

## A Ride on a Nuclear Submarine

by: Robert Mead (62-64 - LTJG)



**USS Seawolf (SSN-575)**

In 1963, I was serving aboard the USS Hugh Purvis (DD-709). I was in the engineering department, serving as Damage Control Assistant (DCA). We had recently returned from Guantanamo Bay, Cuba, where we had been sent for the Cuban missile crisis. After returning to Newport, Rhode Island, our home port, for a few weeks, we found ourselves now serving in the operating areas near Key West, Florida.

We were one of the first destroyers in the fleet equipped with the QH-50C, Drone AntiSubmarine Helicopter (DASH). Our assignment while serving in and around Key West was to test the operational effectiveness of the DASH and the newest version of the Mark 44 torpedo. We had a target ship assigned to this mission -- USS Seawolf (SSN-575).



**USS Hugh Purvis (DD-709)**

The method used to test the weapons system was straightforward. Seawolf would approach us from a distance while submerged. We would locate her using our sonar. We would launch our DASH which would carry one or two Mark 44, Mod 0 torpedoes without explosive warheads. These torpedoes had telemetry instrumentation in lieu of real warheads. Once we dropped the torpedo into the ocean, it would activate and start searching for the target. The telemetry would record every detail of the system's performance -- the acquisition of the target, the homing system's performance, battery performance, and so on.

The torpedoes were preprogrammed to not descend below a certain depth. That way, we could avoid impact of the dummy torpedo with the submarine. I believe that was intended to avoid damaging the screws of the target vessel. We learned by experience that the depth-limiting feature didn't always function correctly.



We had a navy pilot, Lieutenant Don DeLude, aboard as our DASH officer. Don would stand in a small wing of the 01 deck adjacent to the DASH launch area and fly the drone helicopter by radio control. He would launch the helicopter and guide it to a point several hundred yards from the ship visually. Then, control of the DASH was transferred to the ship's Combat Information Center (CIC). The strategy was to fly the helicopter to a location above the perceived location of the submarine and drop the torpedo. By dropping the torpedo close to the sub, it reduced the amount of time the submarine had to take evasive action. It was interesting and exciting work.

The Seawolf was a most unusual ship. She was originally built with a superheated steam boiler system and nuclear reactors cooled by liquid sodium. Both of these proved to be very expensive to maintain and in 1958, barely a year after her commissioning, she returned to Groton, Connecticut for a 2-year conversion back to a more conventional water-cooled reactor system. The ship was a one-off design, longer than a football field and displacing over 4000 tons when submerged.



One day at the conclusion of testing, Seawolf surfaced not far from Hugh Purvis. Her skipper appeared on the sail (conning tower) with a bullhorn. He hollered across to our bridge that it might be fun to exchange a couple of officers "to see how the other half lives." I was standing watch along with Lou Grassini, a Lieutenant from Philadelphia, who was the Gunnery Officer. Our Captain, Commander James C. Linville, looked at Lou and me and told us to get our reliefs up on the bridge and pack a duffle bag for a couple of days on Seawolf. I couldn't believe it!

Lou and I got ready in no time and the Seawolf launched a small rubber raft that picked us up and delivered us a few hundred yards away to their ship. I remember how slick the hull was as we stepped out of the raft which was sloshing against the round hull. We greeted the Captain, LCDR Thomas B. Brittain, Jr., and went below. Lou and I were probably like a couple of kids at Disneyland.

One of the first impressions I had was one of great spaciousness. I had made a few short cruises on World War II era diesel boats while I was a Midshipman. They were incredibly cramped. This vessel was huge by comparison. I recall at one location there was actually a small staircase instead of a ladder. Many of the interior surfaces were covered with wood-grain formica which gave the interior a homey feeling compared to most combatants. Our bunks were roomy. We were given a tour of the ship, including parts of the reactor operating area. That fascinated me because I had served as Main Propulsion Assistant on Purvis for two years.

The next morning we started the testing exercises. It was very different as seen from the perspective of the attacker who suddenly comes under attack. We would go to some predetermined depth, silently try to sneak up on the Hugh Purvis using only passive sonar. Suddenly we would hear a splash and then hear the torpedo motor winding up. The conning officer of the Seawolf would take evasive action. We would suddenly be descending at a steep angle and everyone would watch the depth indicator until we leveled off at some depth in excess of 500 ft. Then we would accelerate to a speed in excess of 20 knots, zig-zagging, in an attempt to avoid or outrun the torpedo. Sometimes we succeeded.

After a couple of days, Lou and I had to return to the surface navy, but what an unforgettable experience we had been privileged to share.

Interestingly, within a few days, our evaluation was cut short when one of the dummy torpedoes made a direct hit on the screw of the submarine. It did enough damage to one of the blades that the sub had to limp into port to get the screw replaced.

*\*\* After I initially published this item, I heard from a former Hugh Purvis shipmate, Bill Leslie. He was our Operations Officer while I served with him. He reminded me that it was during one of these torpedo testing exercises that we were informed of President Kennedy's assassination. I remember that vividly because I was Junior Officer of the Deck at the time. Bill Leslie had the unenviable job of using our underwater communications system (known as "Gertrude") to inform the submarine of the nation's loss. We returned to Key West to observe the days of mourning.*

3-22-2016 -- Today I corresponded with Peter Papadakos, the son of the gentleman who founded the Gyrodyne Company of America, builders of the original DASH. He was kind enough to send me the following photographs, taken when the DASH development team was aboard Hugh Purvis:





Lt(jg) Harry C. Royal III ("Trip" Royal), ASW Officer, and  
Lt(jg) Don Delude, DASH Operations Officer



Lt(jg) Don Delude and the DASH flight detachment  
aboard USS Hugh Purvis (DD-709), late 1962



Lt(jg) Don Delude and unidentified telephone talker during DASH flight operations aboard USS Hugh Purvis (DD-709)



DASH hovering near Hugh Purvis (DD-709), 1962