

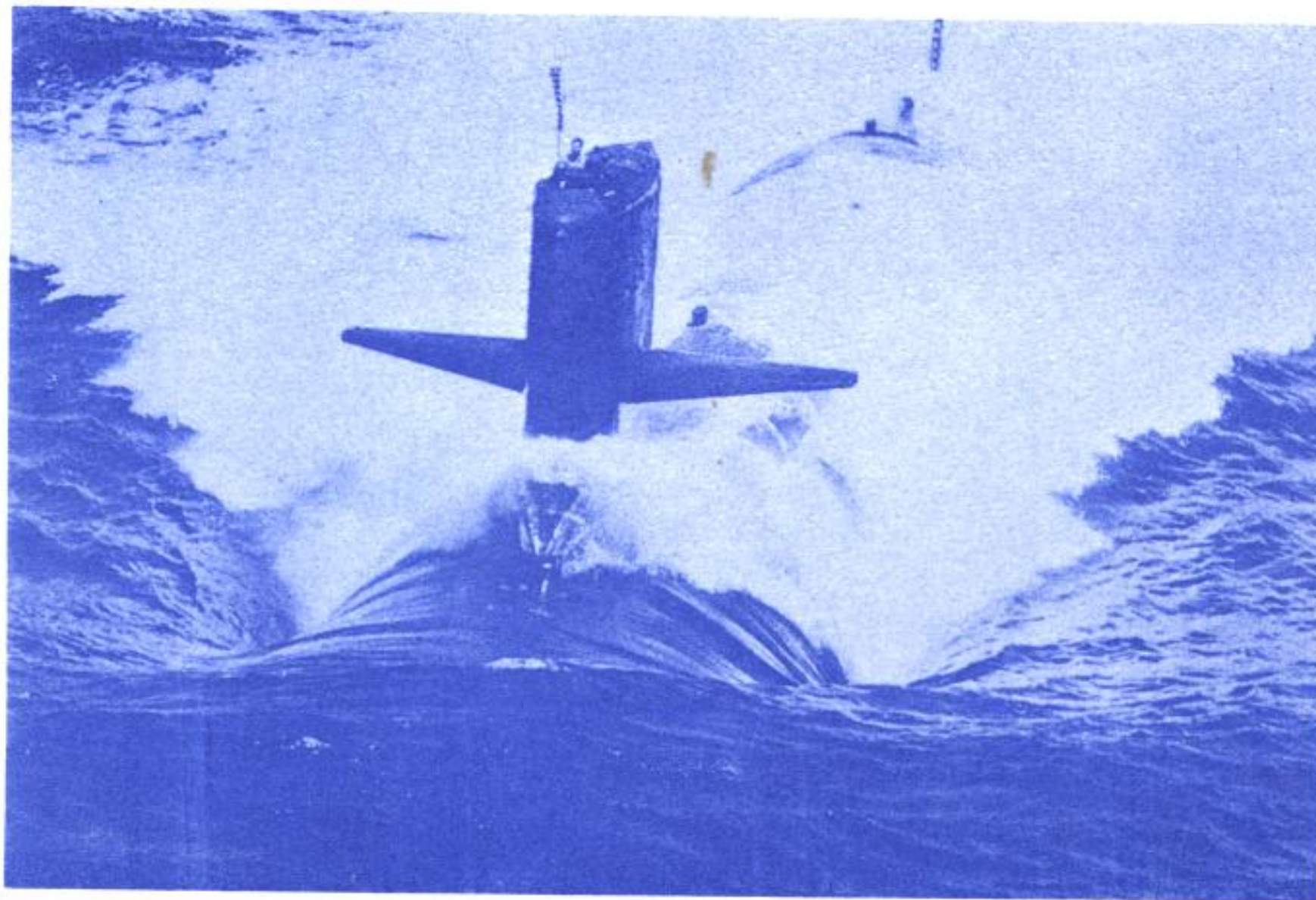
# WELCOME ABOARD



UNITED STATES SHIP  
**BATFISH**  
**SSN-681**



**USS BATFISH  
(SSN 681)  
Built By  
GENERAL DYNAMICS  
Electric Boat Division  
Groton, Connecticut**



**VITAL STATISTICS**

Keel Laid	9 February 1970
Launched	9 October 1971
Commissioned	1 September 1972
Sponsored By	Mrs. Arthur Gralla
Length	300 Feet
Beam	32 Feet
Displacement	5000 Tons
Speed	Over 20 Knots
Diving Depth	Over 400 Feet

# THE SHIP

USS BATFISH (SSN - 681) is a nuclear powered submarine of the STURGEON Long Hull Class, designed as an anti-submarine platform. BATFISH has a length of 300 feet, beam of 32 feet, displaces 5000 tons, and is capable of speed in excess of 20 knots and in depth in excess of 400 feet. BATFISH is manned by a crew of 130 officers and men.

BATFISH is named for the former USS BATFISH (SS - 310), which sank three enemy submarines in four days during World War II and received the Presidential Unit Citation and 9 battle stars.

BATFISH was built by the Electric Boat division of General Dynamics Corporation in Groton, Connecticut. Her keel was laid on 9 February 1970, and she was launched and christened on 9 October 1971, under the sponsorship of Mrs. Arthur F. Gralla. BATFISH was commissioned on 1 September 1972, and was assigned to Submarine Squadron FOUR, homeported in Charleston, South Carolina.

BATFISH has continued the traditions of her namesake. The ship has held numerous Submarine Squadron FOUR annual awards including the Battle Efficiency "E", Engineering Red "E", Supply "E", Communications "C", and ASW "A" awards. BATFISH has been awarded several unit awards for independent submarine operations of vital importance to the National Defense including one Meritorious Unit Commendation and three Navy Unit Commendations.

In addition to a long history of successful deployments, BATFISH has made significant contributions to submarine technical and development programs. She was the first ship to participate in the Submarine Extended Overhaul Cycle (SEOC) Program, and was the prototype for the revolutionary Submarine Satellite Information Exchange System (SSIXS). She was the lead ship for several other sophisticated new systems, including special hull treatment designed to improve her stealth capability.

BATFISH now carries the most advanced sonar, fire control, and navigation systems available. Able to utilize a wide variety of weaponry, she is an extremely versatile front line platform.

# ENGINEERING

The ship's nuclear reactor plant provides all the power required while operating in any ocean of the world, and permits full speed operation virtually indefinitely. Since her commissioning in 1972, BATFISH has been refueled only one time.

## AUXILIARIES

The nuclear power plant gives BATFISH the ability to remain deployed and submerged for extended periods of time. To take advantage of this the ship is outfitted with extensive auxiliary equipment to provide for the needs of the crew.

BATFISH's atmosphere control equipment consists of an oxygen generator which makes up for that oxygen used by the crew, and scrubbers and burners which remove carbon dioxide and other atmospheric contaminants. The ship's air is continuously monitored when submerged by an installed atmosphere analyzer, and various portable analysis equipments maintained by the Medical Department.

The ship is equipped with two distilling plants, which convert salt water to fresh water for drinking, washing, and supplying water to the propulsion plant. In addition, the ship has its own laundry and trash disposal facilities.

## COMMUNICATIONS

Submerged radio communications have been possible for years. BATFISH is completely outfitted with the wide variety of antennae transmitters, and receivers necessary for this task, including a satellite communications system. Interior communications are possible on a wide range of circuits, including telephones, announcing circuits, and sound powered phones. Various alarm and indicating circuits give the crew a complete picture of conditions throughout the ship.

# NAVIGATION

The cornerstone of the success of any mission assigned to BATFISH is the capability to know exactly where she is at any time, surfaced or submerged. This capability is largely dependent on the ship's electronic navigational suite, which recently was updated to include ESGN, the most sophisticated piece of navigational equipment available to the fleet today.

# WEAPONS

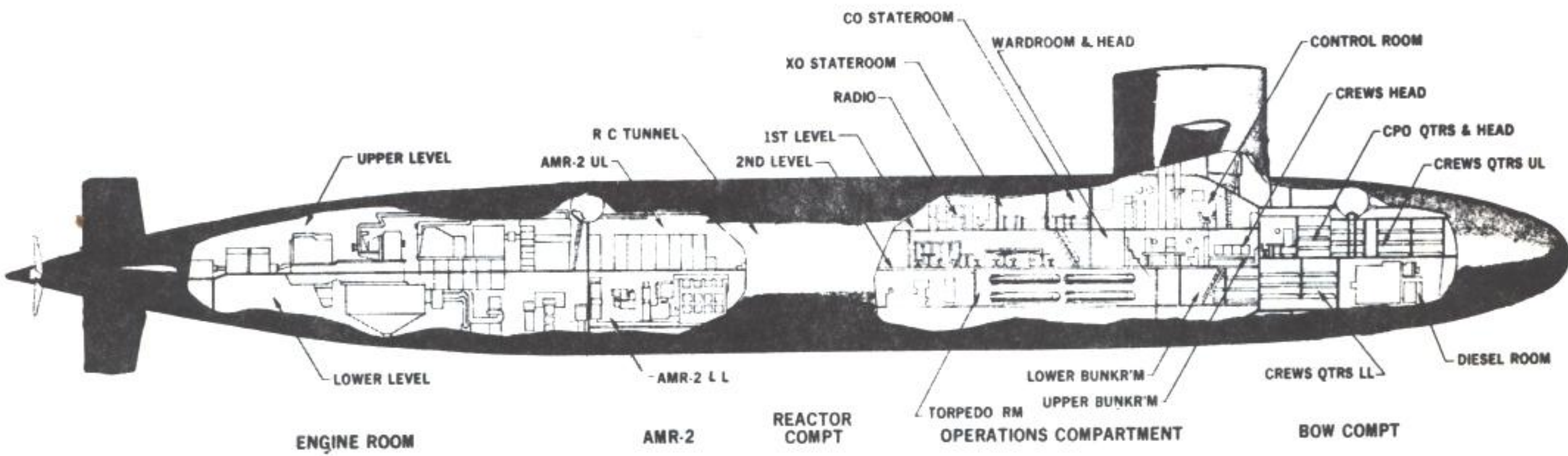
BATFISH is armed with four torpedo tubes. The ship's wide variety of torpedoes, and missiles, and her advanced fire control system enable her to meet the challenge of any target.

# SONAR

A submarine's Sonar Suite is her most vital system in the dark underseas world; it is her "eyes". BATFISH's sonar system has been recently updated to one of the most sophisticated currently available.

# SUPPLY

None of the complex equipment and machinery of the ship could function without the support of the supply department. The repair parts carried on board number in the hundreds of thousands, yet any one can be provided in a matter of minutes. The Supply Department also carries enough food to feed a crew of over one hundred and thirty for as long as one hundred and fifty days. Since BATFISH makes her own air and water, this five month food supply is all that limits the ship's endurance.



THE ONLY THING THE  
SOVIETS FEAR MORE THAN  
OUR SUBMARINES IS...



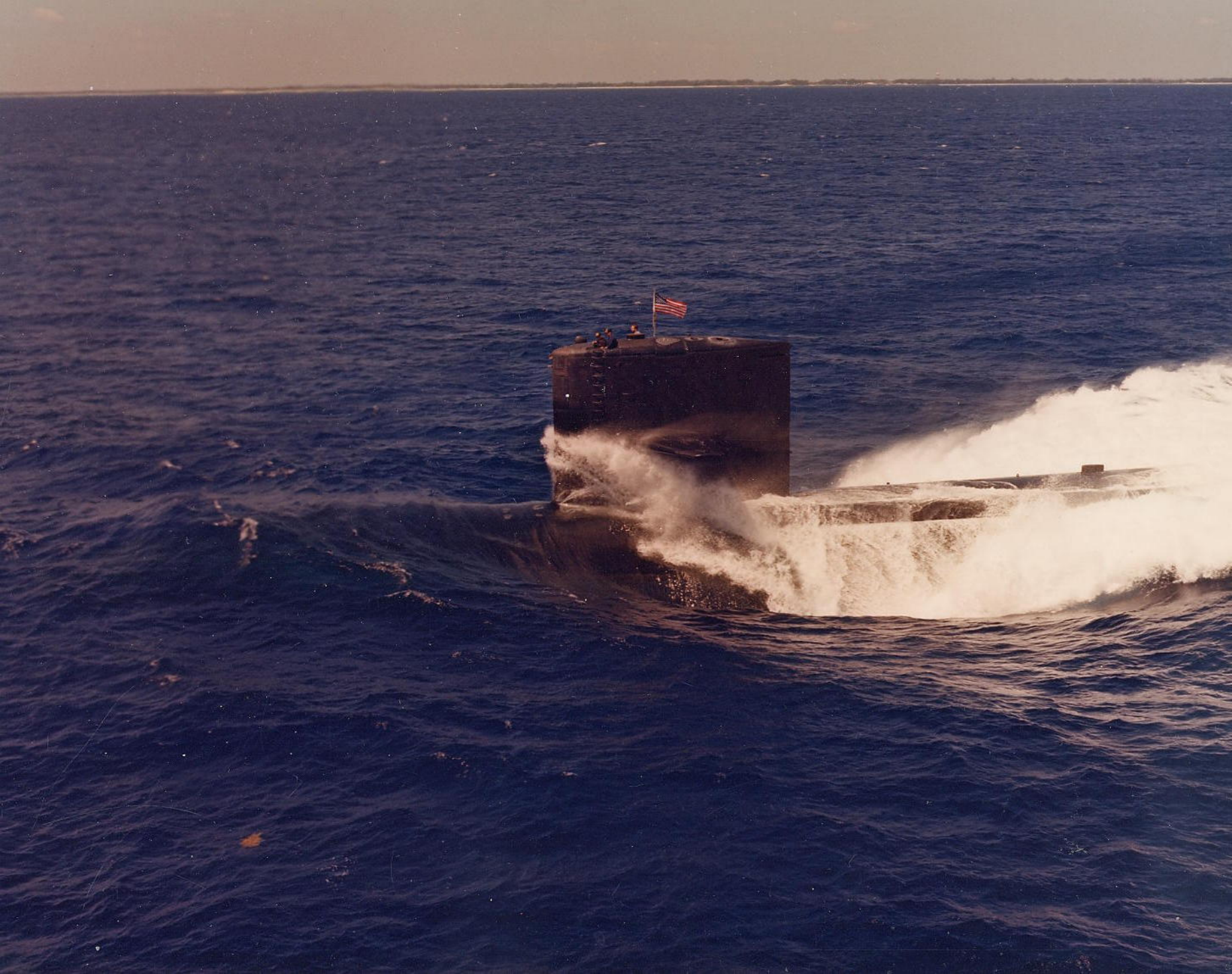
OUR SUBMARINERS!

USS BATFISH SSN 681

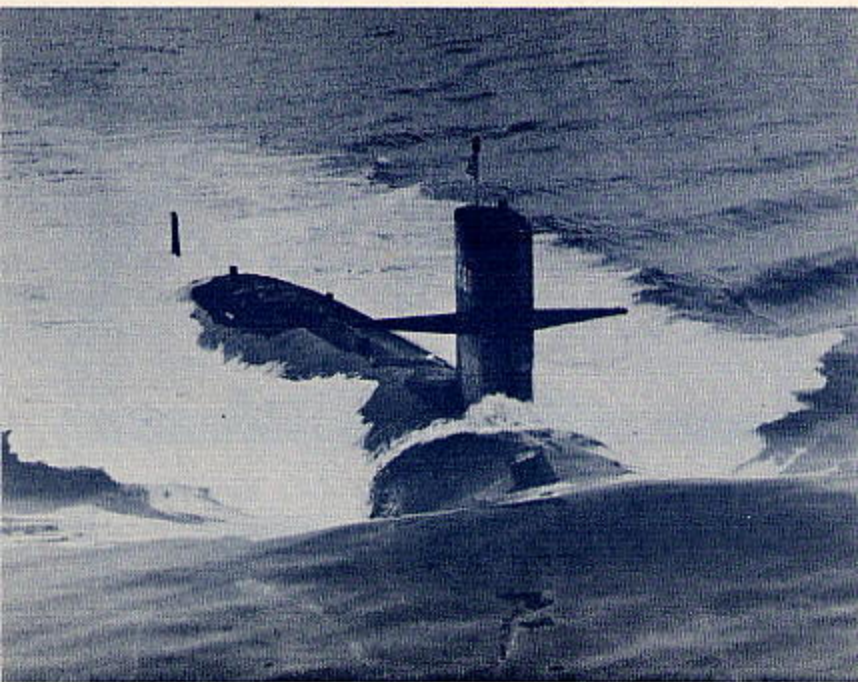


OUR PRIDE RUNS DEEP





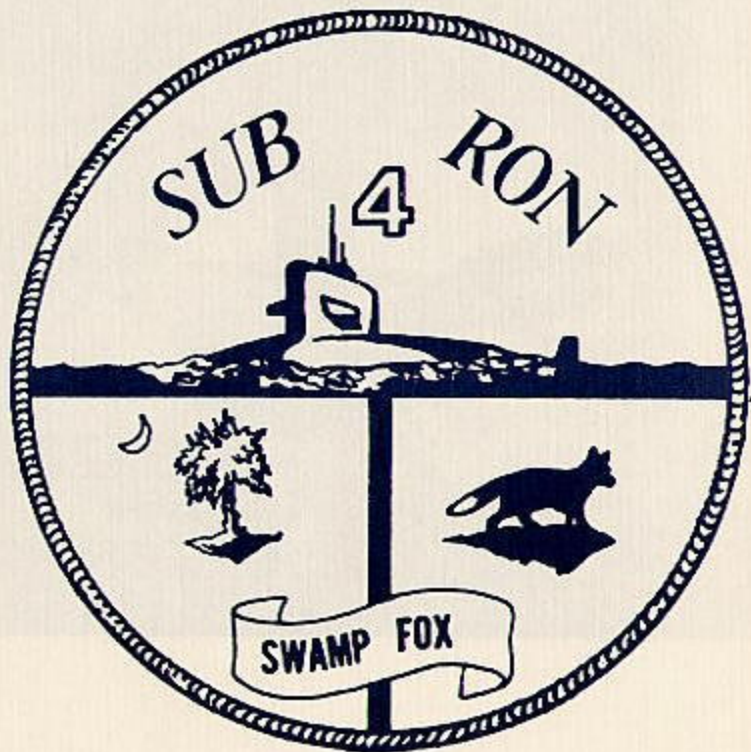
**WELCOME ABOARD**



**USS BATFISH**

**SSN-681**

# Submarine Squadron FOUR



## THE SHIP

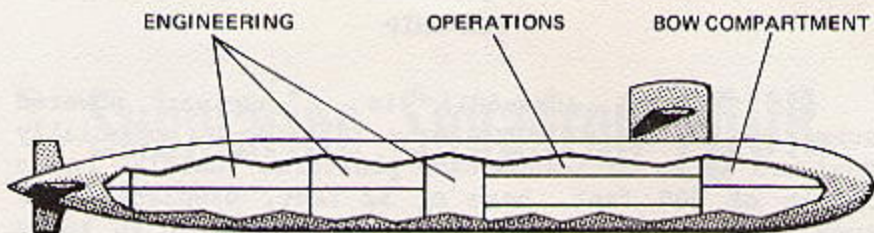
USS BATFISH (SSN-681) is a nuclear powered submarine of the STURGEON Long Hull Class, especially designed as an anti-submarine platform. BATFISH has a length of 300 feet, beam of 32 feet, displaces 5000 tons, and is capable of speeds in excess of 20 knots and depth in excess of 400 feet. BATFISH is manned by a crew of 120 officers and men.

BATFISH is named for the former USS BATFISH (SS-310), which sank three enemy submarines in four days during World War II and received the Presidential Unit Citation and 9 battle stars.

BATFISH was built by the Electric Boat division of General Dynamics Corporation in Groton, Connecticut. Her keel was laid on 9 February 1970, and she was launched and christened on 9 October 1971, under the sponsorship of Mrs. Arthur F. Gralla. BATFISH was commissioned on 1 September 1972, and was assigned to Submarine Squadron FOUR, homeported in Charleston, South Carolina.

BATFISH has continued the traditions of her namesake. The ship has held numerous Submarine Squadron FOUR annual awards including the Battle Efficiency "E", Engineering Red "E", Supply "E", Communications "C", and ASW "A" awards. BATFISH has been awarded several unit awards for independent submarine operations of vital importance to the National Defense including one Meritorious Unit Commendation and three Navy Unit Commendations. BATFISH has recently conducted several deployments of substantial importance to the national interest, including a 1983 Mediterranean deployment and a 1984 North Atlantic Deployment.

In addition to the successful deployments, BATFISH has made significant contributions to submarine technical and development programs. She was the first ship to participate in the Submarine Extended Overhaul Cycle (SEOC) Program, and was the prototype platform for the revolutionary Submarine Satellite Information Exchange System (SSIXS) as well as several other sophisticated new systems.



### COMPARTMENTATION

**ENGINEERING** - These spaces provide room for the pressurized-water type nuclear reactor, the steam turbine generators which produce electrical power, and propulsion turbines which drive the ship. The propulsion turbines are accompanied by reduction gears which transmit the power to the shaft, ultimately turning the screw to give motion to the ship. The engineering spaces are filled with complex electrical and fluid systems which support the main and auxiliary components of the propulsion plant.

**OPERATIONS** - This area, between the bow compartment and engineering spaces, provides space for navigational equipments, ship control, and various habitability areas. The radio room, sonar room, officers' staterooms, wardroom, and ship's offices are located here. The lower level of the operations compartment is primarily occupied by the torpedo room.

**BOW COMPARTMENT** - This portion of the ship is primarily a habitability space and includes most of the crew's berthing. Quarters for the chief petty officers are found here, and a small machinery space houses the auxiliary diesel generator.

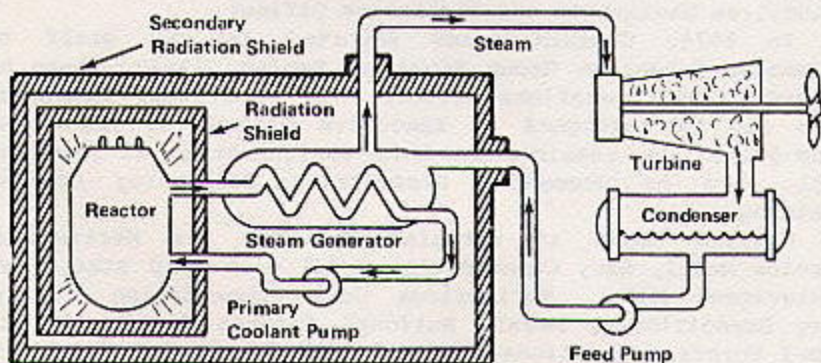
## THE POWER PLANT

The power plant of a nuclear submarine is based on a nuclear reactor which provides heat for the generation of steam. This, in turn, drives the main propulsion turbines and the ship's turbo-generators for electric power.

The primary system is a circulating water cycle and consists of the reactor, loops for piping, primary coolant pumps and steam generators. Heat produced in the reactor by nuclear fission is transferred to the circulating primary coolant water. This water is then pumped through the steam generator and back into the reactor by the primary coolant pumps for reheating in the next cycle.

In the steam generator, the heat of the pressurized water is transferred to a secondary system to boil water into steam. This secondary system is isolated from the primary system.

From the steam generators, steam flows to the engine room where it drives the turbo-generators, 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 the 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 independent from the earth's atmosphere for extended periods of time.



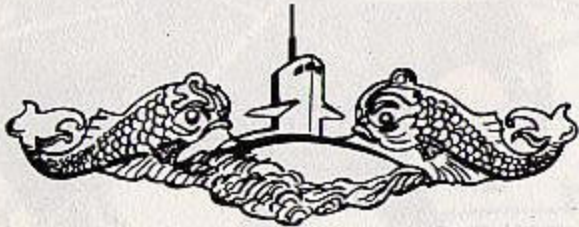
CAPTAIN FREDERICK A. ADAMS  
UNITED STATES NAVY

Captain Frederick A. Adams was born in Minneapolis, Minnesota, in 1943. He graduated from the U. S. Naval Academy in 1965 and immediately commenced nuclear propulsion training, completing courses of instruction in Maryland and Connecticut. After graduating from the Naval Submarine School in 1967, Captain Adams was assigned to the USS STONEWALL JACKSON (SSBN-634) (GOLD), where he completed four Polaris deterrent patrols. In 1969, he reported to the pre-commissioning crew of the USS HAWKBILL (SSN-666), serving in the Engineering Department and as Weapons Officer. In 1973, Captain Adams was assigned to the USS JOHN ADAMS (SSBN-620) (BLUE), as Navigation and Operations Officer.

In 1976, Captain Adams reported to the staff of Commander Submarine Group Eight in Naples, Italy, where he served as SSN Operations Officer. He left Italy in August 1978 and was assigned as Executive Officer of USS SHARK (SSN-591). He remained in this assignment until November 1981 when he commenced Prospective Commanding Officer Training.

Captain Adams is entitled to wear the Meritorious Service Medal, Navy Commendation Medal with gold star, Navy Achievement Medal, Meritorious Unit Commendation Ribbon, Navy Expeditionary Medal, National Defense Service Medal, Armed Forces Expeditionary Medal, Vietnam Service Medal and the SSBN Deterrent Patrol Insignia.

Captain Adams is married to the former Eileen Marie (Reeney) Dickson of Silver Springs, Maryland. They and their children, Melissa, Michele and Douglas, reside in Mt. Pleasant, South Carolina.





**BATFISH**



**SSN**

**681**



CAPTAIN THOMAS DAVID RYAN, UNITED STATES NAVY

Captain Thomas David Ryan was born in Buffalo, New York, in 1939. He entered the University of Notre Dame in 1957 through the regular NROTC Program. He graduated and was commissioned in 1961, having earned a Bachelor of Science Degree in Chemical Engineering.

Following service as the Damage Control Assistant and Main Propulsion Assistant in the destroyer USS BARRY (DD 933), Captain Ryan was selected for the Junior Line Officer Advanced Scientific Program and entered the University of Michigan in 1962. Upon graduation in 1964, having earned a Master of Science Degree in Nuclear Engineering, he was selected for the Naval Nuclear Propulsion Program. After completing courses of instruction in Maryland and New York, he reported to the Naval Submarine School of Submarine Officer training.

Captain Ryan was ordered to USS DANCE (SSN 607) in June 1966. During his tour in DANCE he qualified in submarines and as Engineer Officer and served as Weapons Officer. He then attended the SSBN Navigator Course at the Naval Guided Missile School, Dam Neck, Virginia, and completed four POLARIS deterrent patrols in USS WILL ROGERS (SSBN 659) (GOLD). In 1971, Captain Ryan returned to the University of Michigan to complete his graduate studies. In 1974, he earned a Doctor of Philosophy Degree after studying radiation effects in metals.

From September 1974 until December 1977, Captain Ryan served as Executive Officer of USS SIMON BOLIVAR (SSBN 641) (BLUE), completing six POSEIDON deterrent patrols. He reported for duty as Commanding Officer, USS BATFISH (SSN 681) following Prospective Commanding Officer training under the supervision of the Director, Division of Naval Reactors, U. S. Energy Research and Development Agency and Commander Submarine Force, U. S. Atlantic Fleet.

Captain Ryan is entitled to wear the Navy Commendation Medal, the Navy Achievement Medal with Gold Star, the Navy Unit Commendation with Star, the Navy "E" Ribbon, the Navy Expeditionary Medal, the National Defense Service Medal, and the SSBN Deterrent Patrol Insignia.

Captain Ryan is married to the former Jane Ann Gleixner of Chicago, Illinois. They and their five children, Thomas, Timothy, Jennifer, Jeanette, and Joanne, reside in Summerville, South Carolina.

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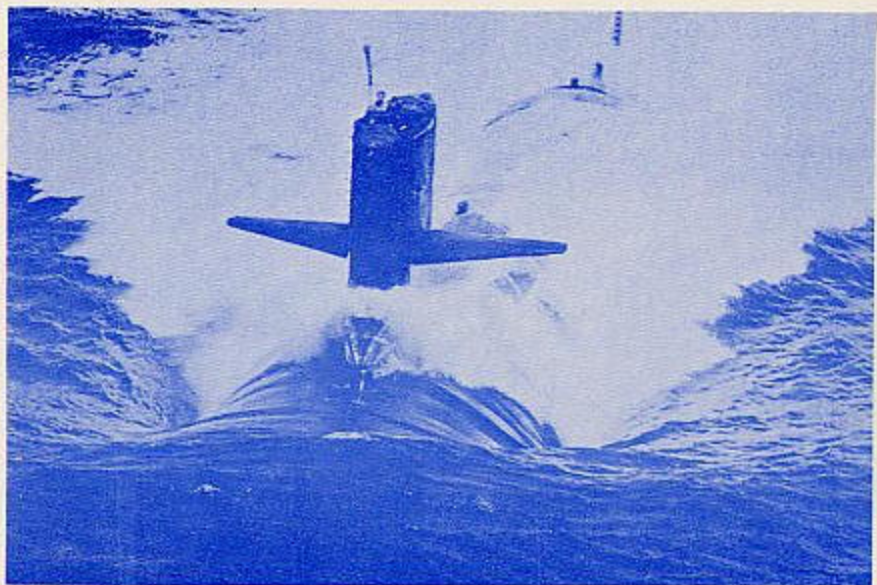


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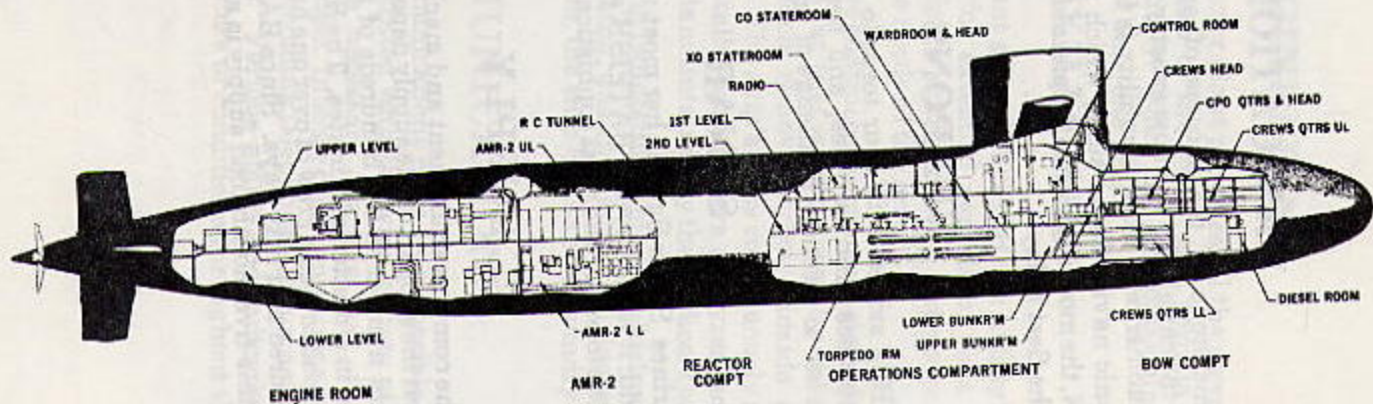
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# SHIP'S DIAGRAM





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