Aviation today. Perhaps his crowning achievement was to serve as pilot on the NC-4 trans-Atlantic flight, under the direction of mission

commander LCDR Albert C. Read, USN.

During the interwar years, Coast Guard Aviation got off to a somewhat slow start as senior leadership grappled with effective roles for an aviation component. Eventually, the service acquired a permanent air fleet. During early years, aviators assisted in pioneering use of the seaplane for surveillance, law enforcement and search and rescue duties. Air stations were established on both the east and west coasts of the continental U.S. Notable advances were made in maritime patrol, shipboard and offshore operations, resulting from enforcing the Volstead Act, better known as prohibition. Tactics and procedures involving the effective use of aircraft acting as the eyes of the fleet were designed to enhance surveillance and detection activities.

In the run-up to WWII, the Coast Guard worked alongside the U.S. Navy to counter the emerging German U-Boat threat off the U.S. eastern seaboard and eventually across convoy routes in the North Atlantic and Caribbean Basin. With the outbreak of hostilities, at the direction of President Roosevelt, the Coast Guard became part of the Navy. Cutters and aircraft performed anti-submarine and rescue duties often sighting and attacking U-Boats, or saving survivors in areas ranging from the Texas coast to Iceland. Subsequent combat action was seen by aviators in maritime patrol and anti-submarine operations in both the European and Pacific Theaters.

During WWII, early helicopter designs were quickly matured from their rudimentary state for use as nascent weapons systems. The Army and Coast Guard teamed with the Sikorsky Aircraft Company to enhance prototype airframe designs into more capable machines that demonstrated battlefield utility (land and maritime). At the direction of the Navy, and with the leadership of Coast Guard CAPT William

Kossler, Coast Guard aviators established a developmental helicopter unit at Floyd Bennett Field in Brooklyn, NY, with the purpose of adapting the machines for maritime use. Under the command of pioneer CDR Frank Erickson, enhancements were made and designs modified to develop key capabilities. The hoist, radio communications, rescue basket, stokes litter, engine power and reliability and flotation, were among but a

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A Sikorsky HO4S (HH-19) Chickasaw based at Air Station San Francisco undertakes a rescue at sea demonstration. Note the hydraulic hoist apparatus capable of lifting up to 600 pounds.



Coast Guard Helicopter Pilot No. 2, Stewart Graham, lands a YR-4 (HNS-1) helo on the British freighter SS Daghestan in 1944 while en route to Liverpool from New York. Stewart was assigned as the project helo pilot aboard this vessel to evaluate the feasibility of utilizing helos aboard merchant ships for anti-submarine patrols around the convoy.

few of the capability enhancements that were produced at the Brooklyn site. Numerous firsts in helicopter operations were conducted both at the Floyd Bennet airfield and abroad. LT Stewart Graham, along with a pilot from the Royal Air Force, performed the first shipboard helicopter operations, flying from the *M/V Dagestan* on a North Atlantic convoy in 1944. The Sikorsky HNS-1 (R-4), primitive by today's standards, effectively conducted anti-submarine patrols from the makeshift flight deck in rough weather during the North Atlantic crossing.

Following WWII, the Coast Guard continued development of the helicopter, establishing new design and capabilities in maritime application of the aircraft, particularly in rescue and law enforcement mission sets. In addition to rotary wing activities, Coast Guard aviators established techniques and procedures for off-shore operation of amphibious aircraft. Many Coast Guard aviators were highly experienced in operation of the PBV and P5M in harsh Alaskan and North Atlantic environments. In the immediate post-war period, those same pilots were assigned to search and rescue units responsible for broad off-shore reaches. They literally wrote the book on distressed aircraft intercept procedures and offshore landings. These skills were of particular value in an era of rapidly expanding piston/prop airline overseas routes following WWII. There were many airline captains in those days glad to have Coast Guard aviators "watching their six."

During the Vietnam War a group of Coast Guard aviators volunteered to serve with the U.S. Air Force ARRS at air bases in South Vietnam and Thailand. This group of experienced helicopter pilots soon became a nucleus of experience in operating the HH-3E (and eventually the HH-53) Jolly Green Giant rescue birds. These volunteers saw extensive hostile action and performed dozens of heroic rescues of downed airmen throughout the combat theater. Air Force after-action reports document the achievements of these men in both aviation skills and leadership under the most challenging conditions.

In the decades following Vietnam, Coast Guard aviators and cuttermen distinguished themselves working together on major incidents including the Mariel Boatlift; numerous hurricanes including Katrina, Wilma and Rita; the rescue of 523 people from lifeboats off the foundering liner *M/V Prinsendam* in the Gulf of Alaska; response to environmental disasters including the *M/V Exxon Valdez* in Prince William Sound, AK, and the Deepwater Horizon well blowout in the Gulf of Mexico. Two distinguished aviators, Bruce Melnick and Dan Burbank, flew multiple mission specialist rides on NASA shuttles.

Today the Coast Guard operates several types of aircraft for specific mission assignments. The largest is the HC-130J, a very capable, long-range, four engine platform that flies globally in support of search and rescue, critical logistics and counter-narcotics activities.

For detection and surveillance operations in U.S. littoral waters, two types of aircraft are used. The first is the HC-144, which has two turbine engines and a very capable electronic search and detection mission system. It can remain airborne for extended periods for search and has the ability to deliver critical rescue equipment via parachute, including dewatering pumps and life rafts. The second medium-sized fixed-wing air-

craft is the HC-27J, a long-range turboprop which is just entering service with the Coast Guard.

Helicopters employed in Coast Guard service include the medium range MH-60 and the shorter range MH-65. Both are shipboard capable but the MH-60 is primarily land-based. The MH-65 is routinely deployed aboard our ships for month-long patrols. Both helicopters are armed and successfully used in critical port security, anti-terrorist threat and counter-narcotics operations. Armament includes a .50 caliber sniper rifle and the M240B machine gun. Although not routinely mounted when operating over U.S. domestic waters, these weapons are used regularly in stopping "go-fast" smuggling vessels in the eastern Pacific and Western Caribbean basin.

The helicopter interdiction, or HITRON squadron, formed in the early 1990s has developed a stellar record of success in stopping fleeing suspect vessels cold. Although little has been published about the true nature of their operations, night, low-level offshore pursuit on an armed fleeing vessel is not for the faint of heart. As an example of effectiveness, last year these helicopters, in conjunction with fixed wing aircraft and surface vessels, seized more than 325,000 pounds of illegal narcotics bound for our shores. These missions are often conducted in close cooperation with the DEA, U.S. Customs and Border Protection, U. S. Navy and the Joint Interagency Task Force South (JIATF-S). Equally demanding is the National Capital Air Defense mission conducted around the Washington, D.C. metro area. Coast Guard crews, working for NORAD, stand alert duty launching to intercept low, slow unidentified aircraft that incur into restricted airspace.

Clearly, our aircraft are multi-mission, however, the majority of tasking involves rescue, maritime security or environmental protection. The Coast Guard saves more than 5,000 people per year, and the helicopter, manned by skilled aircrews and highly trained rescue swimmers who deploy into the water under all conditions, is a primary tool for the job. Some of the most hazardous rescues ever accomplished were performed by Coast Guard aircrews over the last century of aviation operations. Many accounts of these actions have been chronicled in periodicals, books and movies.

The Coast Guard's fixed-wing fleet has developed tactics and techniques for the detection, identification and tracking of suspect and other vessels. The systems employed today demonstrate wholesale improvement in search, surveillance and target acquisition. The first sensor was the human eye which was limited in detection effectiveness by myriad environmental factors, a situation that existed until WWII. Today's aircrews can sweep broad areas of ocean, detecting targets electronically and through exploitation of the electromagnetic spectrum. Coast Guard fixed-wing assets can also fuse intelligence to build an accurate picture of their operational areas. They are capable of networking with surface vessels and coastal units to exchange operational data.

Although the aircraft employed in Coast Guard service are impressive, it is really the aircrews and support personnel who comprise the heart and soul of the operation. To become a Coast Guard pilot or aircrew one must undergo a rigorous selection and training process. Pilots attend U.S. Navy flight



The Coast Guard, following a similar practice as the Navy, christened and commissioned its flying boats. There were five PJs like the one shown here, and were the first aircraft designed and built specifically for USCG service by General Aviation company.

training in Pensacola, Florida and are designated Naval Aviators alongside their Navy and Marine Corps colleagues. Some enter the Coast Guard as direct commission aviators from other military services. Following “winging” they attend an intensive Coast Guard indoctrination program at the Aviation Training Center in Mobile, Alabama. During this extended course of instruction, they are specifically trained in Coast Guard aircraft and missions. After all of that, they become “apprentices” at operational units where they gain experience and further on-the-job training. Enlisted aircrew men and women follow a somewhat similar path with one distinction. Our crews are trained maintainers, designated in an aircraft maintenance specialty as well as certified as aircrew. They may change a rotor blade, then later that day conduct a hoist! Our enlisted people are truly exceptional in their knowledge, skills and abilities.

While the future of Coast Guard Aviation is bright, some very difficult choices face the community and our leadership. The MH-65 short-range recovery (SRR) helicopter has been in service since the early 1980s with airframes approaching 17,000 flight hours. The MH-60 medium range recovery (MRR) helicopter has been in service since 1990 with many airframes exceeding 15,000 flight hours. The fact is that, despite aggressive service life extension programs that are ongoing, these assets will require replacement in the next eight to ten years. Efforts are underway within the armed services helicopter community to define the future of vertical lift from a technology and requirements perspective. While that is commendable, the acquisition of a major aviation system is an eight to ten-year process.



The new Sikorsky S-62 (HH-52A) entered service beginning in 1962. The Coast Guard purchased 99 of these versatile helicopters “off-the-shelf” from Sikorsky and they remained in service until 1989. Here the newest Sikorsky near its immediate predecessor at Air Station Elizabeth City on 2 September 1965.



The HH-65 Dolphin, which entered service in the early 1980s, has been modernized into its current designation of MH-65, with the addition of replacement engines, glass cockpit and other enhancements.

If solid requirements were approved and adopted today, new equipment could not be fielded until existing assets were on life support despite the best efforts of the magicians at the Aviation Logistics Center (depot). Coast Guard leadership must make fundamental choices on acquisition priorities in the near term that will govern recapitalization over the next decade. Three major cutter classes are currently being recapitalized which will require 20 years to fully execute. Added to that is the recently validated requirement to acquire one or more Polar Class Icebreakers. Funding this portfolio, combined with the looming requirement

to replace the rotary wing aviation fleet, will far outreach the Coast Guard’s traditional funding levels for systems acquisition. Clearly, this situation demands the development of an inclusive and prioritized recapitalization strategy within the next year or two. Difficult but necessary choices will have to be made.

For more than 100 years, Coast Guard aircrews have launched “into the storm” to save people and property, protect our shores from all threats, monitor the environment and ensure that our ports and waterways are safe for all. Aviation is a component part of the larger Coast Guard, a small service with a big mission. One thing that is common to all who wear the blue uniform, they are universally proud to serve!

“Semper Paratus”

Admiral Currier retired in 2014 after serving 38 years as an officer and aviator. On retirement, he was the 28th Vice Commandant and the service’s “Ancient Albatross,” or longest serving aviator on active duty. He currently resides in Traverse City, Michigan.