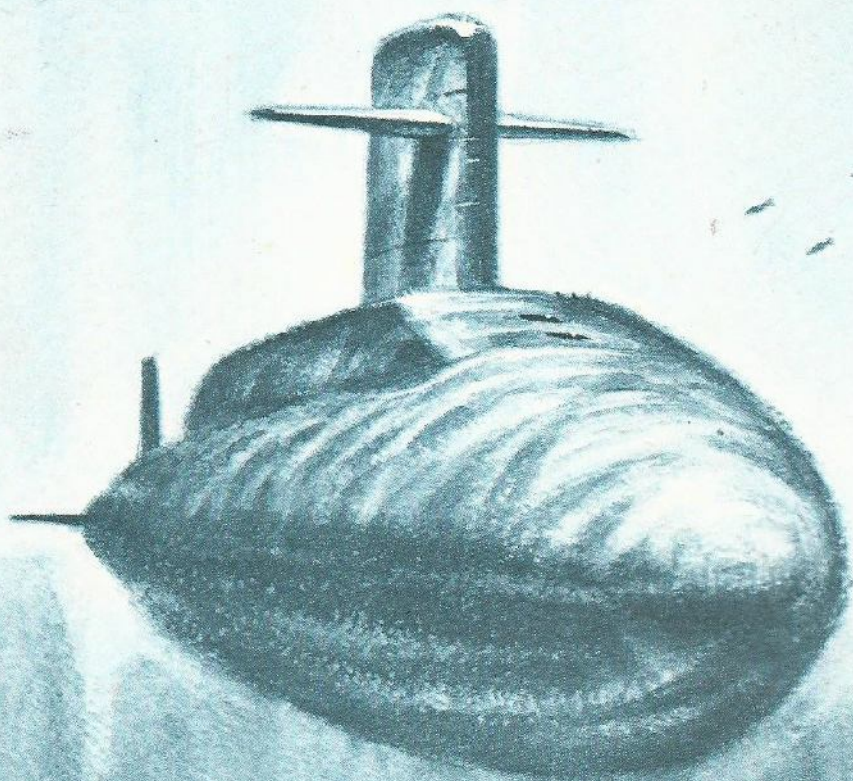
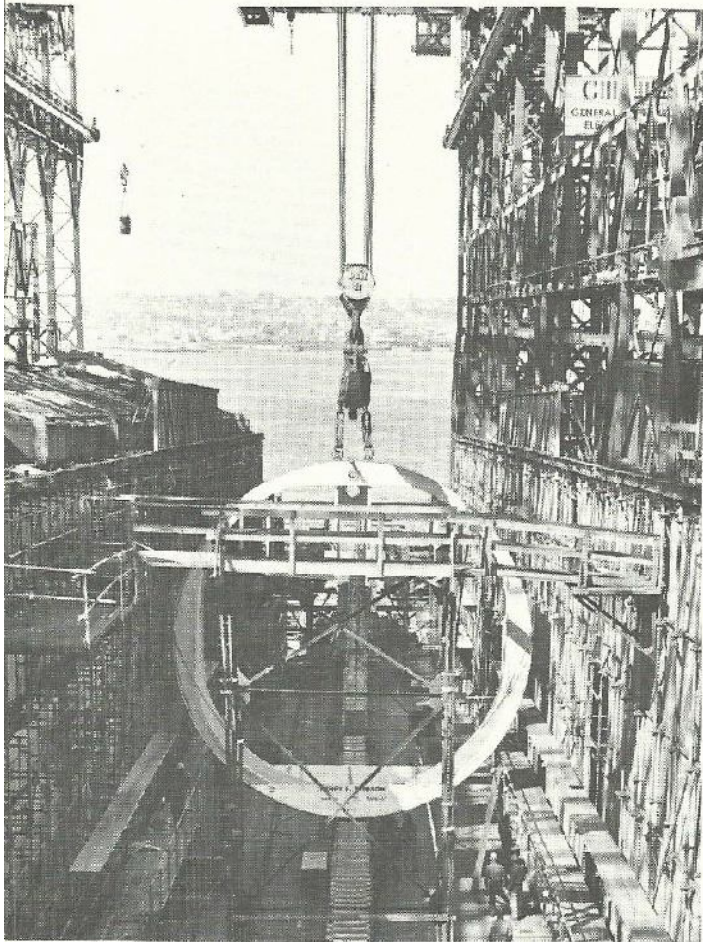


**USS  
HENRY L. STIMSON  
SSBN655**

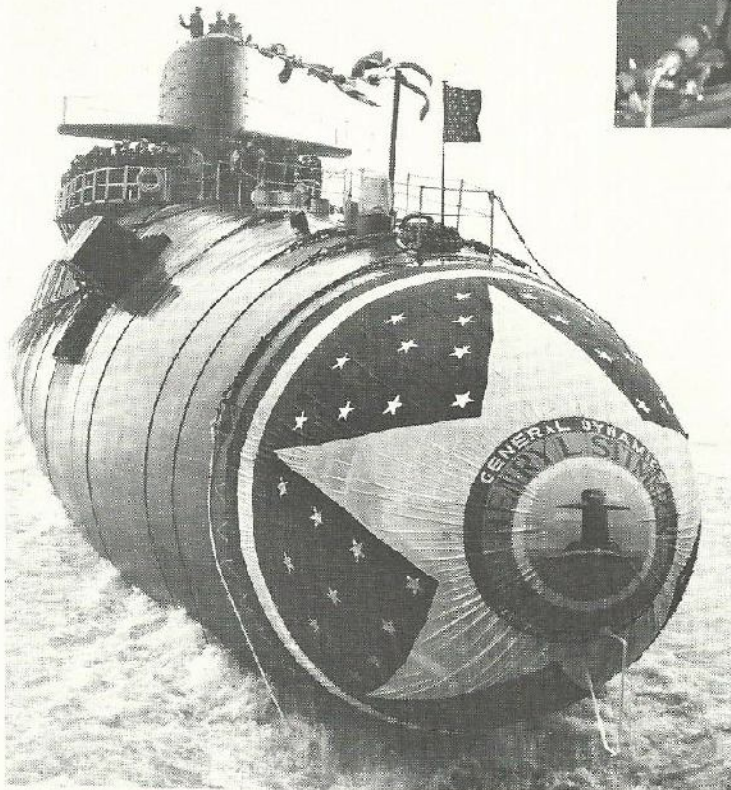






KEEL LAYING

CHRISTENING



LAUNCHING

USS  
HENRY L. STIMSON  
SSBN655



KEEL LAID  
4 APRIL 1964



LAUNCHED  
13 NOVEMBER 1965



COMMISSIONED  
20 AUGUST 1966



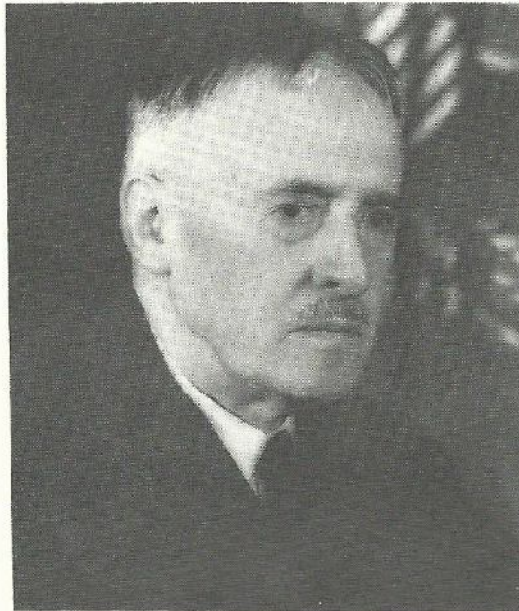
BUILT BY

**GENERAL DYNAMICS**  
*Electric Boat Division*

SPONSOR

MRS THOMAS DODD





## HENRY L. STIMSON

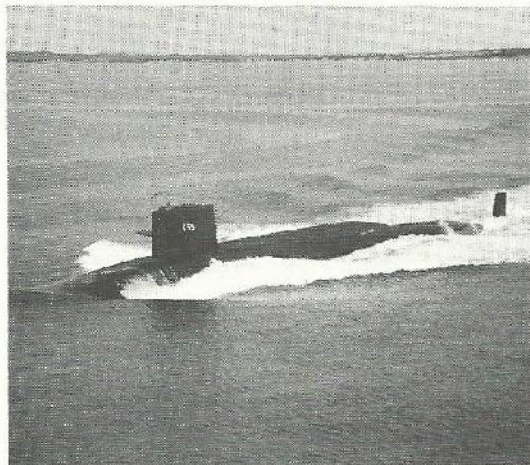
(1867 - 1950)

Henry Lewis Stimson, lawyer, statesman, soldier, diplomat and able administrator was born in New York City in 1867. He received his education at Andover, Yale and Harvard Law School. As a young lawyer, he worked in partnership with Eli Root who became his teacher and lifelong friend and adviser. Root taught the young lawyer the advantages of careful preparation and close

reasoning, traits that later proved useful to Stimson as he assumed various appointive offices. Stimson's devotion to public service was an outgrowth of his concept of the function of law and advocacy in a democratic society. He came to feel that "every American lawyer should regard himself as a potential officer of his government and a defender of its laws and Constitution" for "if the time should ever come when this tradition had faded out and the members of the bar had become merely the servants of business, the future of our liberties would be gloomy indeed." He gave his special qualifications to public office as District Attorney of New York City and in the cabinets of four Presidents (two Republicans and two Democrats): as Secretary of War under William H. Taft, Franklin D. Roosevelt and Harry S. Truman, and as Secretary of State under Herbert Hoover. He served Calvin Coolidge as adviser on Latin American Affairs, peacemaker in Nicaragua and Governor General of the Philippine Islands. It is not surprising that Stimson was a responsible "professional" man and was, as his biographer Etting E. Morison wrote, "a forthright gentleman, a great trial lawyer, a courageous soldier, a dedicated public servant, a statesman who would live in grateful hearts."

## USS HENRY L. STIMSON (SSBN655)

The USS HENRY L. STIMSON (SBN-655) is the Navy's 61st nuclear powered submarine and the 37th of its Polaris submarine fleet. The ship is 425 feet long with a beam of 33 feet and displaces approximately 8,000 tons submerged.



HENRY L. STIMSON began her waterborne career on Nov. 13, 1965 when she was launched at General Dynamics Corporation's Electric Boat Division, Groton, Connecticut. Fast, silent

and virtually immune to surprise attack, the HENRY L. STIMSON combines the almost unlimited endurance of nuclear power with the deterrent might of 16 A-3 Polaris missiles capable of wreaking more havoc than all the bombs of World War II.

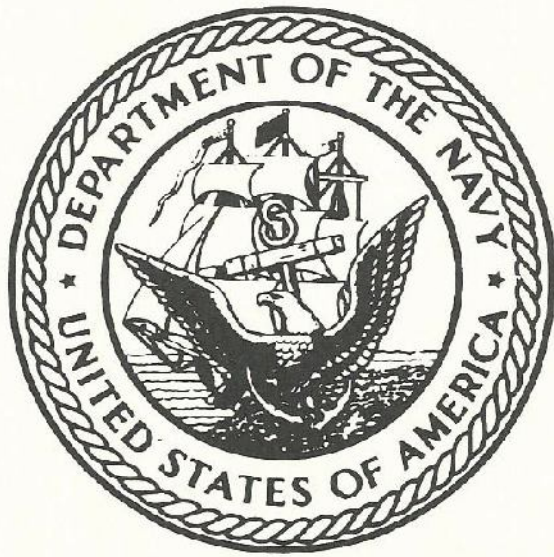
In order to provide for maximum crew comfort during the 60 day Polaris patrols, the ship is equipped with 390 tons of air conditioning equipment. Special atmospheric purification equipment removes irritants from the air and maintains the proper balance of oxygen, carbon dioxide and other atmospheric elements.

### VITAL STATISTICS

Displacement surfaced .....	about 7,000 tons
Displacement submerged .....	about 8,000 tons
Speed submerged .....	over 20 knots
Diving depth .....	Greater than 400 feet

Built by Electric Boat division of General Dynamics





The decade immediately following World War II saw a great change in the political power structure of the world. The United States changed its wartime role as "Arsenal of Democracy" to the "Bulwark of Freedom" in the cold war. To meet the challenge of the new role, new weapons systems were needed.

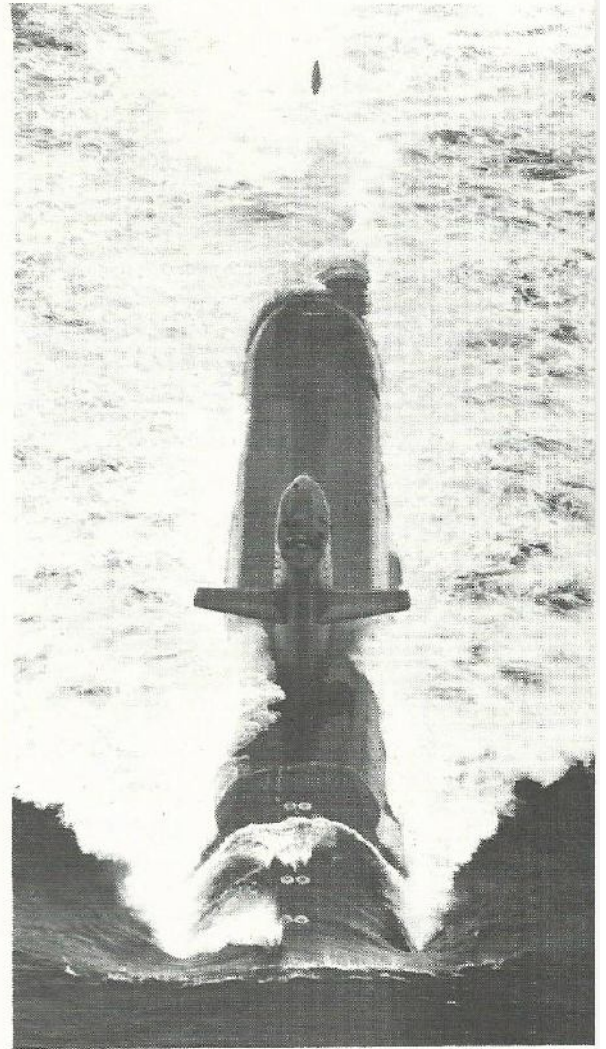
In January 1954, the USS Nautilus announced to the world that she was "underway on nuclear power." The vehicle for an advanced weapons system was complete. An undersea craft which is silent, fast, highly maneuverable, and capable of fighting a war the length of World War II without refueling was available.

# THE FLEET BALLISTIC MISSILE SUBMARINE



Polaris was the name given to the missile developed by the Navy to be fired from a submerged nuclear vessel. To take advantage of the long range and accuracy of the missile, methods of navigation which allowed fixing the ship's position instantaneously were studied. From this study, the Submarine Inertial Navigation system came into being. The SINS is located in the upper level Operations Compartment with its associated computers.

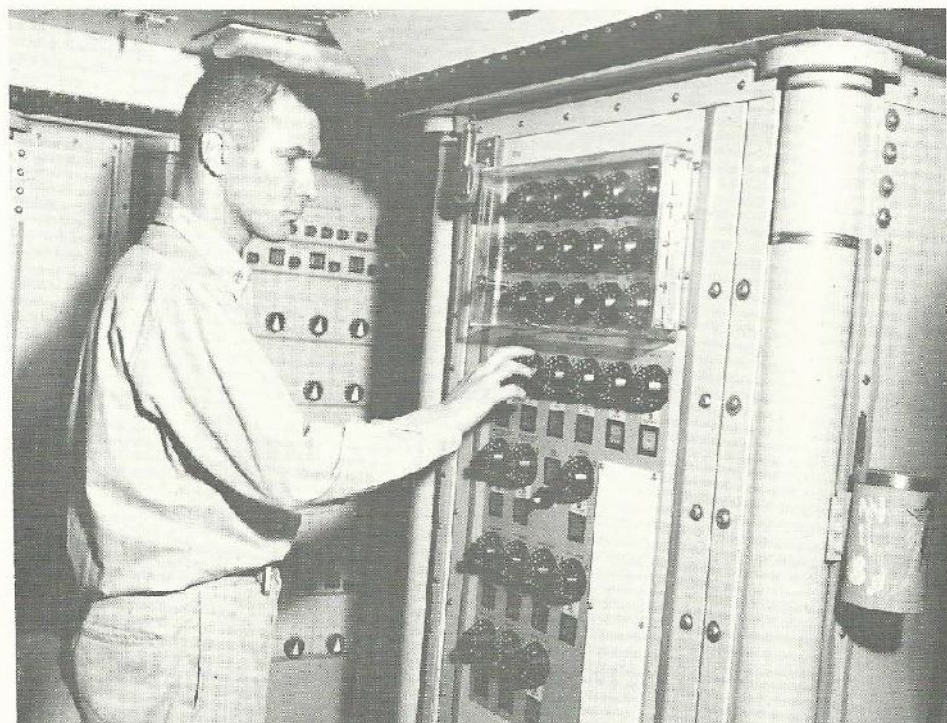
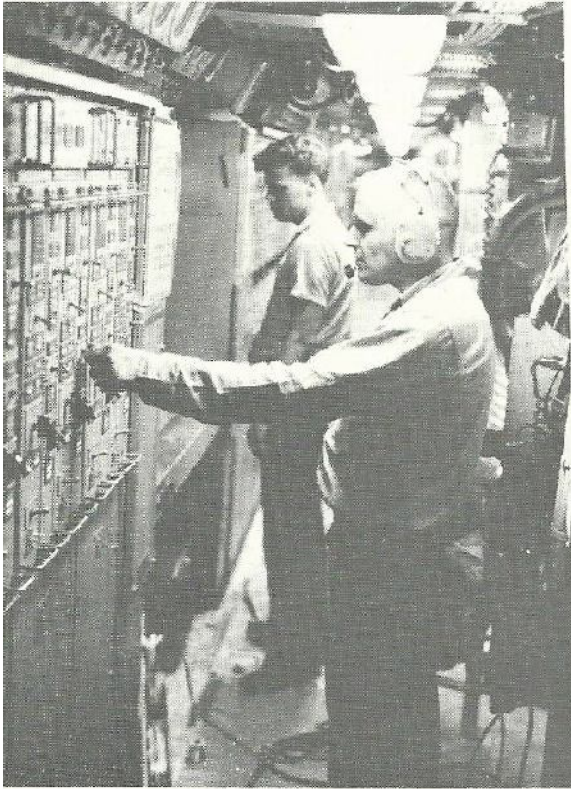
To complete the weapons system it remained only to provide a suitable environment for the men who would operate it. Methods of atmosphere control were devised which would provide fresh air continuously. Temperature and humidity control keep these factors in the optimum range for both men and equipment. Pleasant surroundings with adequate exercise and recreation facilities are also provided.





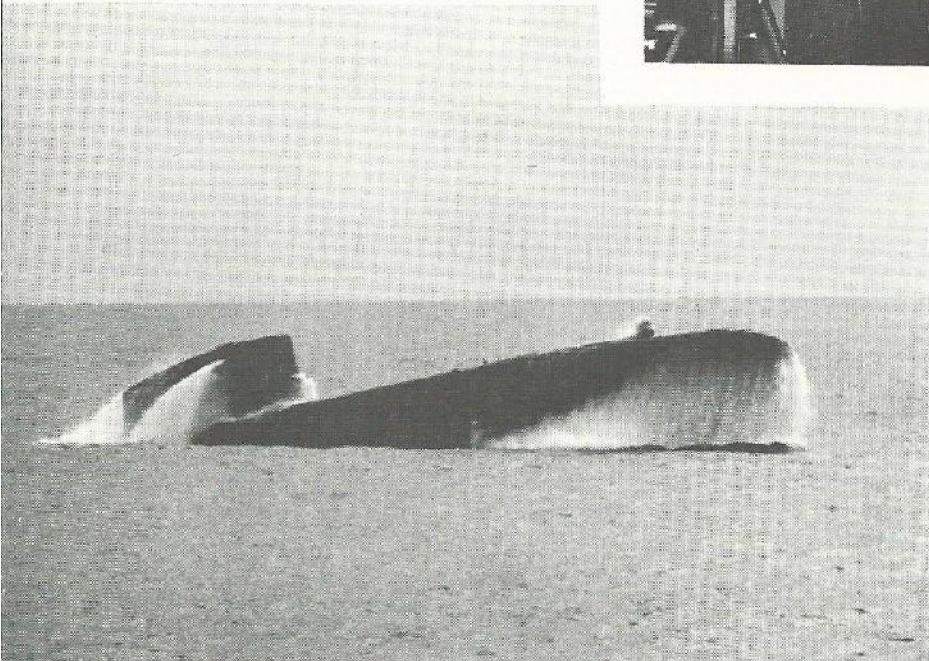
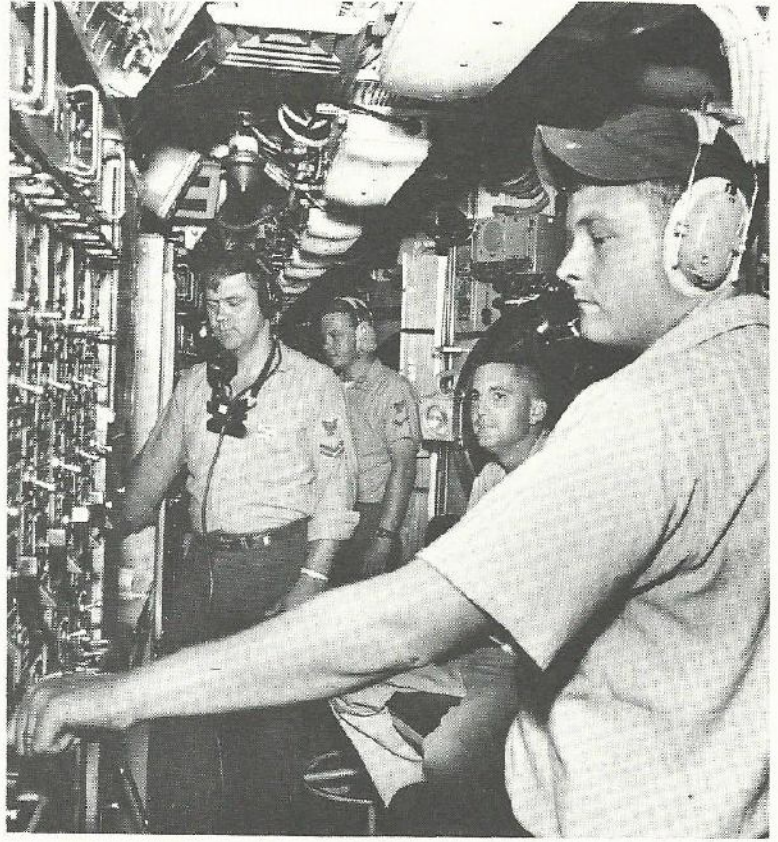
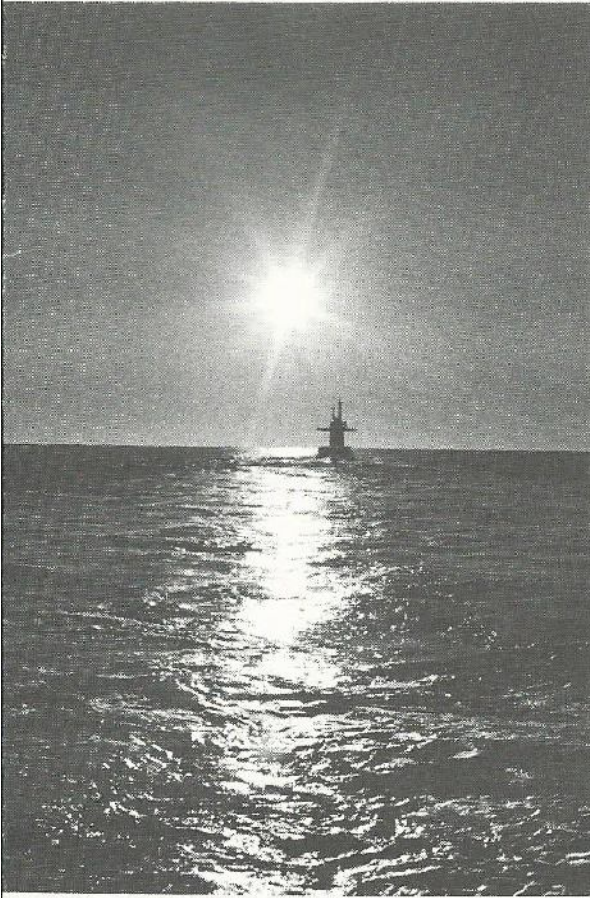
There will be 41 FBM's in the Polaris Fleet carrying a total of 656 missiles. Forty ships proudly bearing the names of great American patriots and statesmen and leaders, a bulwark for world peace, representing the greatest deterrent to aggression ever known to mankind. If they are forced to fire in anger the Polaris men will tell you they have failed. . . . theirs is a mission to keep the peace.

Hull, propulsion plant, weapons and men all combine to give the Fleet Ballistic Missile Submarine a highly complex weapons system capable of staying hidden while moving at high speeds deep in the depth of the waters that comprise 70% of the earth's surface. A mobile, self contained missile launching site whose location is unknown to any potential enemy, ready to deliver immediately a devastating fire power, the FBM submarine is a powerful deterrent to those who might start a global war.

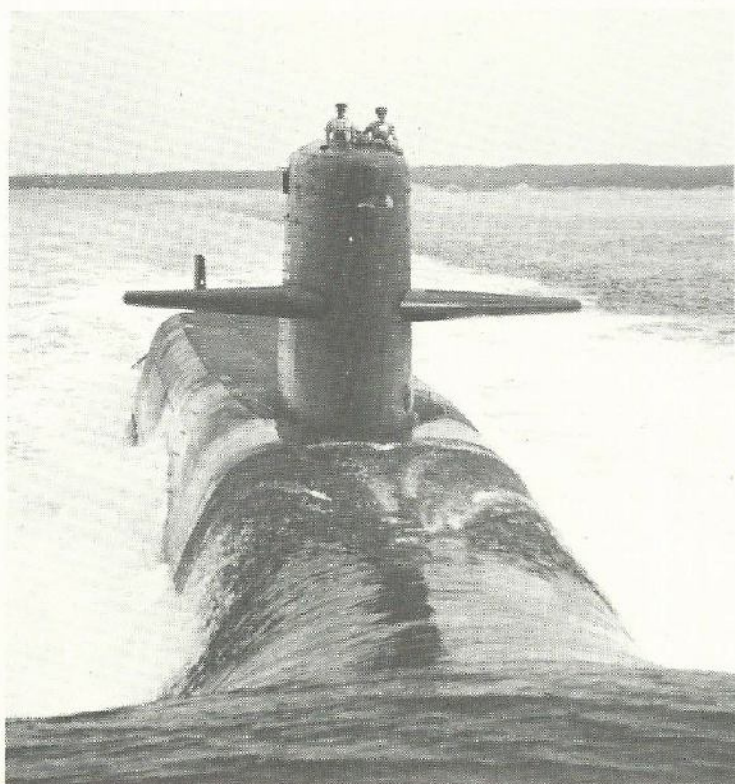
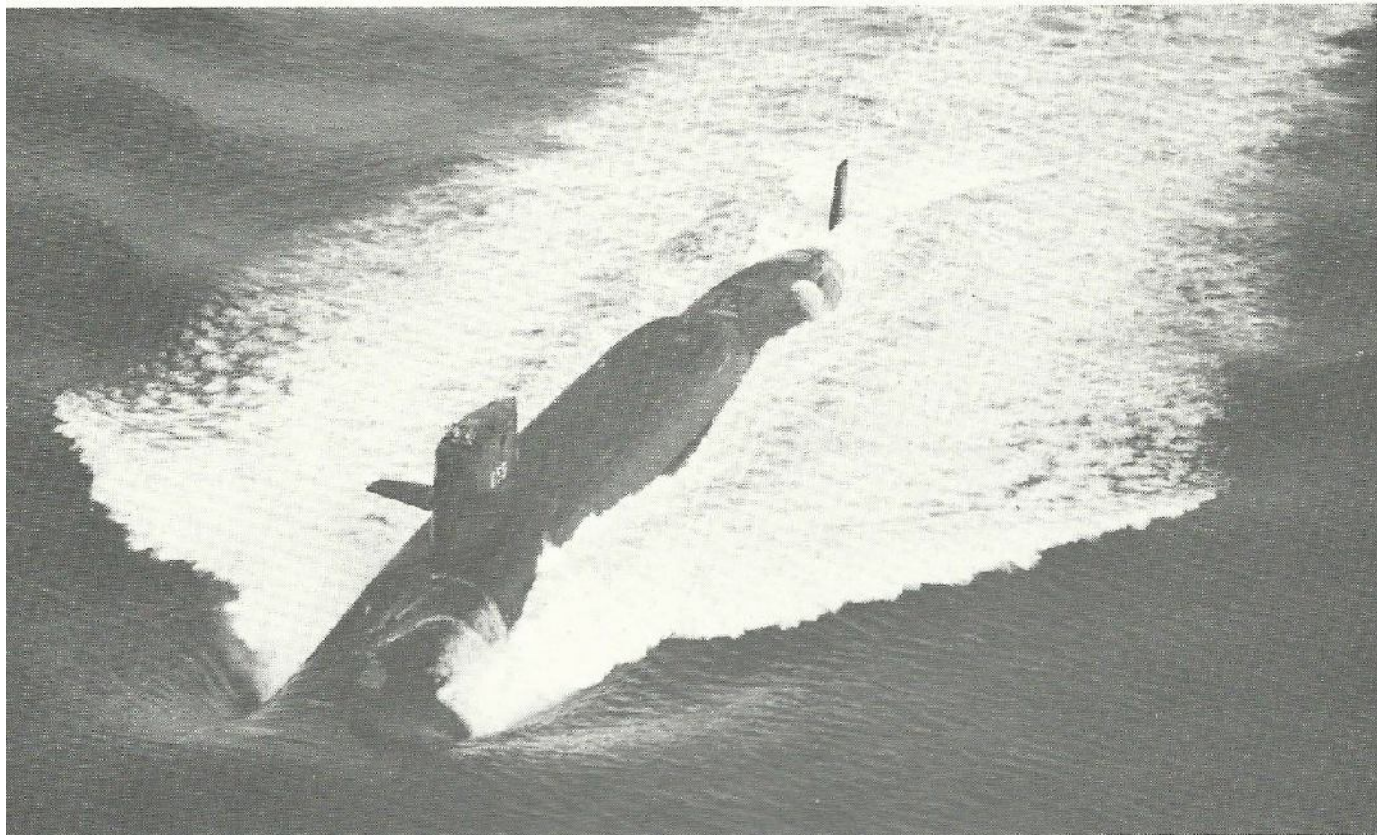




POLARIS SUBMARINES ON PATROL









# POLARIS

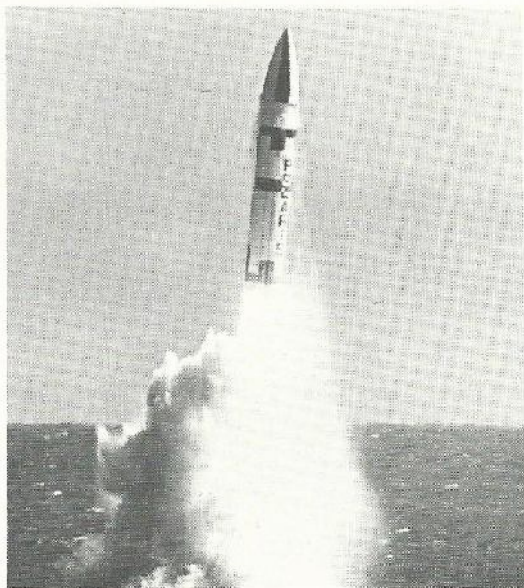
Polaris, named for the North Star, is a two staged ballistic missile, designed to be launched from either surfaced or submerged submarines and from shore stations. However, the Polaris launching will be primarily from FBM Submarines. The missile is powered by solid fuel rocket motors and guided by a self-contained inertial guidance system independent of external commands or control.



Within the submarine, personnel can **check** and prepare missiles for firing while the ship is submerged. Ejected from its launching tube by air or gas, Polaris is forcefully propelled above the surface of the water, where the motor ignites. The missile continues on its own until its thrust is ended by a signal from the missile guidance system. After arriving at the correct speed, and the correct point in space, the second stage motor thrust comes to an end, and the re-entry body then continues along the pre-planned trajectory to the target.

The original Polaris was designated A-1. The A-1 Polaris had a 1200 nautical mile range and was officially retired from active fleet service 14 Oct. 1965. There are currently two generations of Polaris, A-2 and A-3.





The STIMSON carries the Polaris A-3 which has a range of 2500 nautical (2880 statute) miles. The Polaris A-3 is a significant advance over the Polaris A-2. In terms of hardware design, Polaris A-3 is approximately an 85% new missile, but is still the same size as Polaris A-2 (about 31 feet long and 41½ feet in diameter).

A new guidance system developed for use on the A-3 is about one-third the size and weight of earlier systems. Using extremely precise gyroscopes, accelerometers and its own electronic computer, the guidance system puts the missile on correct course at the time of the launch. The guidance system also maintains the stability of the missile in the pitch, yaw, and roll planes. At the precise instant required, the guidance system shuts off the rocket motors and triggers separation of the re-entry body from the missile. The re-entry body follows a ballistic trajectory to the target.





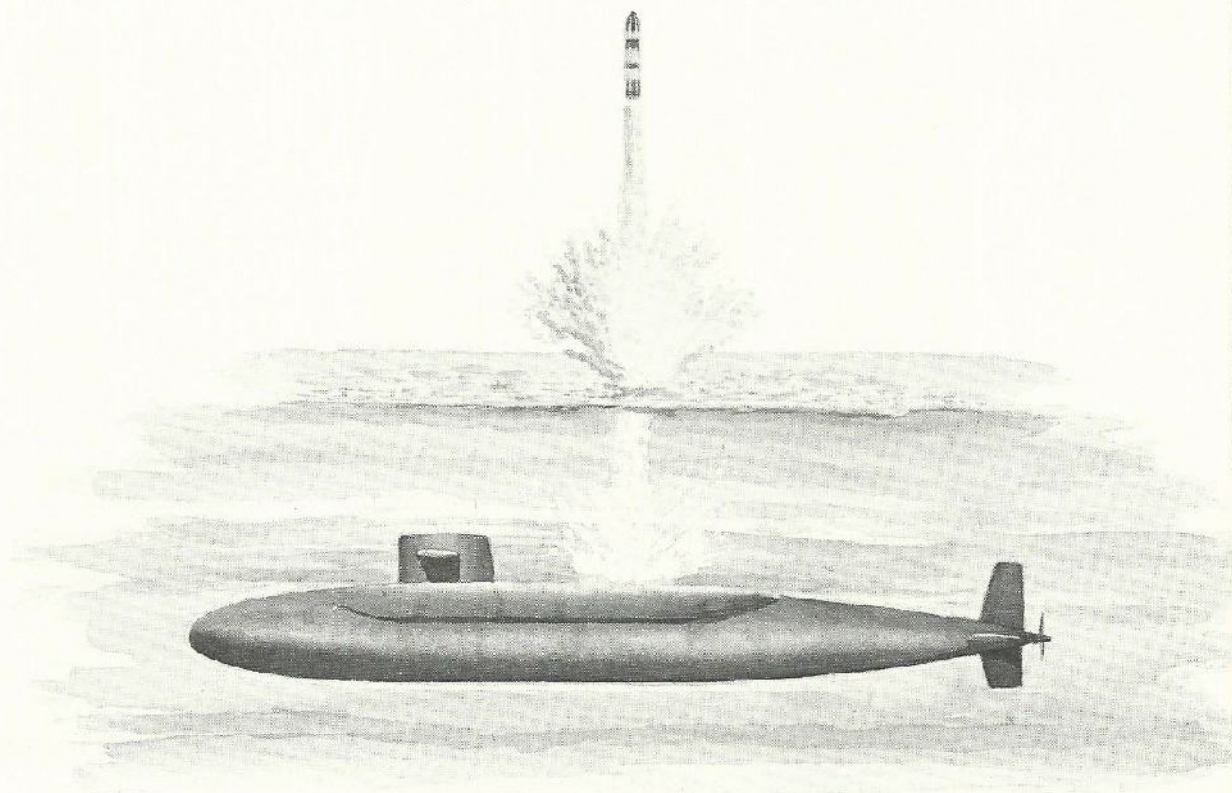
The design and development of the Fleet Ballistic Missile Weapons system was an amazing feat of planning, engineering and testing. But the Polaris A-3 is not the latest missile planned for the FBM Submarine.

The President announced in January 1965 that a new missile for the Fleet Ballistic Missile Weapon System was being developed — POSEIDON.

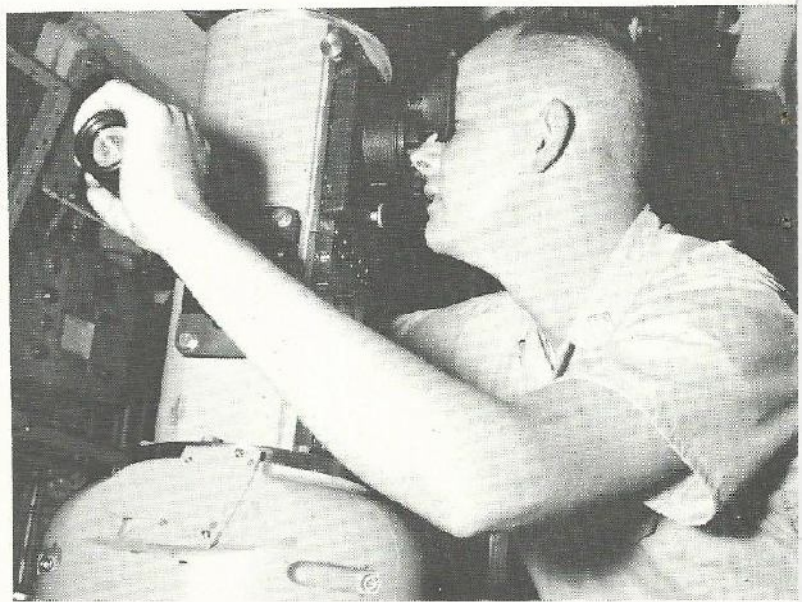
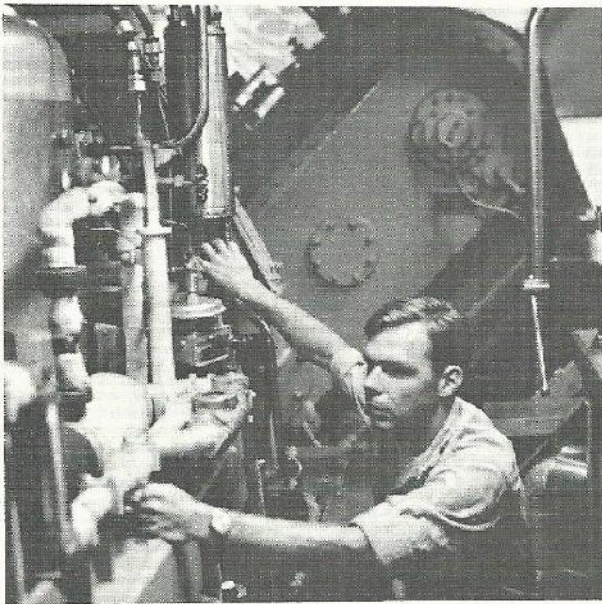
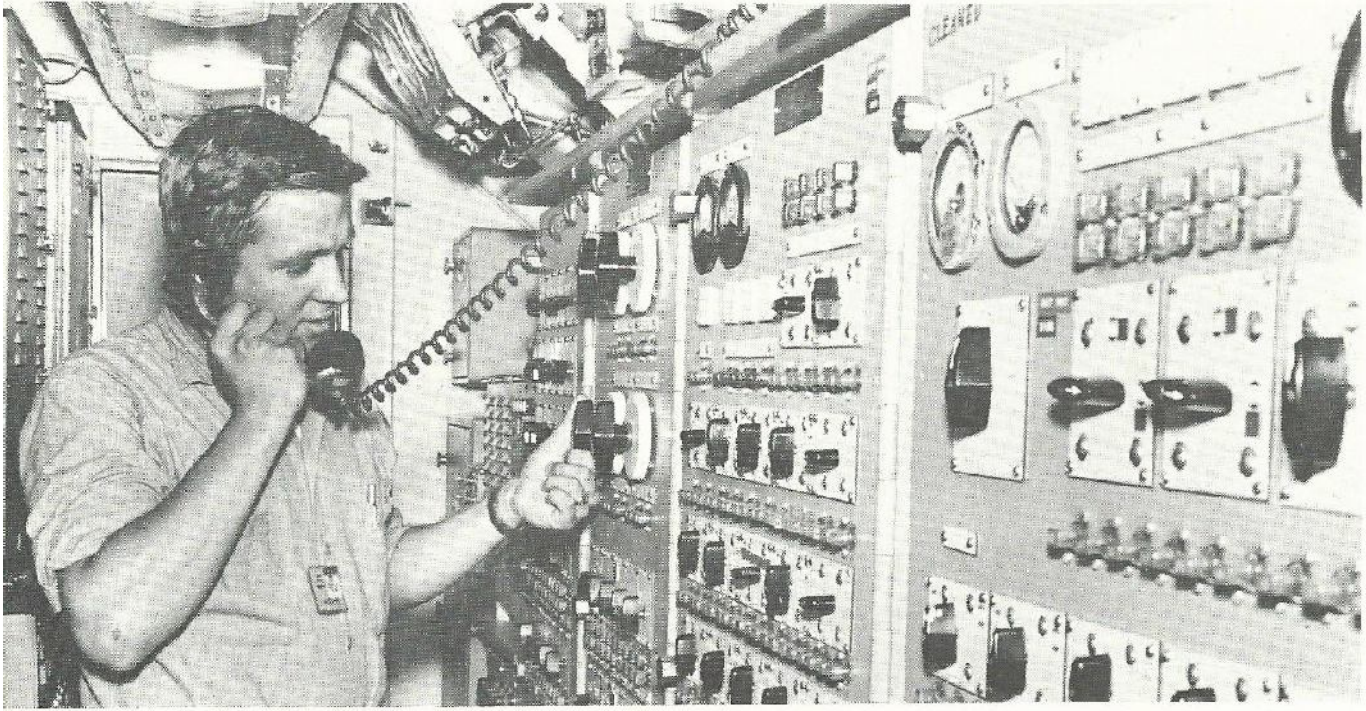
POSEIDON is named after the God of the Sea in Greek mythology, an appropriate name for this sea based missile. He was called the "earth shaker" because of his ability to cause earthquakes far inland.

POSEIDON will be an improvement over A-3. It will have double the payload and twice as accurate.

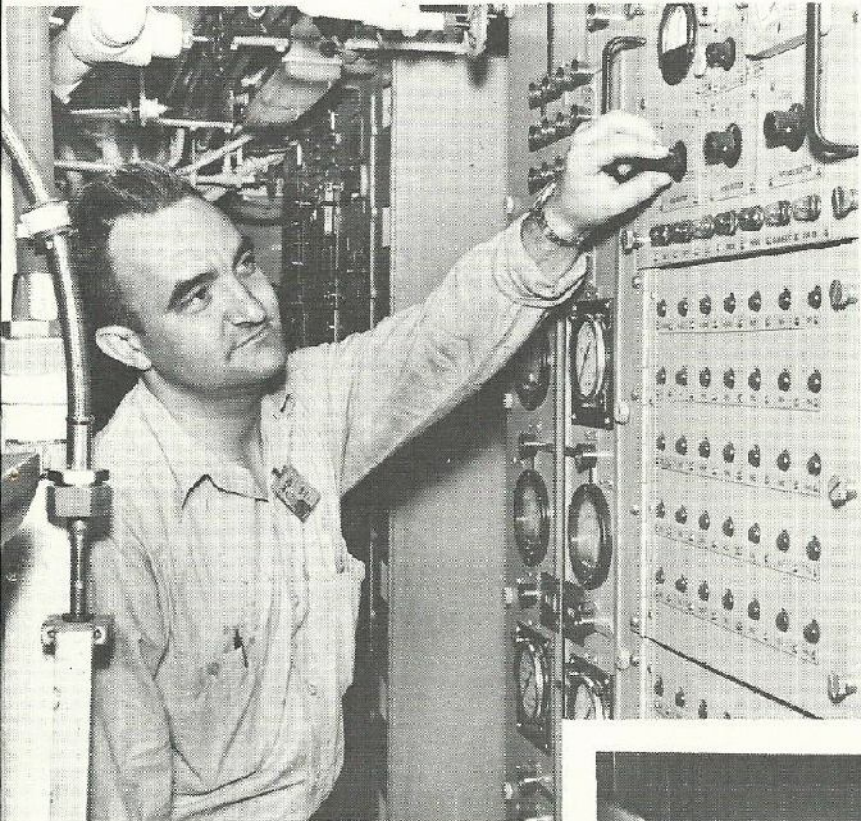
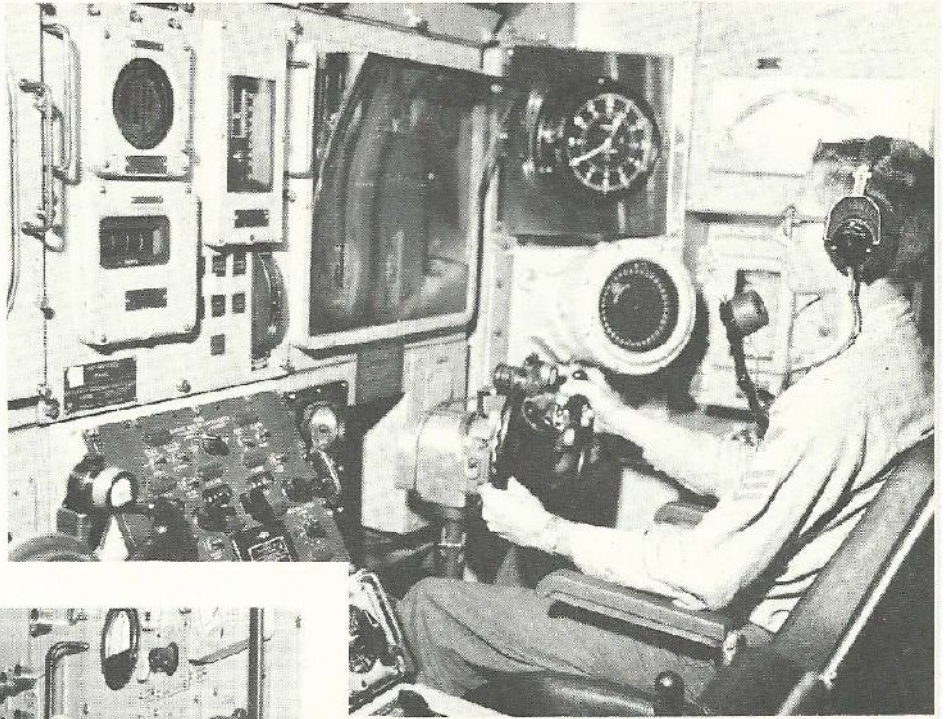
The increased capabilities of the POSEIDON plus the inherent survivability of the nuclear powered submarine give every reason to believe that the FBM system will continue to be a reliable and credible retaliatory force for this country in the years ahead.



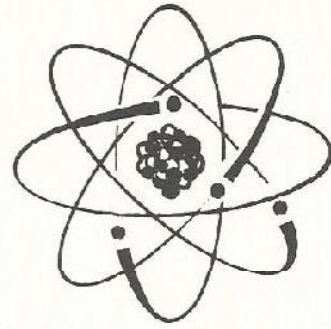




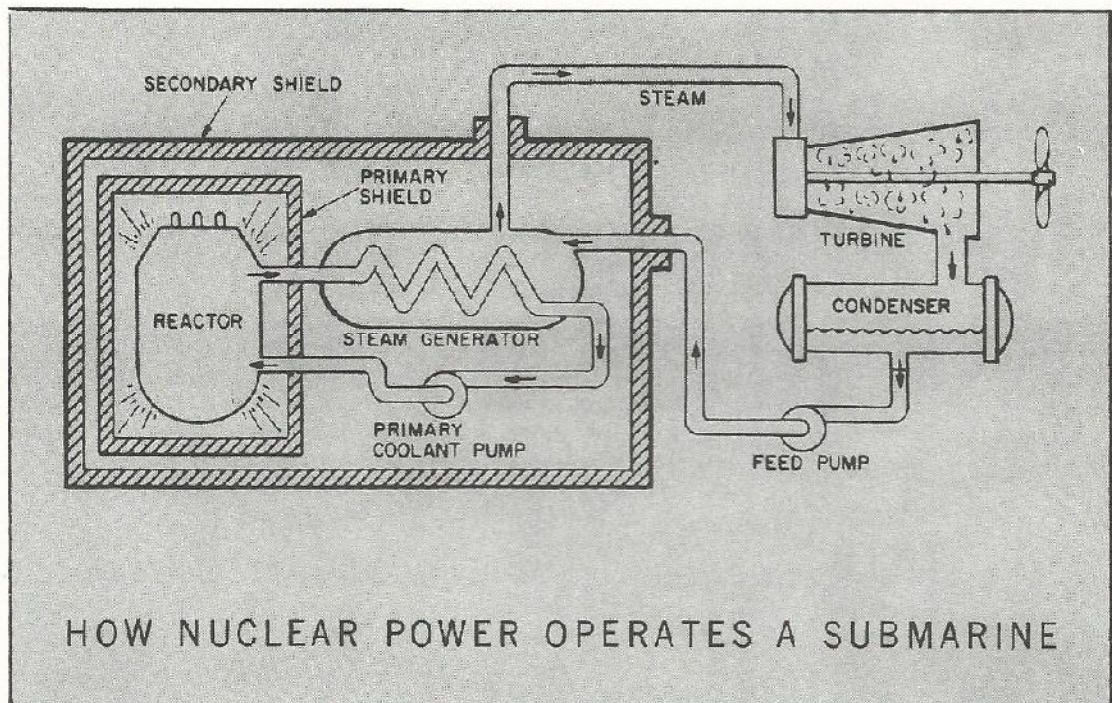








# THE POWER PLANT



The STIMSON is powered by a nuclear power plant consisting of a nuclear reactor which provides heat for the generation of steam to drive the main propulsion turbines and the ship's turbo generators for electric power.



## THE PRIMARY SYSTEM

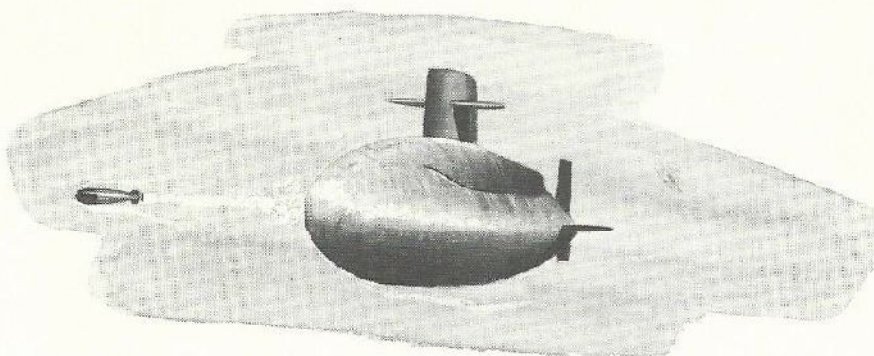
The primary system is a circulating water cycle and consists of the reactor, identical port and starboard loops of piping, primary coolant pumps and the tubes of the steam generators. Heat is produced in the reactor by nuclear fission and is transferred to the circulating primary coolant water which 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 and boils water to form steam. It is then pumped back to the reactor by the primary coolant pumps and reheated for the next cycle.

## THE SECONDARY SYSTEM

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, then flows to the engine room where it drives the ship's service 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 divorced from the earth's atmosphere for extended periods of time.

During the operation of the nuclear power plant high levels of radiation exist around the reactor and personnel are not permitted entrance into the reactor compartment until after the reactor is shut down. Heavy shielding is used to protect the crew so that the average crew member receives less radiation than he would receive from natural sources ashore.





## THE BLUE AND THE GOLD

Each FBM submarine has two complete, equally trained crews, called Blue and Gold, of about one hundred forty officers and men each. The mission of Polaris Nuclear Submarines necessitates the rotation of personnel at regularly scheduled intervals, while the ship itself remains on station. While one crew has the ship on patrol, the other is in the home port, undergoing refresher training, taking leave, breaking in new crew members, and in general getting ready to go back to sea.

The training cycle of the ship includes taking the ship to patrol with first the Blue Crew, then having the Gold Crew relieve them. Each crew operates independently of the other.

Each crew is made up of the highest caliber of men. Originally, the main source for FBM personnel was from within the Navy. But with the demand for more and more men as the Polaris submarine fleet grows and more men are rotated, most are now new recruits who are the very best people our nation can make available.

To be able to maintain and operate the equipment, a man must be thoroughly familiar with the basic theory and fundamental physical principles involved. A student must grasp the basics of digital computers, inertial theory, computer logic, transistor theory, use of testing devices, and so on. Some of this training is available outside the Navy at the college post-graduate level.

The goal of this highly specialized training is to have the technician fully ready to handle his assigned responsibilities the day he sets foot in the Polaris submarine. On patrol, an FBM submarine is literally a world unto itself. There being no radio transmissions once on patrol, there is no calling for outside help. The submarine must be — and is — self sufficient. It is the operators, officers and men of the U.S. Navy, who make it so.



The Insigne of  
USS HENRY L. STIMSON (SSBN655)

The insigne as a whole is a symbol  
of the organized intellectual strength that  
Henry L. Stimson possessed. The four stars represent  
the four presidents under whom he held cabinet positions.  
The crossed swords represent his belief that to keep peace you must  
be strong to resist aggression and also the two tenures of  
office as Secretary of War. The torch is the torch of  
dignity and statesmanship that characterized  
the life of Henry L. Stimson.



