



Who Saw This Coming?

U.S. Coast Guard Support for the Gemini 3 Mission

by Tom Beard

Two U.S. Navy SH-3A Sea Kings, with #57 leading, swoop in to pick up the Gemini 3 astronauts after splash down. The significance of this picture is that it was most likely taken by U.S. Coast Guard personnel from a USCG helicopter that had been on scene for about 30 minutes. (NASA photo, S65-19229)

The first manned Gemini flight and first U.S. space flight with two astronauts aboard featured the test of a fully maneuverable capsule. The *Gemini 3* (Gemini-Titan, GT-3) was unofficially dubbed “Molly Brown” (from the movie *Unsinkable Molly Brown*). Command Pilot, Astronaut Virgil I. “Gus” Grissom’s first spaceship, Mercury 4 (Mercury-Redstone, MR-4), named *Liberty Bell Seven*, sank and was lost after his first space mission during after-landing recovery attempts. Grissom chose “Molly Brown” as a witty reference over NASA’s reluctance for this capsule’s call sign. During the flight, Grissom altered *Gemini 3* spacecraft’s orbit to a more circular pattern, using on-board thrusters, practicing techniques, which would be applied during upcoming Gemini rendezvous and docking missions.(Lethbridge) This time the U.S. Coast Guard was there nearby at splashdown to recover both astronauts and prevent the second capsule from sinking beneath Grissom.

Not all went as intended.

NASA mission planning assigned two backup Coast Guard recovery forces, each consisting of a small ship bearing a helicopter, located miles up-range from GT-3’s intended splashdown location. The prime recovery units, Navy aircraft carrier, USS *Intrepid*, with two Navy Sikorsky SH-3A Sea Kings, along with two Navy destroyers, were within a 10-mile ring

calculated as the spacecraft’s water landing spot. Furthermore, *Intrepid* carried NASA personnel to handle the spaceship’s post-flight recovery and examinations plus multitudes of news reporters to witness this “first” pilot-controlled spaceship’s return from earth orbit.

The two large Navy helicopters were aboard *Intrepid* to pluck astronauts from the sea at the expected close by landing site. The carrier would hoist the capsule aboard with a crane for NASA. The Air Force had a C-54 flying overhead in the recovery area carrying two para-rescue swimmers to assist the astronauts in escaping from the capsule and aid them, in their clumsy space suits, into rafts. These swimmers, once parachuting to the capsule, were also to install a floatation collar buoying the capsule, preventing it from sinking, while waiting for *Intrepid* to arrive and pluck it from the sea. The Air Force backup flight could respond by flying quickly to any nearby location should the spaceship land outside the planned landing zone.

Coast Guard engagement, as a part of the recovery team, came 14 days before splashdown. A helicopter detachment was quickly assembled at Aircraft Repair and Support Center (AR&SC), Elizabeth City, N.C., with pilots, crewmen and helicopters “from five widely scattered air stations, many who did not know each other...and yet from the beginning



USCG Sikorsky HH-54A Seaguard, 1364, was a sister ship to the three helicopters, 1366, 1367 and 1369, that participated as part of the Gemini 3 recovery team. (USCG photo)

they performed as a team.” This unit had three borrowed Sikorsky HH-52A Seaguard, six pilots, and a small number of maintenance and flight crewmen. (Redfield 4/2/65)

Lt. Cmdr. John C. Redfield, the quickly assembled unit’s officer in charge, noted: “The three aircraft assigned for the mission, on loan from other units, were in ‘from good to poor condition’ and required considerable work to place them in an acceptable status.” Redfield’s note, in one written report, is a strange evaluation since the aircraft were all about a year new from the factory. Additional helicopter preparation time, taking from mission flight training, was for installation and testing of a special space-capsule homing device, a “Cook” homer. “Limited success in the Elizabeth City area was achieved prior to departure, much more testing and development is needed to make these homers operational.” Furthermore, TACAN, not a part of the aircraft’s avionics package at the time, also had to be installed. Training time for the crews was dwindling when poor weather stopped any possibility of training flights. (Redfield 4/26/65)

Spare parts and equipment for helicopter support was delivered on March 13 to Norfolk and loaded aboard USS *Intrepid*. As a precaution, two Coast Guard crewmen from this detachment remained aboard the Navy carrier as caretakers for this gear. The aircraft commanders, Lieutenant Commanders Redfield (#471), from CGAS New Orleans, Frederick P. Schubert (#682), from CGAS St. Petersburg, and William J. Russell (#742), from CGAS Houston, met the same day aboard the carrier with the operations officers from Commander Carrier Division 20. This was when the mission profile for the Coast Guard cutters’ helicopter operation was revealed to the

Coast Guard crew.

Splashdown was now 10 days away.

The three helicopters, CGNRs 1366, 1367 and 1369, flew from Elizabeth City on March 19, in bad weather, requiring ILS approaches, into NAS Norfolk. They reached the carrier’s pier by air taxiing below the 600-foot ceilings following their instrument approach to the runway. (Russell) The helicopters were hoisted aboard the carrier and placed below deck. A delay in the planned spaceship launch moved the carrier’s departure one day, now just three days to scheduled recovery in the Atlantic, southeast of Cape Kennedy. The hastily assembled crew still had no training time for astronaut recovery procedures or opportunities to practice landings aboard Coast Guard 210 class cutters. (Russell)

USS *Intrepid* got underway from Norfolk on March 20 for the primary GT-3 recovery area and a rendezvous with the two Coast Guard 210-foot

cutters, USCGC *Diligence* and USCGC *Vigilant*. Crew briefings aboard *Intrepid* took much of the time en route to station. Two simulated recovery drills were scheduled for March 22, one day before the spaceship’s arrival. The Navy’s SH-3As and carrier conducted the first drill. The second — with each HH-52A operating from its assigned cutter — planned for later the same day, just 24 hours before the spaceship landed. In preparation for this drill, Schubert flew CGNR 1367 to *Diligence*. Russell flew CGNR 1369 to *Vigilant*. Despite the lingering heavy weather, both Coast Guard 210 cutters arrived on station in sufficient time to receive the helicopters on the short flight from the carrier. This weather finally led to the cancellation of Coast Guards’ drill. Furthermore, the Navy’s backup, the destroyer USS *Mullinnix* reported it would be unable to recover the dummy spacecraft in its drill also due to the heavy seas.

A maliciousness sometimes conducted aboard Navy aircraft carriers when an ‘outsider’ aircraft lands aboard, is painting the interloper aircraft with ship and squadron logos or markings. The Coast Guard helicopters on *Intrepid* received these customary markings though they were officially a part of the “air group.” The Coast Guard aircraft mechanic assigned to paint out the offending markings went one-step further and painted “USCG” in large letters — the same as displayed on Coast Guard helicopters — on the bottom of the Navy’s primary recovery helicopter. Redfield, as the only Coast Guard officer aboard, received not-so-friendly redress from the ship’s commanding officer. Redfield remained aboard *Intrepid* with the third HH-52A. “The lack of a liaison officer aboard the carrier required that I remain aboard to attempt to ‘protect’ the Coast Guard’s interests.” (Redfield 04/26/65)

Redfield's choice of pilots for this unique mission was based on their being highly qualified in the *Reliance* class shipboard helicopter operations and having had recent experience with the cutters to which they were assigned. Only three Coast Guard aviators at the time were shipboard qualified on the 210 class cutters. Redfield, with Russell just months before, completed a major ship/helo project bringing both the new 210s and new HH-52A together as a combined sea/air unit. The very success of the new 210 class to operate as designed depended on Redfield's efforts enabling the helicopter to operate effectively from this unique deck and ship configuration. Redfield and Russell worked with the ships still in commissioning stages coming out of Todd's Houston Shipyard. A failure or inability to handle helicopter operations during the ships' acceptance would dash a long-term ship design and building effort and long-range Coast Guard helicopter operational plans. They did succeed, and now for the first time, the Coast Guard was ready to demonstrate this unique ability of placing a short-range helicopter anywhere in the world operating from a small vessel. Concluding their work, Redfield, with Russell's help, wrote the HH-52A flight manual ship operations section based on their pioneer work. (Russell, Redfield interviews)

GT-3 launched from Cape Kennedy the morning of March 23, 1965, with splashdown offshore following three earth-orbits four hours and 16 minutes later. *Diligence* with CGNR 1367 was assigned a position 48 miles and *Vigilant* with CGNR 1369 83 miles from *Intrepid* along the spaceship's inbound track. Weather conditions improved slightly from the earlier stormy conditions. Seas were still moderate and skies clearing with only a scattered cloud cover. (Note: USCGC *Diligence* was recorded in the NASA history report as a Navy



USCGC *Diligence*, 616, was a new class of cutter, 210 feet in length, with a helicopter landing pad on the upper deck and only recently commissioned at the time of the Gemini 3 operation. (Shown here with railings installed). (USCG photo)

ship, "USS *Diligence*;" USCGC *Vigilant* did not appear on NASA's manifest of the 21 support vessels.)

Crewmembers, aboard the Coast Guard cutters and their rescue helicopters, heard voice communications from the spacecraft during its re-entry. Those monitoring the radios aboard ship heard Astronaut Grissom say the spacecraft was not receiving the scheduled "G" forces and would come down about 25 miles short of the carrier. The actual "splash" location, however, would be nearer to *Diligence*. The spacecraft struck the ocean approximately 58 miles from the prime recovery unit, *Intrepid*, and only nine and a half miles from *Diligence*.

This was the opportunity for the Coast Guard to use their newly developed shipboard-helicopter rescue platforms, the *Reliance* class 210-foot cutters with HH-52A Seaguards. Yet, stressed in pre-mission briefings aboard *Intrepid*, was that *all* helicopters, Coast Guard and Navy, would *not* launch until directed to so by the Force Commander. Coast Guard CGNR 1367 sat idling on *Diligence*'s flight deck within three minutes of the now floating capsule in abeyance of these orders. Then, for reasons not recorded, the two Navy helicopters were ordered to fly from the distant *Intrepid* to the recovery location 30 minutes away. Yet *Diligence* got no orders to launch its helicopter. Redfield, aboard *Intrepid*, believed "this order was purposely delayed to permit the Navy helicopters to close the gap." (Redfield 04/26/65, author interview)



USCGC *Vigilant*, 617, was the other Coast Guard cutter participating in the recovery effort. (USCG photo)

With the knowledge that the Navy had launched their helicopters, Schubert

immediately got airborne in 1367 from *Diligence*. Even with the launch-delay handicap, Schubert arrived on scene the same time as the Air Force C-54 dropped the “para-medical diving team.” (Redfield 4/2/65) One jumper splashed down within 10 feet of the spacecraft. The second, with the capsule’s floatation collar, dropped in over three-quarters of a mile away.

Schubert flew immediately to this medic to hoist him and the floatation collar, to place them at the spacecraft. The leading Navy’s SH-3A, en route, was designated “on scene commander” by *Intrepid*. At the moment Schubert was closing on the swimmer for the hoist, the Navy helicopter pilot, Lt. Cmdr. Warren H. Winchester, not yet on scene, ordered CGC *Diligence* and helicopter to “vacate the area.” In effect, according to Redfield, “the show was now over for the Coast Guard forces.” In the rush to save the astronauts, the Navy helicopter crews ignored the second medic in the water, the one Schubert was about to recover, and it was another 15 minutes, by Redfield’s account “before they counted noses and come up missing one man.” Until the second medic was recovered by a Navy helicopter, Schubert lingered nearby, staying out of the “area” but keeping a watchful eye on this man in the event he appeared to be in trouble. (Redfield 4/2/65)

Redfield in his post-mission review cynically noted, “All the carefully laid plans for the recovery now went out the window with the exception of one. On March 22, the day before the shot, [he, Redfield] observed [the Navy pilot] Winchester being photographed by the news media aboard *Intrepid* and standing in front of SH-3A [Modex] 57 and being congratulated for a mission. On the day of the recovery, which helicopter was ushered in to make the hoist? Right...the 57.” (Redfield 04/26/65)

In the moments before leaving the spaceship, Grissom asked the pilot in the Navy SH-3A, Modex 57, for the location of the nearest surface unit. The reply: “*Intrepid* was one and a half hours away and coming fast.” No other vessels were mentioned, not even, *Diligence*, with a more suitable helicopter for their hoist, four and a half miles away.

Sikorsky’s HH-52A and SH-3A are very similar in appearance. The former was designed as a baby copy to the latter with a single engine rather than the two similar engines in the SH-3A. The SH-3A Sea King, however, outweighed its baby brother by three to one. The necessary rotor thrust to hold the 22,000-pound helicopter in a hover creates a violent downwash, enough to sink the vital spaceship if the large helicopter hovered above it to recover the astronauts. Therefore, both space pilots had to climb out of the craft and swim away, aided by rafts and rescue swimmers, clear of the spacecraft, before the hovering helicopter could hoist them from the sea.

Contrarily, the look-alike HH-52A Seaguard, at approximately 7,000 pounds, could hover directly over the capsule without danger of sinking the spacecraft, and hoist the two pilots directly into the helicopter without them having to enter the water. Then they could have been flown to the nearby Coast Guard cutter within minutes of splashdown, dry, and without the added hazards of a swim in choppy seas burdened by spacesuits. Redfield, in his official remarks said, “In order for the SH-3A, 57 to hoist the astronauts, they both

had to climb from the spacecraft into the water since the heavy rotor down-wash was of sufficient force to sink the spacecraft. Our HH-52A’s, with their light rotor-wash, could have hoisted both astronauts without even wetting their feet.” (Redfield ltr. 4/2/65)

The spacemen arrived safely aboard the Navy aircraft carrier *one hour and 12 minutes* after their touchdown, seasick from their 30-minute wait in the bobbing capsule, and wet — recovered by the Navy without help from the Coast Guard.

Redfield remarks after the mission uncannily predate and could be exact quotes from observations to come 40 years later about Coast Guard rescue operations in Hurricane Katrina: “The officers and men of this group performed in an outstanding manner under very trying conditions. Those assigned came from five widely scattered air stations, many who had never known each other. Yet, from the beginning, they performed as a team. Due to poor weather and little time to prepare for the mission, personnel were required to work day and night, seven days a week and they did this willingly without complaint.” (Redfield 4/2/65)

Redfield continued in his report, writing: “I was standing on the bridge of the huge aircraft carrier, watching the small cutters with helicopters attached, dancing about like a cork. Knowing the Navy was also watching and admiring, made me swell with pride for these men. How could we miss with a team like this?” (Redfield 04/26/65)

The Coast Guard’s role, while passive or excluded on this mission, was not all without notice. Redfield later remarked, “While the spacecraft was on the aft hangar deck of the carrier for de-activation, and while hundreds of NASA technicians, newsmen, and Navy personnel were about, a NASA official poked his head up out of the spacecraft and hollered out to me, ‘I see the Coast Guard has done it again!’ I asked, ‘what?’ He replied, ‘We arrived on scene first, of course!’”

Redfield, in concluding his report, noted, “Had the *Diligence* been equipped with a crane, divers, and recovery collar...and experienced a communications loss with the carrier, the show would have been all Coast Guard.” (Redfield 04/26/65) →

Notes:

1. Cmdr. John C. Redfield (CG Aviator #471, CG Helicopter pilot #15) is among the nicest people I’ve had the pleasure of knowing. I sat many hours with him listening to stories of early helicopter pioneers and their problems, and I made him a promise 20 years ago to write this story. I’m sorry that, for John, this writing comes too many years after he has ‘flown west.’ But this remembrance will bring a knowing smile to those who were fortunate enough to share his company and a shocking revelation that what those in Coast Guard aviation might experience today (or tomorrow) is not new or unusual.
2. Cliff Lethbridge, “Gemini 3 Fact Sheet”
3. Redfield, ltr. 4/2/65
4. Redfield, ltr. 4/26/65
5. Russell ltr. 2/22/14, interview, author