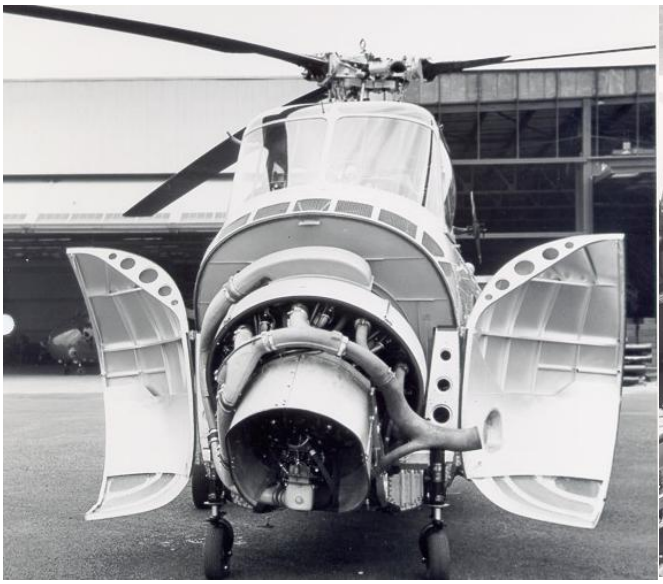
1951 – Coast Guard Acquires the HO4S Helicopter:

Coast Guard HO4S-3G with rescue basket

Sikorsky Model S-51 (HO3S) had enjoyed both military and commercial acceptance which led Sikorsky to initiate a follow-on design capable of carrying 10 passengers or equivalent cargo. The Sikorsky Model S-55 was built, without government funds, to compete against large tandem-rotor helicopters such as Piasecki's PD-22 (H21) that did not require fore and aft balancing as did a one rotor helicopter.

The S-55 design placed the engine forward of the center section and relocating the cockpit above it. Not only did this provide direct access to the engine, through outward opening clamshell doors, for maintenance purposes but it eliminated the critical center of gravity problem of the helicopter by placing the cabin compartment directly below the rotor hub. A drive shaft transmitted engine power to the three-bladed main rotor through the center rear section of the cockpit. The fuel tanks were placed under the cabin. The principle drawbacks of a single-rotor design had been overcome.

The subsequent impact of the S-55 was unforeseen at the time of its initial introduction. The Korean conflict was on the horizon and this war demonstrated the abilities of the helicopter and brought it into prominence. The Sikorsky S-55, designated H-19 by the Air Force, HO4S by the Navy and HRS by the Marine Corps, was reliable, versatile, and adaptable to diverse requirements. It was used for troop transport; air rescue; cargo transport both internally and by external sling loading; and for the first time casualties could be carried and attended to undercover within the helicopter.



Clam shell doors open for engine access

HO4S-3G instrument panel

In November of 1951, the Coast Guard acquired the first of seven HO4S-1s modified for search and rescue purposes. The Modification was designated HO4S-2G. These helicopters were powered by a 550 horsepower Pratt & Whitney R-1340 engines. In January of 1952 the first of 23 HO4S-3G helicopters, powered by the 700hp Wright R-1300 engine, was delivered to the Coast Guard. All were fitted with a rescue hoist and in 1954 the Coast Guard designed rescue basket became standard equipment. An additional eight HRS-3s were obtained from the Navy and modified for Coast Guard use. The HO4S-3G was the first helicopter to be equipped for night operations and instrument flight.

The HO4S helicopters extended the Coast Guard's rescue capabilities far beyond what was imagined 20 years prior. Although underpowered by today's standards it was the first operational helicopter capable of carrying multiple survivors in a cabin and carry heavy loads. It had a rescue hoist capable of lifting 400 pounds, and could fly at a normal forward speed of 80 knots with a range of 350 nautical miles. It proved, beyond all doubt, the capabilities and value of the helicopter for Coast Guard operations. They performed numerous rescues during the next decade within parameters never before achieved. The helicopter became the primary asset for the saving of life.

The Yuba City flood:

At 12:04 a.m. on December 24, 1955, a levee on the west bank of the Feather River, at Shanghai Bend, collapsed and a wall of water 21 feet high, flooded Yuba City California and surrounding farmlands in the southern Yuba City basin. Soon after, a HO4S-3G helicopter from Coast Guard Air Station San Francisco, with a hoist and rescue basket would lift 138 people to safety.
LCDR George F. Thometz and LT Henry J. Pfeiffer with Chief Aviation Machinist Mate Joseph Accamo and Aviation Machinist Mate Second Class Victor Roulund alternated as crews over the next 12 hours; one pilot and one crewman. The helicopter, never shut down, and was "hot-fueled" with the engine running.

Pfeiffer, qualified for night flight, began the search operation in darkness. Flying low over the housetops, he flew between trees, high tension lines and telephone wires locating victims in the beam of a small hand-held searchlight operated by Accamo. Some flood victims were lifted from rooftops. Others were in trees or on car-tops. The first rescue was of a rooftop Pfeiffer brought the helicopter down close and Accamo lowered the basket and began the routine that would repeat itself through the night and throughout the next day. When the cabin filled they would fly to the airport, which was on high ground, and then return to resume the effort.

L-R Accamo, Pfeiffer, Thometz, Rouland

With daylight Thometz relieved Pfeifer and rescued fifteen children from the top floor of a house. He said "We just kept lowering the basket and bringing them up" The two pilots would make alternate flights throughout the remainder of the day. Pfeiffer, working primarily with ADC Joe Accamo as his hoist operator, made 75 rescues. Thometz, working primarily with AD2 Vic Roulund as his hoist operator, made 63 rescues. Thometz thought his most unusual pick-up was from a stepladder**.**

Note: This summary is based on the story "The Yuba City Flood" as written by Tom Beard in his book "The Coast Guard"

The SS National Peace:

On the night of June 1, 1959 the SS National Peace in the Gulf of Mexico 190 miles south of New Orleans requested a medivac for a severely injured crew member. An HO4S-3G was dispatched from the New Orleans Air Station and the ship was directed to change course toward the mouth of the Mississippi River. Jim Durfee, with Harold Wooley as copilot, headed for Pilot Town at the mouth of the river. The Coast Guard kept fuel there in 55 Gallon drums. After topping off Jim headed for the last position given by the ship.

I was the Aircraft Commander of a UF-1G Albatross based out of the Coast Guard Air Detachment located at Keesler Air Force Base, Biloxi Mississippi. My job was to cover and provide navigation for the HO4S. I rendezvoused with Jim just as he was leaving Pilot Town.

It was dark as the ace of spades and the weather left a good bit to be desired. I set up a race track pattern in order to keep the helicopters rotating beacon in sight. We in the UF did the navigation and communications. Both Crews knew that if the helicopter went down that landing the UF in the water at night with given conditions was a no go. With this in mind we placed a large life raft at the rear door ready for drop if needed. Also we had flares in the ready position. The flares would have lit up everything and could be seen by any ship within 50 miles. Not perfect but the best that could have been done at the time.

LORAN was good in the area and we used it until picking up the beacon on the SS National Peace. We homed in on the beacon. When arriving over the ship it was well lighted but the pad they wanted the helicopter was quite small. Jim did it with little clearance and he had the patient on board.

The next decision was to go to Grand Isle for fuel and then on to the hospital in New Orleans.

I cannot verify but I believe this was the farthest helicopter off shore up to that date.

John Moseley
CGAA

Operation "Tug-Bird"

During August 1957 Headquarters authorized the Coast Guard Air station St. Petersburg to conduct "Operation Tug-Bird" with a HO4S helicopter to determine the practicability of Towing disabled vessels. The project helicopter successfully towed various craft ranging in size from the Air Stations 18 footer to the 794 ton buoy tender *Juniper*. At no times did the tows require more than 3000 pounds line pull under test conditions. Tow speeds averaged 12 knots. Headquarters directed that each air station should have at least one HO4S helicopter permanently equipped for towing. This HO4S had a reinforced tail plate with a stainless steel line attached on the rear of the helicopter by U-bolt equipped with an explosive device. The helicopter could tow a disabled vessel away from the rocks to deep water and lay the tow line over the bow of a Coast Guard cutter or patrol boat. When the vessels crew had the line, the explosive bolt was fired and the line dropped on the forecastle.

The following is a narrative of a towing mission of San Francisco HO4S CGNR 1309: A towline was put aboard the 36 foot fishing vessel *Pirate II* that had lost an engine and was going on the rocks. The helicopter commenced towing in a position less than 50 yards from Seal Rocks. At first it appeared that little progress was being made. The wind at this time was 22 -28 knots and the tow was directly into seas of 10 to 15 feet. With towing tension surging as high as 3100 pounds the helicopter gradually succeeded in towing the *Pirate II* out of danger to a point one half mile off shore where the tow was turned over to a Coast Guard patrol boat CG-82328. The mission was a complete success.

Complete records as to how many times this procedure was utilized are not available but with the arrival of the HH-52 the procedures and skill level required had deteriorated and the practice was discontinued. The Navy, however, uses the procedures developed by the Coast Guard for towing paravanes to remove mines.