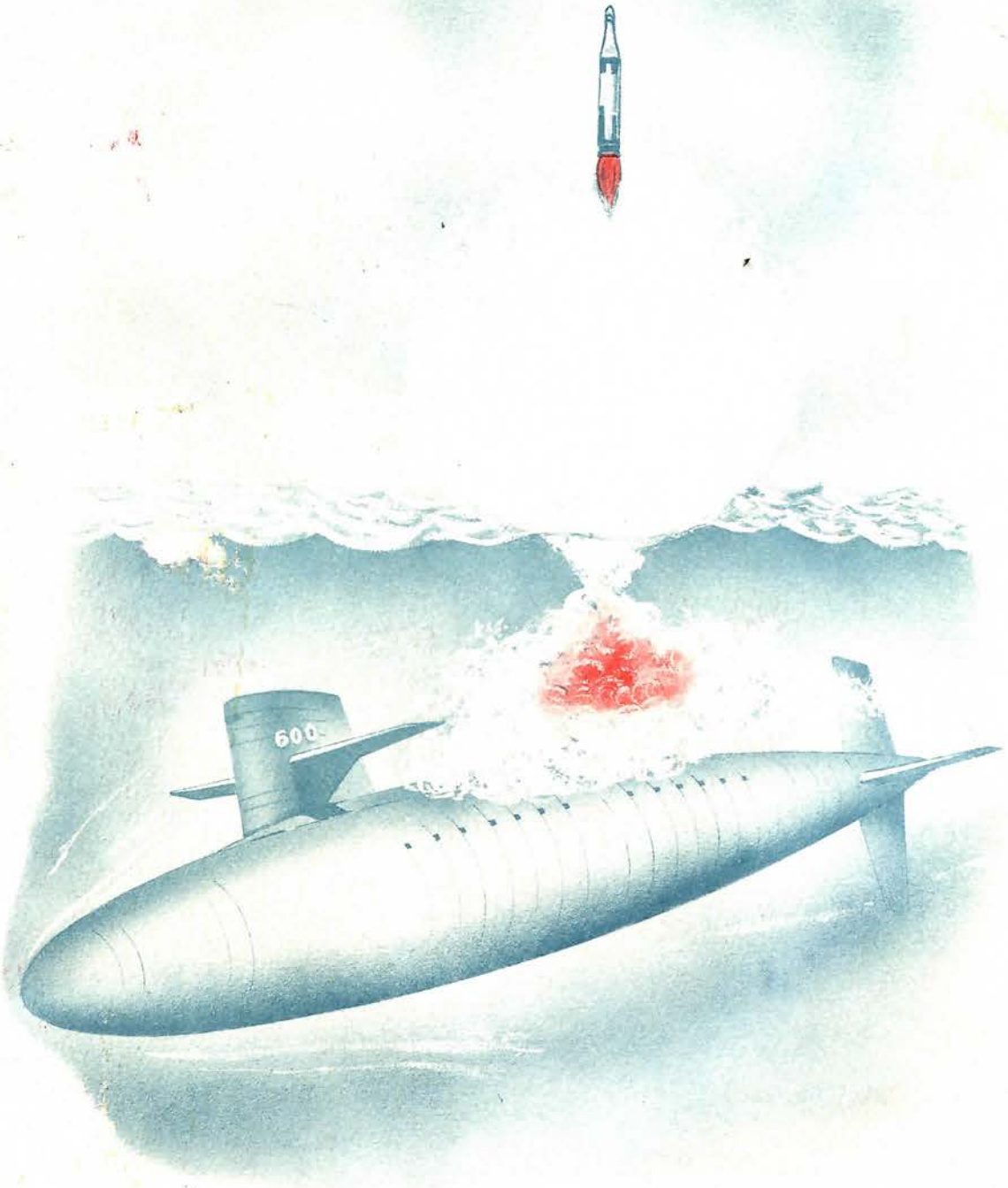
USS Theodore Roosevelt



SSB(N)600

History in Brief

USS THEODORE ROOSEVELT (SSB(N)600)

A new concept of Navy power, with a mission as challenging as any that has ever confronted seafaring men in war and peace, accurately describes the USS Theodore Roosevelt (SSB(N)600).

Welcome Aboard

On behalf of the Commander Submarine Force, U. S. Atlantic and Pacific Fleets, the Officers and Crew of the USS Theodore Roosevelt take great pleasure in extending their most hearty welcome! While aboard, we hope that you find your visit of great interest as well as enjoyable.

Although comprising of but a small number of the United States Navy's ships and men, the submarine service is an essential element in our nation's first line of defense, as well as offense. The USS Theodore Roosevelt is an intricate part of this defense and now joins the one hundred twenty submarines serving throughout the Atlantic and Pacific Oceans.

The submarine service boasts an "Espirit de Corps" rivalled by no other branch of the Navy. The officers and enlisted men, who man our submarines, are hand picked volunteers. They are joined together by a common bond, symbolized by the "dolphins", the insignia of a submariner.

In 1900, the United States Navy acquired the USS Holland, its first submarine. Little more than a half a century old, the history of the United States Submarine Service is marked with valor. But, it was not until World War II that U. S. Submarines had a real opportunity to prove their worth, accounting to a large degree for our victory over Japan. American submarines sank over 200 Japanese war ships. Although our greatest victory was the sinking of 1,750 merchant ships, so weakening Japan, that she could not withstand the final allied campaigns.

Since the end of World War II, the role of our submarines has expanded to even greater achievements. United States Submarines patrol our coast lines and are able to detect and give advanced warning of an approaching enemy, enemy guided missiles or planes and ships. Although principally constructed to protect our country and destroy the enemy, our submarines also serve as supply ships and oilers.

Today's Submarine

Since 1955, the United States Navy has been contemplating a new kind of ship to fire missiles carrying atomic or thermo-nuclear warheads while submerged, cruising in the ocean depth near the enemy. A hugh can of tightly packed equipment, interlaced with literally miles of cable and pipe. A missile-firing submarine with its extra requirements for dead accurate positioning and firing is almost fantastic.

However, this dream has become realistic and an idea has materialized . . . this is progress . . . this is the Fleet Ballistic Missile (FBM) Submarine USS Theodore Roosevelt (SSB(N)600). She is composed of nuclear propulsion equipment, diving and steering depth control system, along with over 75 miles of electrical cable, 106,000 feet of pipe, 3,000 tons of

steel, 120 electric motors, 60 ton gyro stabilizer, 70 tons of weld metal, the nuclear reactor and its lead shielding, plus scores of new type electronic devices and navigational equipment.

With American nuclear powered submarines, the versatility of our underwater arm is even greater. It gives the United States Navy an overwhelming advantage over any opposing forces afloat.

The FBM Submarine

To the union of atomic power and the submarine, resulting in the achievements of the nuclear submarines already in service, the FBM (Fleet Ballistic Missile) submarine adds another dimension . . . . the capability of releasing Polaris IRBM's (Intermediate Range Ballistic Missiles) from submerged positions at sea. The FBM submarine provides a highly mobile and almost undetectible launching platform to fulfill its primary mission of deterring aggression by patroling in station prepared to launch and in war, of firing missiles against enemy targets. The Fleet Ballistic Missile Submarine represents a partnership between two of the most revolutionary technical developments of our time . . . the Nuclear Powered Submarine and the Ballistic Missile.

To perform its mission, the FBM submarine is equipped to maintain operational readiness for long periods; protect itself from enemy detection and attack; precisely determine and hold its position at any time; keep in radio contact at all times with command headquarters.

The USS Theodore Roosevelt will be as difficult to detect as a black cat at midnight on a starless, moonless plain. She will range far and wide under the unclaimed seas, hidden from hostile eyes. The wonderful mobility and stealthy qualities of this submarine is a great addition to the deterrent forces of our National defense.

Features

Features that distinguish the USS Theodore Roosevelt from earlier nuclear submarines are the direct result of the FBM submarine mission. The addition of a missile compartment housing 16 polaris missiles and vital components of the FBM weapons system, make the Roosevelt an unusually long and heavy submarine -even by standards of the atomic age. She measures 380 feet in length and has displacement of 5,400 tons on the surface and 6,700 tons submerged. The elaborate and complex navigation and communication equipment necessitated by the ships mission, also determined a number of unique installations for the Roosevelt. Presently, there are very few FBM authorized submarines. However, long range plans call for a fleet of approximately 40 FBM submarines, capable of carrying deterrent retaliatory strength. This will confront any potential aggressor with serious problems and force him to think twice.

The shark-shaped hull is divided into six major compartments and spaces; the Bow Compartment, the Operations Compartment, the Missile Compartment, the Reactor Compartment, the Auxiliary Machinery Space and the Engine Room.

BOW COMPARTMENT: This compartment contains the Torpedo Room, one of the crew-berthing areas, storage space and Pump Room.

OPERATIONS COMPARTMENT: Essential functions such as determining the ship's exact position, sonar conning devices submerged operations, defending the ship during enemy attack and computing guidance data for the missile to be fired are taken care of through this compartment. All over ship position computations are summarized at the Navigation Control Console in the Navigation Control Center.

The remaining control space in the Operations Compartment are the Periscope Station Control Room, Attack Center and Sonar Room. The Captain's command station is the Periscope Station. Sufficient

instrumentations and communications facilities are available in this area to furnish the Captain with all necessary information for decisions that are to be made.

MISSILE COMPARTMENT: The next major compartment in line is the Missile Compartment. It houses the 16 Polaris Missiles and the service and auxiliary equipment.

The Power Plant occupies most of the area in the three aft compartments. The Reactor Compartment, the Auxiliary Machine space and the Engine Room. The reactor and steam generators are in the forward end of the compartment. The coolant pumps are at the aft end.

Naming our Submarines

In 1911, with a growing submarine fleet, the Navy abandoned the idea of naming its underwater craft and began to designate them by a number. This practice prevailed until the 1930's, when the Navy produced the fleet type submarine, at which time names of fish were again used. The advent of post-war nuclear navy formal submarines such as the Nautilus, Skate, Skipjack, were still named for fish or forms of sea life. However, FBM submarines posed a unique problem for the Navy, principally because they were to be strategic rather than tactical weapons. A variety of names were proposed such as cities, states and submarines lost during the war. The Navy came to a decision and finally settled on famous Americans known for their dedication to the cause of freedom. George Washington, appropriately enough, was the first; Patrick Henry, the second and Theodore Roosevelt, the third.

Keel laid - 20 May 1958. Launched - 3Ø October 1959. Sponsor - Mrs. Alice Roosevelt Longworth, daughter of the late Theodore Roosevelt, for whom this vessel is named.

Theodore Roosevelt

Theodore Roosevelt
26th President
United States of America

Theodore Roosevelt, the 26th President of the United States, was born in New York City in the year 1858. Much of his early schooling was obtained from private tutors and he later graduated from Harvard University.

After entering politics early in life, he became a public official. However, when the Spanish-American war broke out, he resigned his position and with his friend, Leonard Wood, organized a calvery unit, later known as the "Rough Riders". This group won national fame for their part in the Santiago Campaign and Col. Roosevelt became the most celebrated hero of this war.

After plunging into politics after the war, he became the Vice-Presidential candidate and running mate of William McKinley. He served his post well and when McKinley was assassinated, Theodore Roosevelt was elevated to the Presidency.

"Teddy" was probably the most versatile of all of our American Presidents. He was a strong supporter of physical fittness, not only for himself, but for all Americans. He enjoyed hiking, fishing, and boating, although his two favorite sports were hunting and horseback riding. He authored two books based on his hunting experiences; "Outdoor Pastimes of an American Hunter" and "Good Hunting".

He became gravely concerned over America's fast dwindling natural resources and created various departments to supervise and control conservation of our

national wealth. Thus conservation and preservation of our nation's water, timber, soil and wildlife became an important issue. For his great foresight in this matter, we should be ever grateful.

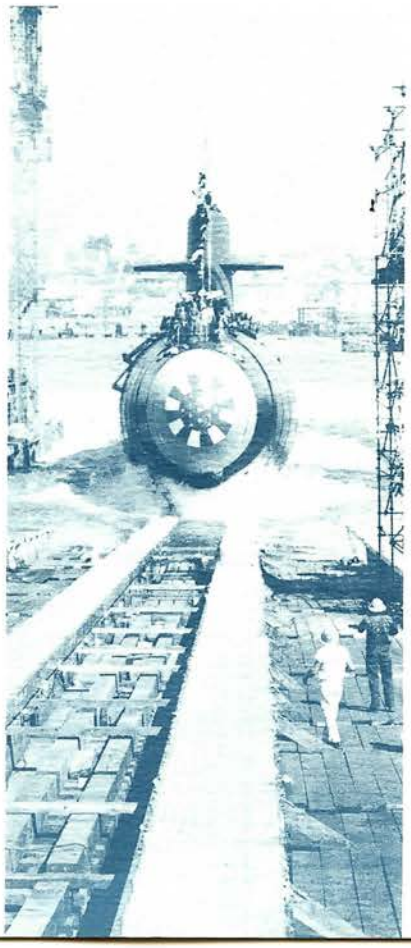
He was elected for another term of office being an extremely popular president, winning new friends wherever he went. He declined to run again, however, and supported his successor to the Presidency, William Howard Taft.

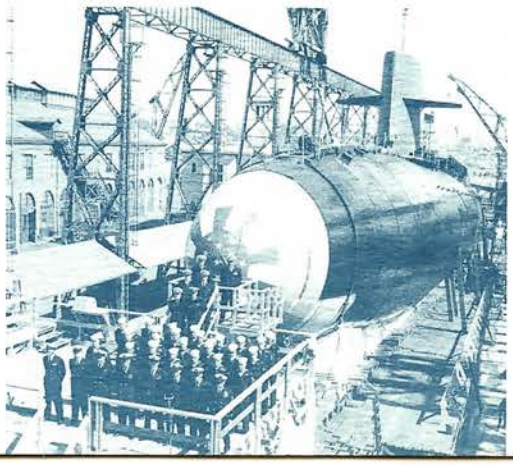
Later, dissatisfied with Taft's policies and at the repeated urgings of friends and supporters, "Teddy" ran once more for the "highest office in the land" in 1912. Roosevelt organized another group called the Progressive Party; also nicknamed the "Bull Moose Party". This political maneuvering, however, split the Republican Party down the middle and helped pave the way for a Democratic victory.

After his defeat, Roosevelt more or less retired from the political scene and wrote an autobiography, and visited South America addressing large Universities and learned societies. Early in 1914, he headed an expedition into the heart of Brazil, where he found "The River of Doubt".

Our nation suffered an irreparable loss upon the death of Theodore Roosevelt on January 6, 1919 at his home in Sagamore Hill, New York.

A small portion of the crew attached to the USS Theodore Roosevelt are shown (bottom) in a prelaunching picture. Pictured (directly below) Mrs. Alice Roosevelt Longworth, daughter of the late President Theodore Roosevelt and in earlier years, a glamorous figure in the nation. Mrs. Longworth, sponsor of the USS Theodore Roosevelt (SSB (N)600) is shown christening the submarine built at Mare Island Naval Shipyard, Vallejo, California. She is accompanied by Rear Admiral L. V. Honsinger, shipyard commander and Captain L. L. Schock, in charge of production for the USS Theodore Roosevelt. Launching October 1959. (Below Left) The USS Theodore Roosevelt waterborne as she clears the waters of Mare Island Channel.





Commanding Officer

Commander William Edward Sims, USN
Commanding Officer
USS Theodore Roosevelt (SSB(N)600)

Personal History

Commander William Edward Sims was born on July 8, 1918 in Tallapossa, Georgia, the son of Mr. and Mrs. John C. Sims (deceased).

Commander Sims attended High School in East Point, Georgia before entering Georgia Tech University, where he spent three years before entering the United States Naval Academy at Annapolis, Maryland. While attending High School and College, he was very active in sports, making football his favorite.

After graduating from the Naval Academy, Commander Sims was commissioned an Ensign on December 19, 1941. A short time later, he served on board the USS Lexington until she was sank in the Coral Sea.

In 1942, he served on board the USS Nevada and in October of that year, he was promoted to Lieutenant junior grade. One year later, while he was a student in the U.S. Naval Submarine School at New London, Connecticut, he was promoted to Lieutenant. Shortly after, he served on board the USS Bushnel as relief crew and was subsequently assigned to the USS Sawfish, where he served as Communications Officer, Torpedo Officer, Gunnery Officer, First Lieutenant and Executive Officer. After being promoted to Lieutenant Commander, in October 1945, he then served as Commanding Officer.

Commander Sims was also a student under instruction

at the Post Graduate School, Annapolis, Maryland, The California Institute of Technology, Pasadena, California and the U. S. Naval Ordinance Development Unit, Johns Hopkins University, Silver Springs, Maryland.

Completing his advanced instruction, he reported for duty as Executive Officer on board the USS Pickeral. He served on board from 1949 to 1951, during which time the Pickeral made a record run from Hong Kong B. C. to Pearl Harbor, T. H. Upon being relieved of his command, he reported as Officer-in-Charge of Guided Missile Training Unit No. 5, Point Mugu.

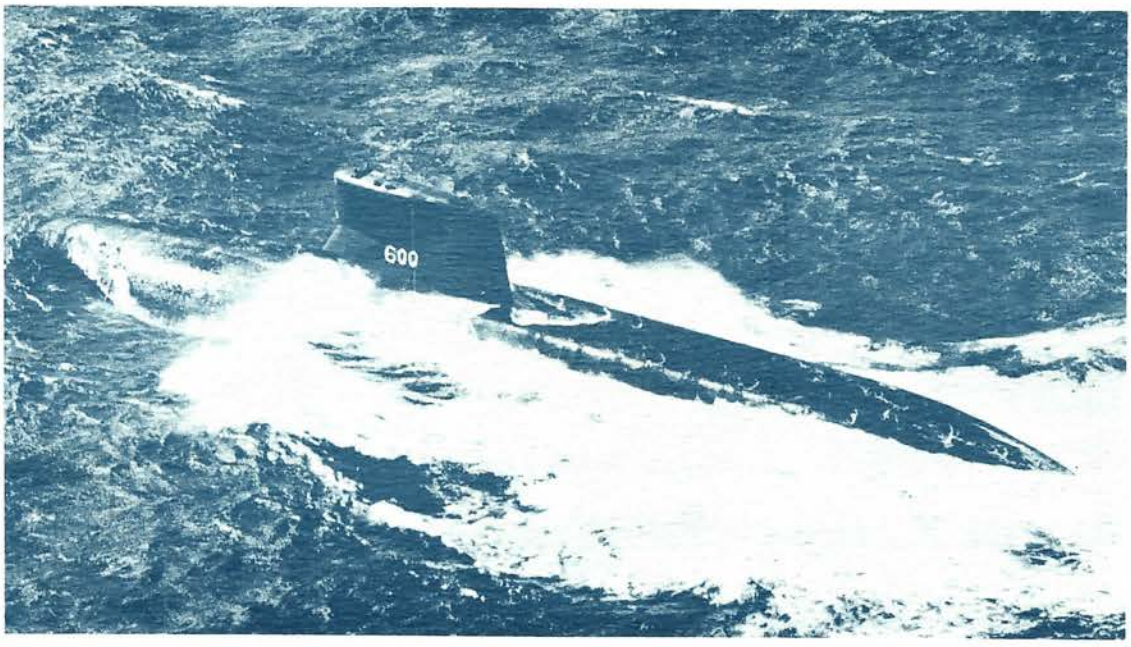
Commander Sims returned to sea in 1953, taking command of the USS Gudgeon (SS 567). In March of 1955, he was promoted to full Commander. Upon being relieved, he reported to Chief of Naval Operations, participating in the development of the Surface-to-Surface Missile Program involving the Regulus and other Guided Missiles in the Guided Missile Division.

In May, 1955, Commander Sims departed from Washington D. C. for factory training at the plants of various contractors of the FBM Program.

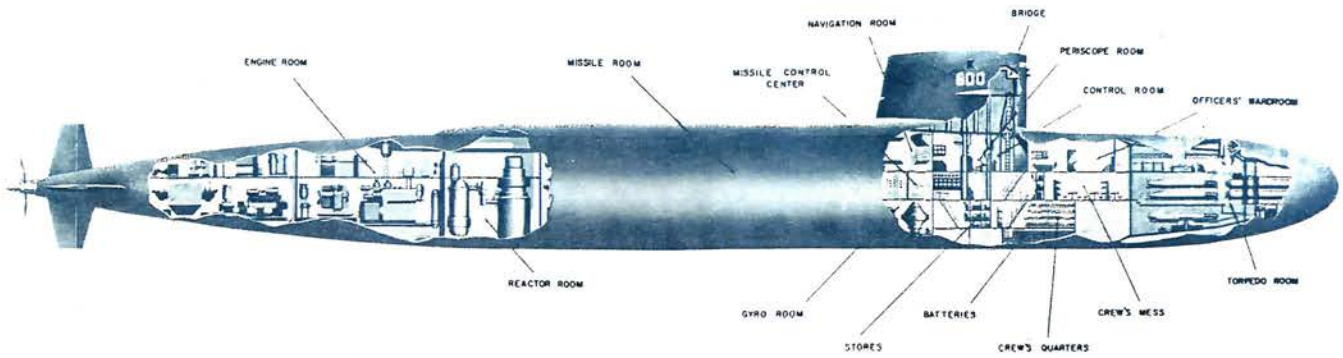
Commander Sims and Miss Martha Whigham of Hapeville, Georgia were married on June 16, 1942. They are the parents of two sons, James and William Jr. and two daughters, Donna and Angela.

Atomic Submarines, capable of staying hidden while moving at brisk speeds deep in the ocean, can roam free of the earth's atmosphere almost indefinitely, ready to strike with atomic and hydrogen warheads at surface or land targets. With its capability, the Polaris Missile packing Submarines may discourage aggressive nations from provoking war.

Since three-fourths of the earth's area is water, every major target in the world will be susceptible to retaliatory attack by submarines of the FBM class.



Fleet Ballistic Missile Submarine
(Nuclear)
USS Theodore Roosevelt (SSB(N)600)

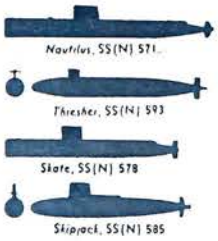


Silhouettes of U.S. Navy Submarines

Atomic Engines overcame the handicap that had plagued submarines throughout their entire history. The nuclear power plant is in the simplest terms, "a steam engine, of fantastic endurance." The atomic engine, needing no oxygen, makes the submarine "an underground city."

A lump of enriched uranium, the size of an ordinary light bulb, operates the atomic submarine by causing a controlled heat. This heat boils water converting it into steam which, in turn, drives the large turbines. These turbines propel the submarine and serve to furnish electricity through the ship's generators.

SS(N)—NUCLEAR



SSB(N)—FLEET BALLISTIC MISSILE

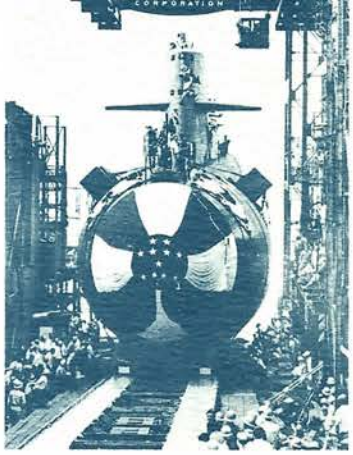
SS—SUBMARINE

AGSS—AUXILIARY

SST—TARGET AND TRAINING

SSG—GUIDED MISSILE

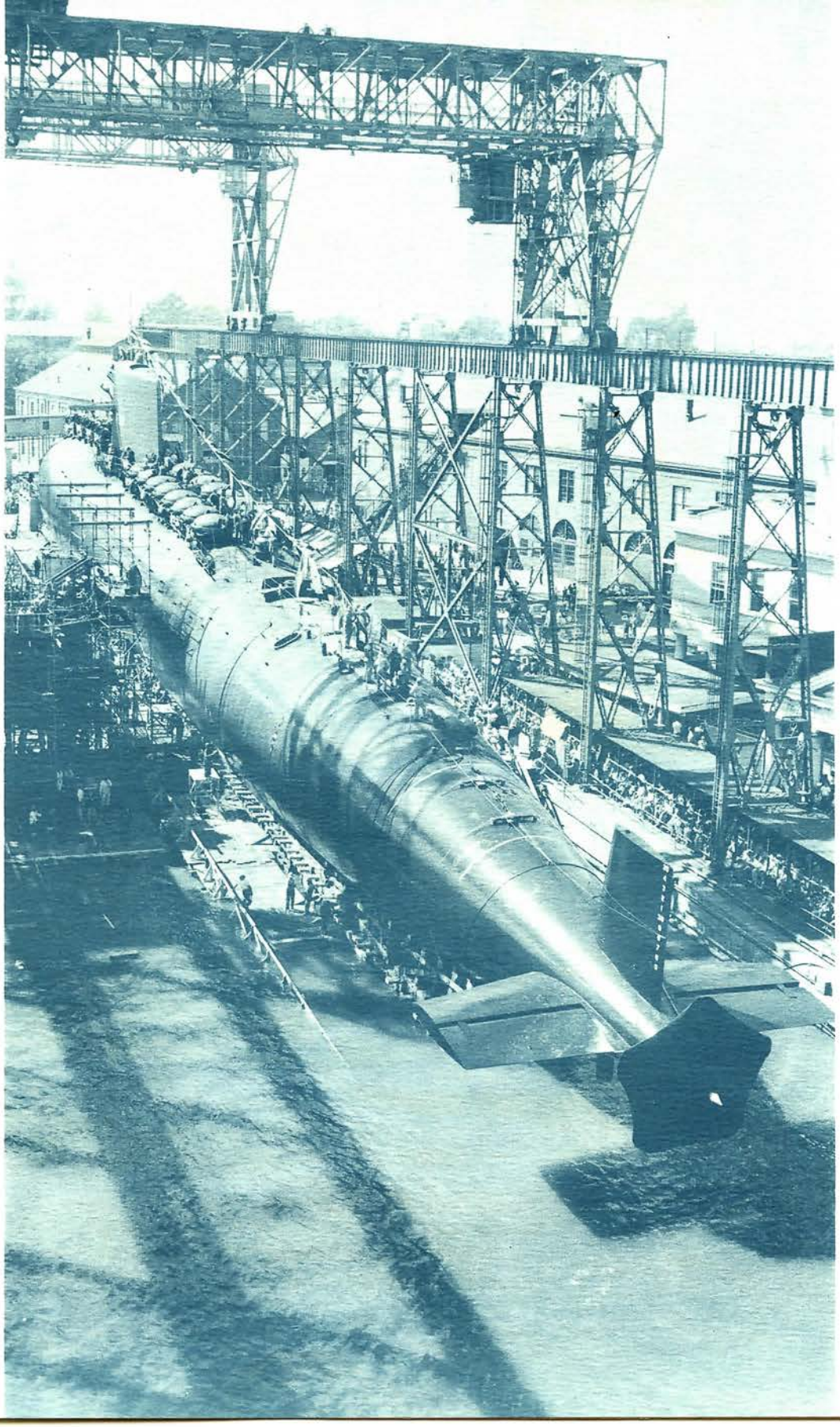
SSR—RADAR PICKET



Above - USS Theodore Roosevelt SSB(N)600. Built by Mare Island Naval Shipyard. First Polaris Boat to be built on the West Coast.
Above - left, USS George Washington SSB(N)598, first Polaris Firing Submarine. Built by Electric Boat Co., Groton, Connecticut.
Left - USS Patrick Henry SSB(N)599. Second in FBM class. Also, built by the Electric Boat Co.

We two . . . . and the third to come!
At sea - USS George Washington and

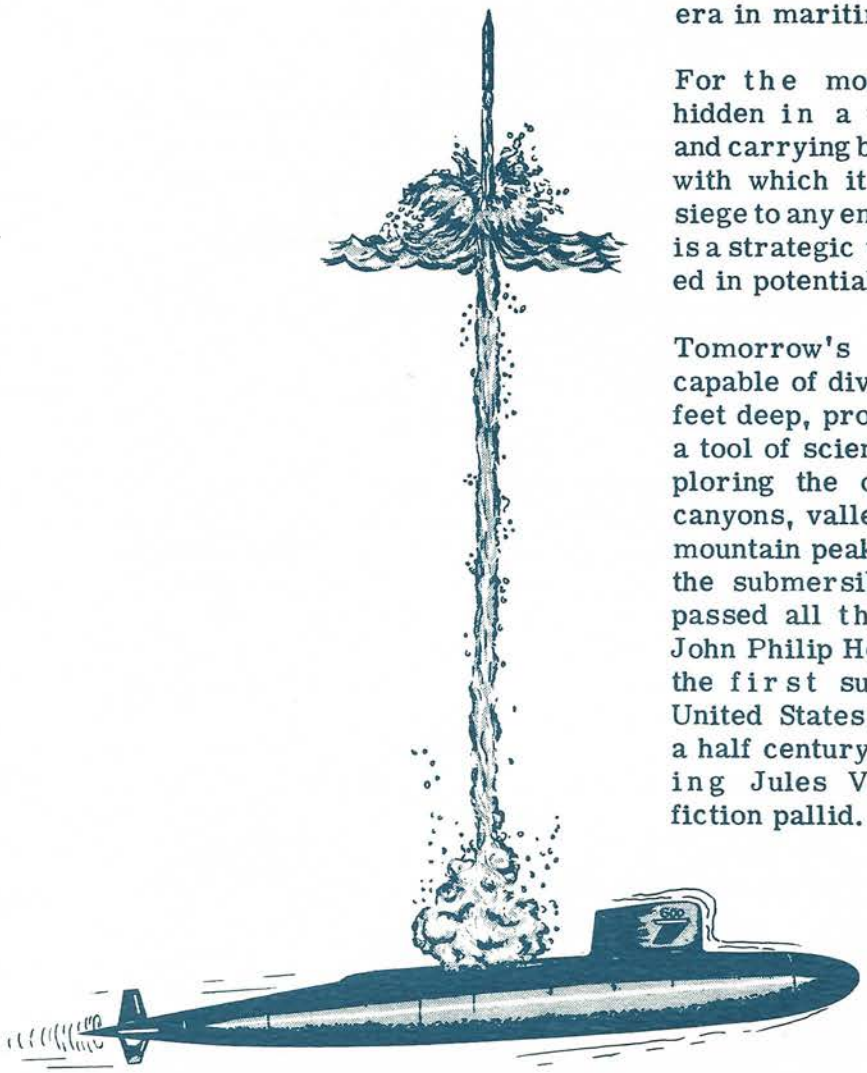
USS Patrick Henry conducting sea trials - awaiting the arrival of the third Polaris Firing Submarine, the USS Theodore Roosevelt.



New Era in War of Seas

Combining Atomic Power, the fast new hull and the potential of the nuclear missiles, the submarine can now lay siege to any part of the world.

The commission pennant, whipping from the gigantic sail (superstructure) of the world's first undersea battleship, the USS George Washington, will signal the beginning of a new era in maritime history.



For the modern submarine, hidden in a waste of waters and carrying ballistic missiles with which it can lay nuclear siege to any enemy "heartland", is a strategic weapon unequalled in potentiality.

Tomorrow's undersea craft, capable of diving thousands of feet deep, promises to become a tool of science as well; exploring the oceans' drowned canyons, valleys, plateaus and mountain peaks! In both roles, the submersible has far surpassed all the imaginings of John Philip Holland, who built the first submarine for the United States Navy more than a half century ago; even making Jules Verne's undersea fiction pallid.

The submarine sailor of 1980 will look upon the USS George Washington, the USS Skipjack (fastest submarine in the world), the radar picket submarine, USS Triton and other queens of this day as Model T Fords of the submarine age.

View the submarine as it is today - its structure, design and capabilities. The George Washington, the Skipjack and their nuclear powered sisters are the first submarines in history designed for prolonged underwater cruising. Two major breakthroughs have made such true submersibles possible - atomic power was the first. A nuclear reactor produces heat without consuming the submarine's limited supply of oxygen. In the submarine power plants, the heat is transformed into steam to drive turbines. The long life of the fissionable core permits indefinite underwater cruising at high speeds, defined by the Navy as "More than twenty knots". The best the World War II submarine could do, with its massive batteries, was eight to ten knots for an hour or so.

Submarine Design

The second breakthrough has been in hull design. The modern submarine has a blunt and bulbous bow, with a tapering stern and a single screw abaft a giant rudder for great maneuverability. "Shark-shaped", cigar-shaped", and "football-shaped" are some of the adjectives, all slightly inaccurate but nevertheless used when describing the new design.

The new hull is almost completely smooth externally. The USS Skipjack, for example has no surface deck in the proper sense of the term. She has just a whalebacked ridge, broken by the great expanse of the sail, with the diving planes extending like stubby wings on each beam. There are no deck guns or other protuberances. Even winches and cleats sink into streamlined recesses in the hull plating.

Our modern submarines can no longer be referred to as "boats" for they are as big as destroyers or light cruisers and because of their size, they are of "ship" status. Steering of the submarine is by column and yoke arrangement, similar to that used in an airplane. The Steersman "flies" the ship. The submarine dives or rises at the rate of twenty to thirty feet a second. She heels in a sharp turn at a thirty-degree angle.

Other developments have helped immensely to extend the horizons of the modern submarine. For instance, the improvements made in air-purifying devices that guard the crew against toxicity during long periods of submergence, advancing to an electrolytic process of manufacturing oxygen from sea water. This will enable submarines to top the record set by the Seawolf, the second of our nuclear submarines, which remained fully submerged for sixty days with no ill effects among her crew.

The Polaris Missile

Deterrence on the move

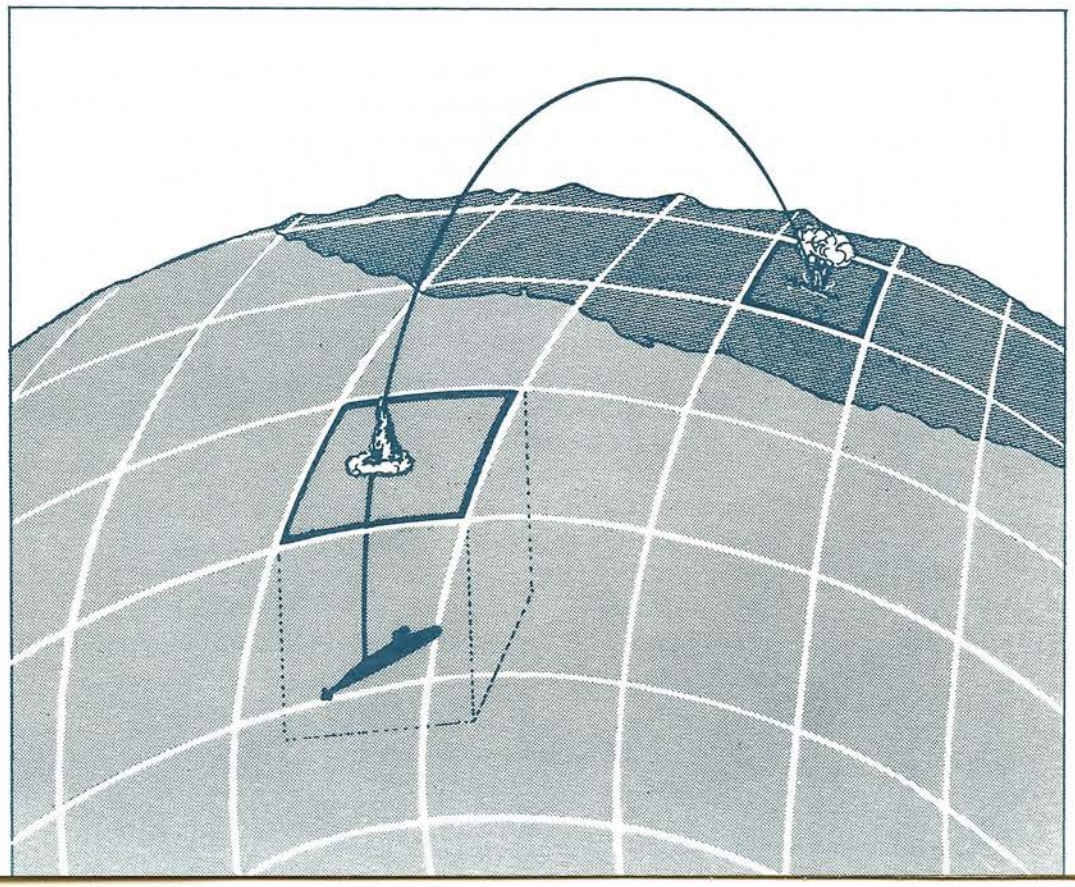
Invulnerable to ballistic pin-pointing

Undetectable by Radar

Coverage of all important military targets

Instant readiness

POLARIS SPELLS . . . . . SURVIVAL



POLARIS....
seapower for peace

The System
The Mission

Powerful, but sensitive, solid-propelled, ready to fire, capable of prolonged storage; launched from beneath the sea; guiding itself into the proper ballistic path to its target; overcoming problems of sea, air, space, and re-entry to carry out its mission!

The Platform

The atomic submarine; far-ranging, cruising for long period completely submerged, hidden from enemy eyes, ever vigilant, ever ready to launch instant retaliation against any aggressor.

The Controls

Complex electronic computers and inertial navigation systems keep the submerged vessel continually oriented as to its position on the earth's surface and its relationship to its target. This information is quickly fed into the missile at the time of firing to guide it on its path.

Three Objectives

When selecting the Polaris Missile, the United States Navy was confronted with three main objectives:

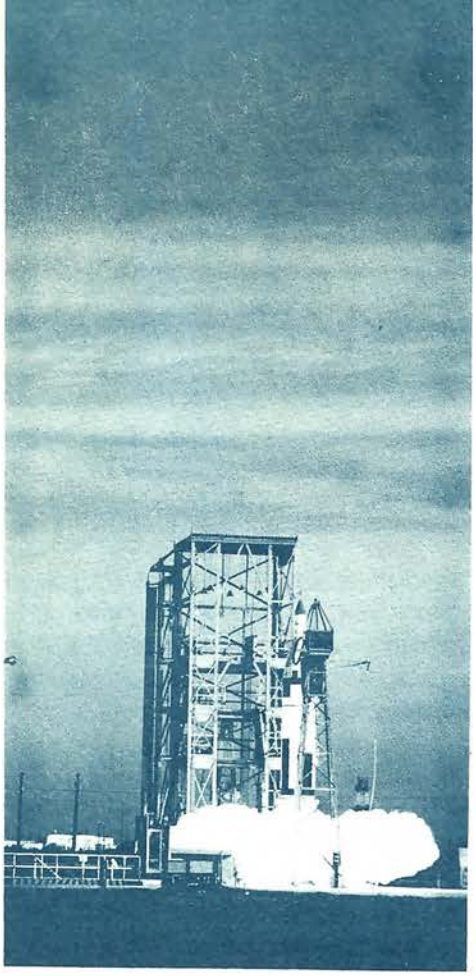
1. The missile had to be designed within limitations of space and weight, which would permit it being carried on board a submarine.
2. It had to be capable of carrying a nuclear warhead in its payload having a range of 1,200 miles, yet, it would have to be small enough to permit a submarine to carry a considerable number.
3. Its fuel had to be solid, as opposed to liquid fuel because at the present time there is no way of handling or storing liquid fuels aboard a submarine or surface ships.

The Polaris Missile is a two stage solid propellent missile, designed to be launched from either surfaced or submerged submarines and from surface ships or shore stations. However, the Polaris launching will be primarily from Fleet Ballistic Missile Submarines, designed especially for this purpose.

The solid type propellent system and the fire control equipment will permit missiles to be launched rapidly and on short notice.

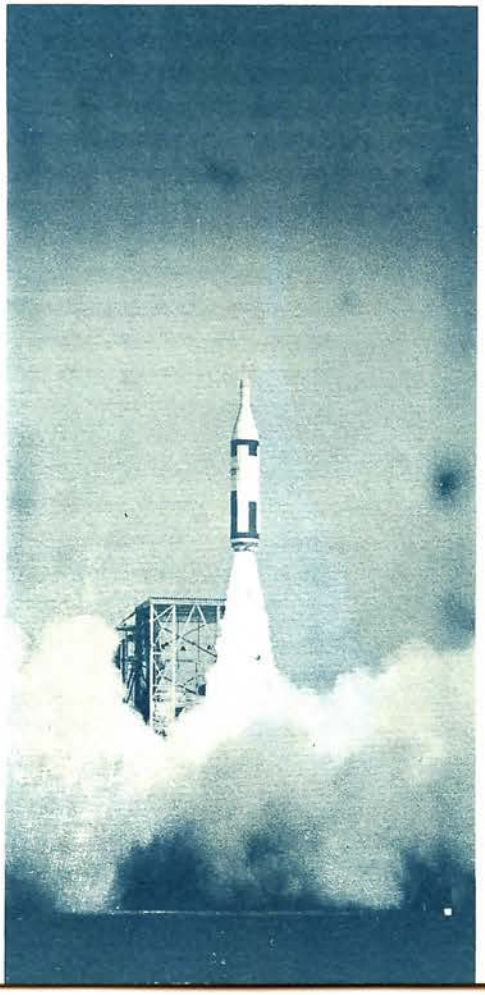
Within the submarine, personnel can clear and prepare missiles for firing while the ship is submerged. Ejected from its launching tube by air, Polaris is forcefully propelled above the surface of the water, where the motor ignites. The missile continues on its own until its thrust is ended by a signal from the missile guided system. After arrival 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 on the target. The initial range of the missile will be 1,200 miles or over.

A ship load of 16 Polaris Missiles can be manufactured for approximately 20 million dollars.

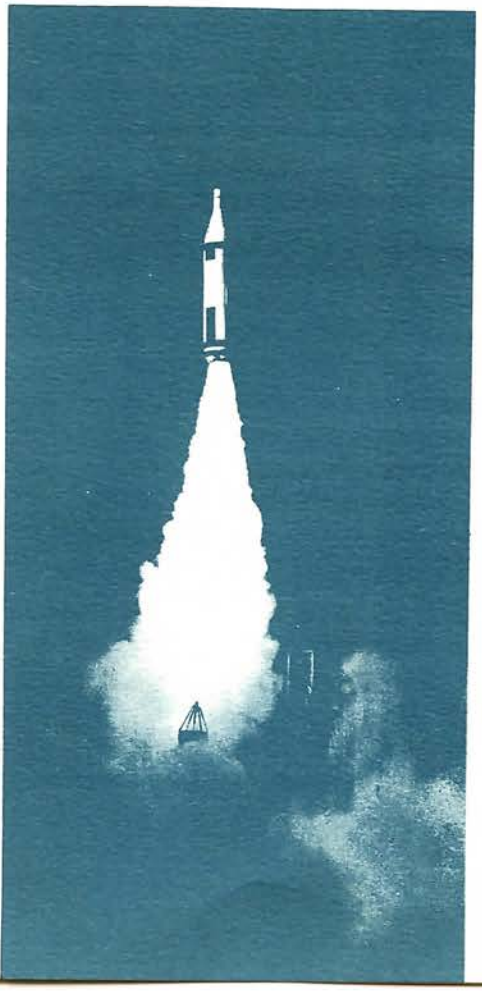


Above - A Polaris Fleet Ballistic Missile ignited on a launching pad at the proving grounds located in Cape Canaveral, Florida.

Below - A Polaris Fleet Ballistic Missile leaving launching pad on its initial test flight. Split seconds later, Missile is approximately 120 feet up.



Below - A Polaris Fleet Ballistic Missile gaining altitude on its way to the turn point and leaving behind a trail of fire and smoke.



Above - A Polaris Fleet Ballistic Missile making its turn, seeking the course on its way to the target with pin point accuracy.

It has been our pleasure

The Commanding Officer hopes that you have profited from your visit aboard the USS Theodore Roosevelt (SSB(N)600) and leave with a better understanding of the Polaris Missile Firing Submarine and the Fleet Ballistic Missile Program.

May your knowledge be b r o a d e n e d on the Navy's conventional Submarine Service, which is on alert day and night guarding America's shores and interest abroad.