



WELCOME

ABOARD

WELCOME

The Commanding Officer, Officers, and Men of the Nuclear Powered Attack Submarine BARB welcome you aboard. You have come to visit a most unusual ship, for she is built not only to sail beneath the oceans of the world, but to remain beneath the surface for periods of time limited only by the amount of provisions she can carry. USS BARB is a true submersible.

THE SHIP'S MISSION

The mission of the USS BARB is to seek out and destroy other submarines. She is of the nuclear powered attack submarine type and her nuclear propulsion capability combined with advanced electronics and weapons systems make her one of the most effective anti-submarine weapons system available.

THE SUBMARINE SERVICE

The first submarine authorized for the U.S. Navy was approved by Congress in 1893 but was never accepted by the Navy. Finally, in April of 1900, the USS HOLLAND (SS-1) was commissioned and the submarine service was started. The USS HOLLAND was 54 feet long, displaced 74 tons, carried one officer, five enlisted men and cost \$150,000.

Progress came quickly and by 1911 the U.S. Navy had 20 submarines, the largest in the 400 tons class. In 1917 the USS SKIPJACK (SS-24) was able to cross the Atlantic; hulls were now welded instead of riveted and propulsion was by diesel engine and battery instead of hazardous gasoline engine.

During World War I the leading class of submarine was the L-class; 167 feet long, displacing 548 tons, carrying two officers and 26 enlisted men. Although 20 American submarines reached the war zone, none played a major role during World War I.

In 1941, the U.S. Navy entered World War II with 111 submarines, mostly of the "O", "R", and "S" class, short range vessels developed during and after World War I but considered unsatisfactory for fleet service. The peak wartime submarine strength rose to 247 ship, mainly of the "Gato" class which culminated years of extensive experiment and development work. This class was 312 feet long, displaced 1500 tons and carried 7 officers and 70 enlisted men. During World War II, the U.S. Submarine service accounted for almost 60% of all Japanese shipping losses; some 5,500,000 tons of shipping, including 1750 merchant and 200 warships.

Following World War II, two phases of submarine development occurred. The first one was the adaption of the German Snorkel allowing submerged operation on diesel engines, improved high capacity batteries and hull streamlining. The second most significant was the advent of nuclear propulsion plants which allowed, for the first time, development of the true submersible able to cruise the oceans or circumnavigate the globe without ever surfacing. Today the Navy has over a hundred of these vessels, either of the Fleet Ballistic Missile (SSBN) type or of the Attack Submarine (SSN) type.



COMMANDING OFFICER

COMMANDER FRANK M. STEWART

UNITED STATES NAVY

Commander Stewart is a native of Mooers, New York. He attended Cornell University under the NROTC program, graduating and receiving a commission as an Ensign, United States Navy, in June 1971.

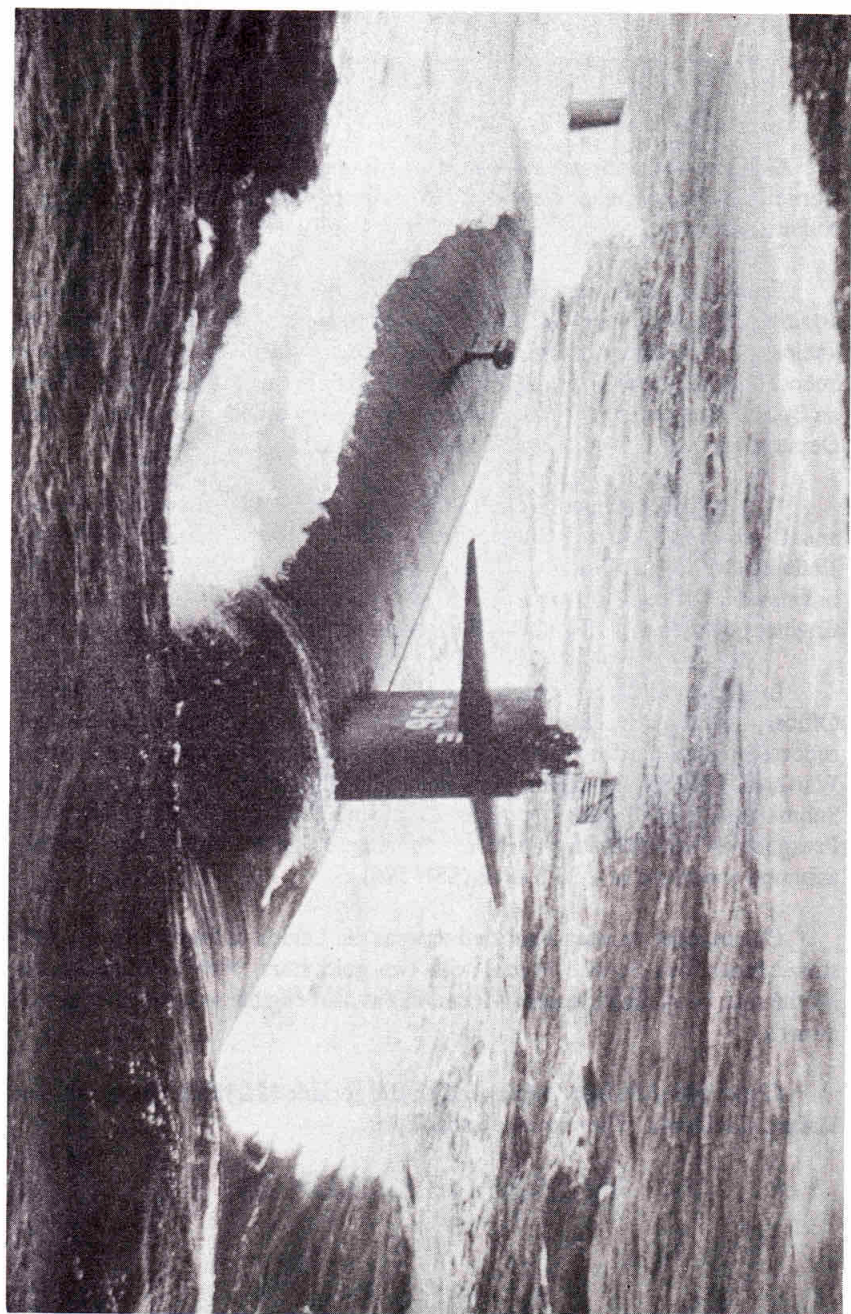
From June to November 1971 he was assigned to USS GATO (SSN 615) awaiting commencement of nuclear power training. Upon completion of nuclear power training and the Submarine Officers' Basic Course at Submarine School he reported to USS BARB (SSN 596) in February 1973. During his tour on BARB, Commander Stewart served as a division officer in the Engineering Department and as Weapons Officer.

Following detachment from BARB in August 1976 he served as Weapons and Operations Officer on the Staff of Commander Submarine Refit and Training Group, La Maddalena, Italy, until August 1978. After completing the Submarine Officers' Advanced Course at Submarine School he served as Engineer Officer of USS PARCHE (SSN 683) from April 1979 to August 1982.

In August 1982 he reported to USS HADDO (SSN 604) as Executive Officer, detaching in August 1985. In September 1985 Commander Stewart reported to the Staff of the Deputy Chief of Naval Operations (Submarine Warfare). He served in the Readiness and Tactics Branch of the Attack Submarine Division until December 1987 when he commenced training as a Prospective Commanding Officer. In August 1988 Commander Stewart assumed command of USS BARB (SSN 596).

Commander Stewart is entitled to wear the Legion of Merit with one gold star, Meritorious Service Medal with two gold stars, Navy Commendation Medal and Navy Achievement Medal. He is also eligible to wear several unit awards.

Commander Stewart is married to the former Marybeth Crayne of San Rafael, California. They have one son, Tyler.



BARB'S HISTORY HIGHLIGHTS

On 9 November 1959, the keel for the USS BARB (SSN 596) was laid at Ingalls Shipyard in Pascagoula, Mississippi. Mrs. E. B. Fluckey, the wife of Rear Admiral Eugene Fluckey, a Congressional Medal of Honor winner as Commanding Officer USS BARB (SS 220), christened USS BARB (SSN 596) on 22 February 1962. On 24 August 1963, USS BARB (SSN 596) was commissioned.

After sea-trials in the Gulf of Mexico, USS BARB transited through the Panama Canal to join the Pacific Fleet.

Upon leaving Post-Shakedown Availability at Mare Island Naval Shipyard, USS BARB steamed for her new homeport of Pearl Harbor, Hawaii and became the COMSUBPAC flagship on 1 December 1964.

In the Spring of 1966, while conducting an advanced training mission USS BARB earned a Navy Unit Commendation. While deployed to the Western Pacific in the Summer of 1972, USS BARB surfaced in the midst of Typhoon Rita to search for a downed B-52 crew 300 miles west of Guam. At considerable risk to both ship and crew, four airmen were recovered, earning USS BARB a Meritorious Unit Commendation.

On 8 November 1975, USS BARB was greeted by both the civilian and military communities to her present homeport in San Diego, California.

USS BARB made her first successful launch of a Tomahawk missile from a submerged submarine in February 1978.

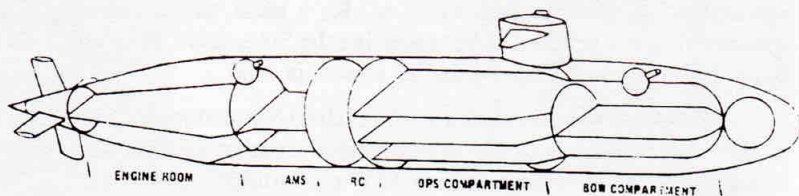
USS BARB completed a deployment to the Western Pacific in 1978 and 1979, participating in a priority one CNO research project in 1980 testing a wide aperture array and rapid localization sonar and fire control system, and she was an outstanding performer in RIMPAC 80, a multi nation exercise. These accomplishments resulted in her receiving the Submarine Squadron THREE Battle Efficiency and Engineering "E" awards in 1980.

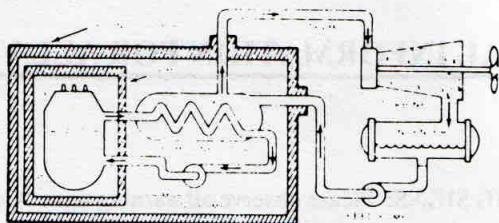
USS BARB was overhauled at Mare Island Naval Shipyard from July 1980 to December 1982 where the newest Digital Combat Systems were installed making her one of the most modern ASW platforms.

USS BARB completed deployments to the Western Pacific in 1985 and 1987 and was awarded the Submarine Squadron THREE Anti-Submarine Warfare "A" in 1986 and Engineering "E" in 1987.

SHIP'S CHARACTERISTICS

Length Overall279 Feet
Maximum Beam 31' 7"
Surface Displacement3700 Tons
Submerged Displacement.....4300 Tons
Maximum Depth.....In excess of 400 Feet
Maximum SpeedIn excess of 20 Knots
Armament.....Four 21 inch Torpedo Tubes
Power Source S5W Nuclear Reactor
Ship's Complement.....15 Officers/115 Enlisted Men





THE POWER PLANT

BARB is powered by a nuclear power plant which consists of a nuclear reactor with its associated circulating water, steam cycles and auxiliary machinery. The primary system is a circulating water cycle and consists of the reactor, identical port and starboard loops of piping, primary coolant pumps and the tubes of the steam generators. Heat is produced in the reactor by nuclear fission and is transferred to the circulating primary coolant which is pressurized to prevent boiling. This water is then pumped through the steam generator tubes, where it transfers its heat to the shell, or the secondary side of the steam generators, where it boils water to form steam. It is then pumped back to the reactor by the primary coolant pumps where it is heated for the next cycle.

The secondary system is the steam producing cycle and is made up of the shell side of the steam generators, turbines, condensers and steam generator feed pumps. It is completely isolated from the primary system since the primary water goes through the tubes of the steam generator while the water which is boiling to make steam is on the shell side of the steam generator. Steam rises from the steam generators and then flows to the engine room, where it drives the ship service turbogenerators, which supply the ship with electricity, and the main propulsion turbines, which drive the propeller. After passing through the turbines, the steam is condensed and the water is fed back to the steam generators by feed pumps. There is no step in the generation of this power, which requires the presence of air or oxygen. This fact alone allows the ship to operate completely divorced from the earth's atmosphere for extended periods of time.

GENERAL INFORMATION FOR ALL VISITORS

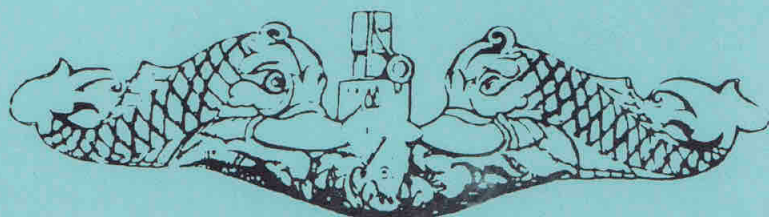
WARNING SIGNS: Please observe all warning signs. Consult a member of the ship's force for assistance in any matter.

OPERATION OF SHIP'S EQUIPMENT: Do not operate any equipment or switches, turn any valves or enter any restricted area without prior approval from ship's force. Observe posted precautions and procedures.

EMERGENCIES: Should any emergency situation arise alarms will be sounded and the word will be passed over the Ship's General Announcing System. You are requested to **STAND FAST BUT CLEAR** of all passageways and operating spaces. Do not obstruct ladders, hatches or the watertight door. Please follow the instructions of the man in charge of the scene without hesitation.

SECURITY: Certain aspects of the ship's operating characteristics and certain areas of the ship are classified. The Radioroom, Sonar Room and Engineering spaces are classified areas.

INJURY OR ILLNESS: You are required to report any injury, no matter how minor, to the hospital corpsman.



INSIGNIA OF THE U. S. NAVY'S SUBMARINE SERVICE IS A SUBMARINE FLANKED BY TWO DOLPHINS. DOLPHINS, TRADITIONAL ATTENDANTS TO POSEIDON, GREEK GOD OF THE SEA AND PATRON DEITY OF SAILORS, ARE SYMBOLIC OF A CALM SEA.