

WELCOME ABOARD



USS STONEWALL JACKSON
SSBN 634



WELCOME ABOARD

The officers and crew of STONEWALL JACKSON take exceptional pride in extending to you the hospitality of the Submarine Force of the United States Navy. It is our sincere desire to make your stay with us as pleasant and rewarding as possible. Every member of the crew stands ready to assist you in any way, so please ask.

As a warship and front runner of our nation's strategic deterrent force, STONEWALL JACKSON is neither spacious nor designed for large numbers of people. We ask that you bear with us in this respect since we share your inconveniences.

SHIP'S MISSION

USS STONEWALL JACKSON (SSBN-634) is a nuclear powered fleet ballistic missile submarine of the Lafayette class. Her primary mission is to remain undetected and able to launch her solid-propellant Trident-I strategic missiles within minutes of receiving the command. Her torpedo tubes provide a strong defensive posture and survivability during missile launches and fulfillment of her secondary mission to interdict and destroy enemy submarines and warships thereafter.

Freedom to remain submerged indefinitely, stealth, awesome firepower, constant training, and a never-ending vigil enable USS STONEWALL JACKSON, and her sister FBM's to provide the United States with a powerful and credible deterrent to attack and a firm persuasion for peace.

STONEWALL JACKSON, THE MAN

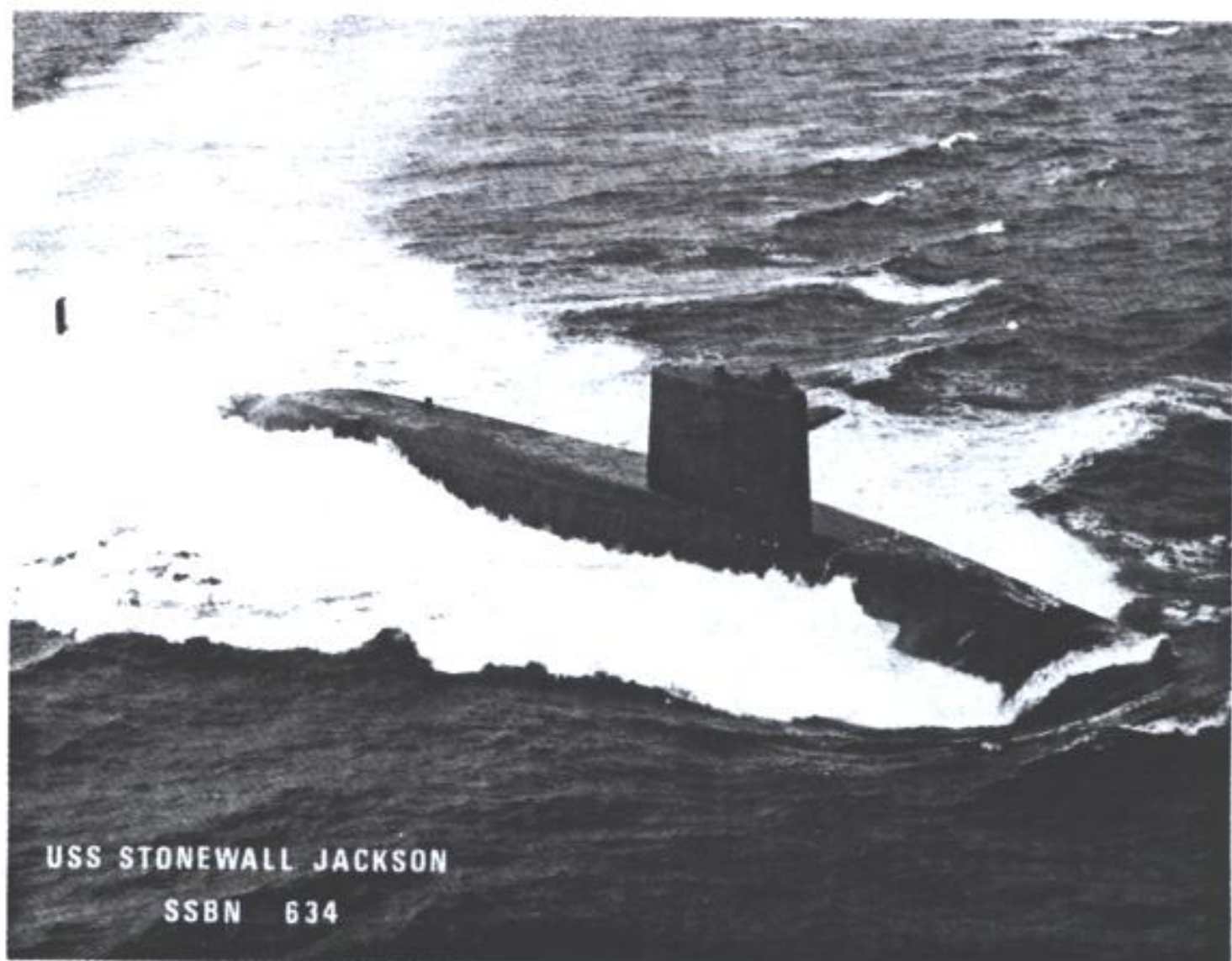
USS STONEWALL JACKSON is named for Lieutenant General Thomas Jonathan "Stonewall" Jackson (1824-1863), one of the most famous Confederate generals in the War Between the States. Born in Clarksburg, West Virginia, he earned a West Point appointment and became a distinguished military leader during the Mexican War. At the start of the Civil War he was on the staff of the famed Virginia Military Institute. General Jackson earned the sobriquet of "STONEWALL" at the first battle of Bull Run. Observed by Confederate General Barnard E. Bee during the battle, General Bee used the phrase, "there stands Jackson like a stone wall". The nickname was never to leave him. His conduct of the Shenandoah Valley Campaign, emphasizing "STRENGTH through MOBILITY", is a model of military strategy. He was shot during the battle of Chancellorsville in the spring of 1863, and died shortly thereafter of complications.

STONEWALL JACKSON, THE SHIP

The USS STONEWALL JACKSON (SSBN-634) is a Lafayette Class Fleet Ballistic Missile Submarine (FBM). The ship is 425 feet long with a beam of 33 feet and carries a crew of approximately 132 enlisted men and 14 officers. The keel was laid on 4 July 1962 at Mare Island Naval Shipyard, Vallejo, California. The ship was launched on 30 November 1963 and commissioned on 26 August 1964, becoming the 27th FBM to join the Active Fleet and the 52nd Nuclear Powered Submarine.

STONEWALL JACKSON completed 21 Polaris deterrent patrols, and was converted to carry Poseidon missiles in 1971. After completing her 45th deterrent patrol, the ship underwent nineteen months of overhaul at Portsmouth Naval Shipyard, emerging in March of 1980. From September of 1981 to February of 1982 the Trident I (C4) missile and fire control system was backfitted onto the ship and extensively tested during two Demonstration and Shakedown periods. The second period included a successful launch of a C4 missile on the Atlantic Test Range. The ship has completed a total of 62 deterrent patrols. The ship completed an extensive refueling overhaul in December 1987. STONEWALL JACKSON is homeported in Charleston, South Carolina.





STATISTICS

Length overall	425 feet
Surface displacement	7300 Tons
Submerged displacement	8000 Tons
Main Battery	16 Missile Tubes 4 Torpedo Tubes
Complement (each crew)	14 Officers, 124 Enlisted
Cruising Range	UNLIMITED
Submerged endurance	UNLIMITED
Propulsion plant	Nuclear Power
Speed	Greater than 20 knots
Depth	Greater than 400 feet

NAVIGATION

The navigation system employed aboard the STONEWALL JACKSON consists of the very latest in electronic technology. The high accuracy required by the ship's missile system is accomplished through the use of ship's inertial navigation system. The ship's inertial navigation system consists of platform, gyros and velocity meters. The gyros keep the platform stable to enable the velocity meters to sense motion. Through the use of computers in the inertial system, the ship's position is constantly up-dated with the sensed motion for an accurate position.

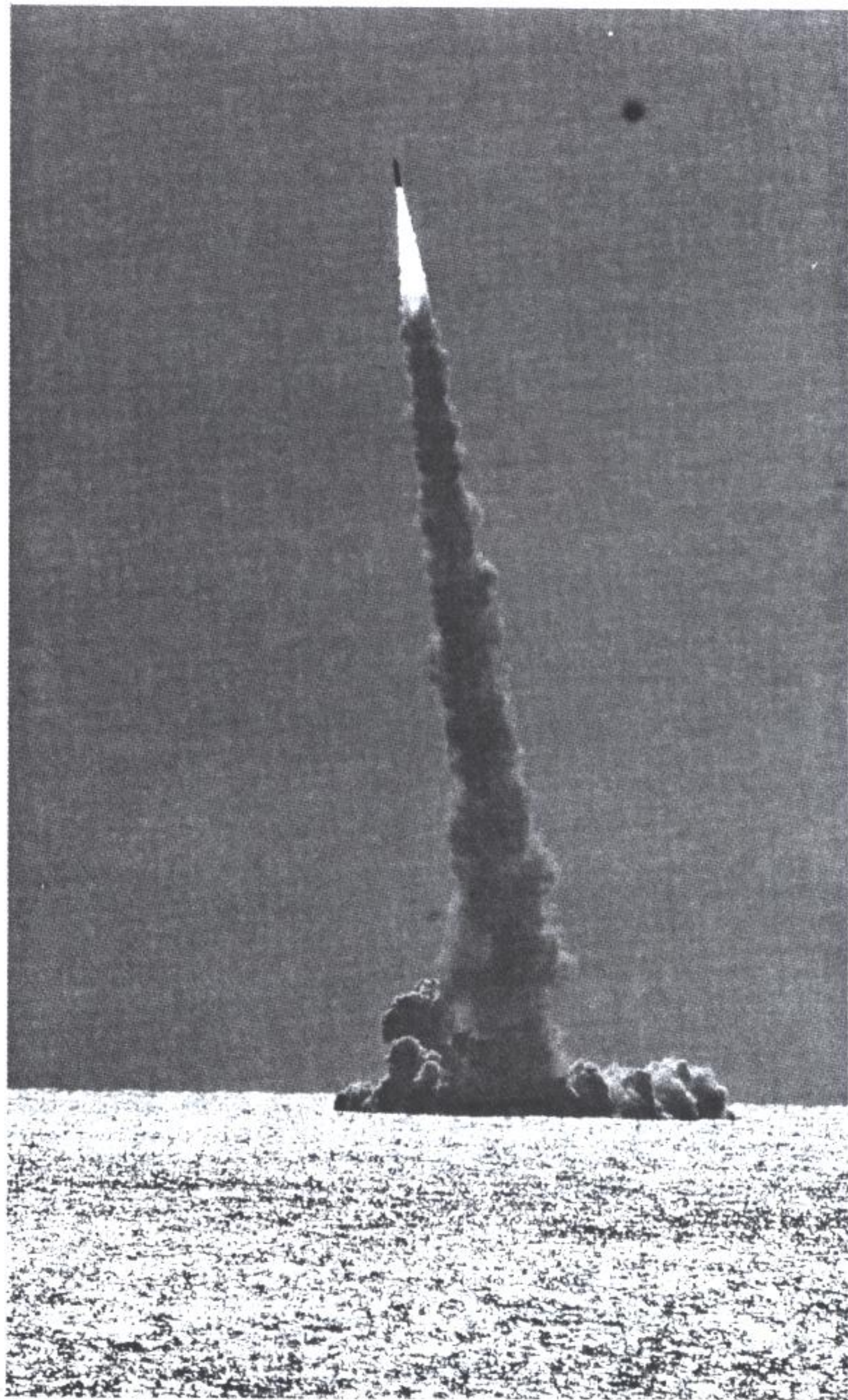
Due to inherent errors of the inertial system, outside position information is required periodically. This outside fix information is received by the use of Loran tracking system and the Navy satellite tracking system. The electrically suspended Gyro monitor also supplies a reference for the ship's Inertial Navigation System.

The inertial system, the Loran system and the satellite tracking system are all under the control of the central navigation computer. The central navigation computer has the basic function of control and monitoring of the navigation center. This enables fewer personnel to be involved at any one time to run the navigational system, and the control of the navigation system to be at one central point.

LIFE SUPPORT

In addition to the many facilities provided to insure the habitability of the ship, there is an ample air conditioning system for the benefit of the personnel and machines. Special atmosphere control equipment is provided to maintain standard atmospheric conditions. Electrolytic oxygen generators permit the submarine to manufacture an unlimited supply of oxygen from sea water. Other specialized equipment provides for removal of irritants, elimination of carbon dioxide and maintenance and proper balance of other atmospheric elements during prolonged submerged periods.





USS STONEWALL JACKSON (SSBN 634)(BLUE)

LAUNCH TIME: 27 FEB 1988, 1027

55th TRIDENT I LAUNCH

30th FROM SUBMERGED SUBMARINE

THE WEAPONS SYSTEM

STONEWALL JACKSON's primary mission is to serve as a launching platform for the Navy's TRIDENT I Weapons System. With almost unlimited range and endurance limited only to its crew, the FBM submarine is capable of extended operations in all parts of the world. Free of the need to surface, the FBM nuclear submarine remains hidden by the ocean and ready to launch within minutes of receiving the command. Mobile, hidden ready for instant action, the Fleet Ballistic Missile system provides the United States with its strongest deterrent to those who might consider global war.

The ship's crew is trained and ready to monitor all on-board missiles and can accomplish at-sea repairs if necessary. The missiles are launched by a gas ejection system which forces the missile from its launching tube and propels it up through the water to the surface. At that point the rocket ignites and sends it on its way. The missile's inertial guidance system puts the missile on correct course and automatically computes a new correct course should the missile deviate from its path. At the precise instant required the guidance system shuts off the rocket motors and triggers separation of the reentry body from the missile. The reentry body then follows a ballistic trajectory to the target.

As a secondary mission, STONEWALL JACKSON is assigned the task of seeking out and destroying enemy submarines. A sophisticated sonar and fire control system provides the information and guidance to the torpedoes fired from the tube nest located in the submarine's bow.

Using these two weapons systems, STONEWALL JACKSON may be employed in both strategic and tactical situations.

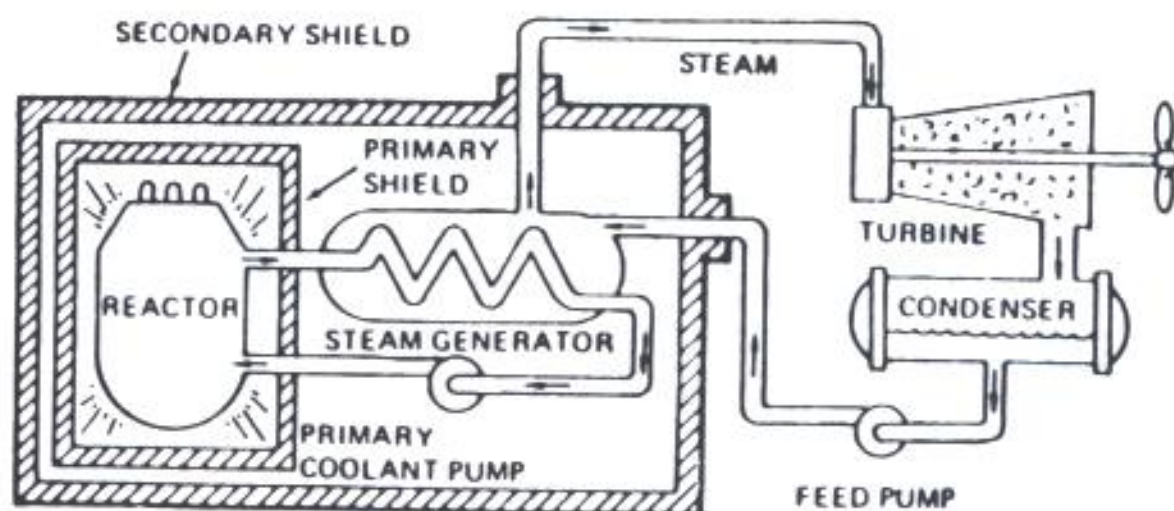
TRIDENT ONE, C-4

Toward maximizing the effectiveness of the Navy's Fleet Ballistic Missile (FBM) weapon system as a deterrent to the outbreak of nuclear war, the Navy's Strategic Systems Project Office developed the Trident I C-4 Missile.

Using experience gained in the Polaris and Poseiden Fleet Ballistic Missile Weapons Systems, melded with the latest technology, the Trident I Strategic Weapon System provides a "State of the Art" sea-based strategic deterrent force. The range of the Trident I Missile is significantly increased over that of its predecessors. This enables STONEWALL JACKSON to patrol in a much greater area of the world's oceans while still remaining within range of its strategic targets, thereby making detection by potential adversaries even more inconceivable.

Length:	34 Feet
Diameter:	74 Inches
Weight:	70,000 Pounds
Powered Stages:	Three
Motor Case Materials:	1st Stage-Glass Fiber 2nd Stage-Glass Fiber 3rd Stage-Glass Fiber
Nozzles:	One per Stage
Controls:	Single Movable Nozzle Actuated by a Gas Generator
Propellant:	Solid - 3 Stages
Guidance:	All Inertial
Range:	About 4400 N.M.
Warhead:	Nuclear

HOW NUCLEAR POWER OPERATES A SUBMARINE



The power plant of a nuclear submarine is based upon 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 of piping, primary coolant pumps and steam generators. Heat produced in the reactor by nuclear fission is transferred to the circulating primary coolant water which is pressurized to prevent boiling. 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.

During the operation of the nuclear power plant, high levels of radiation exist around the reactor and personnel are not permitted to enter the reactor compartment. Heavy shielding protects the crew so that the crew member receives less radiation on submerged patrol than he would receive from natural sources ashore.

FIRE CONTROL

The fire control system feeds a wealth of coordinated information to the missile guidance system. Ship location, true north heading, target location and trajectory to be flown by the missile are continuously supplied until the very instant of firing.

LAUNCHER

The launcher subsystem is designed to perform three functions in supporting the TRIDENT I missile. It houses the delicate missile in a comfortable environment of controlled humidity, temperature and smooth riding. Since the missile is a dynamic machine it must be serviced and the launcher subsystem provides a means for the Missile Technicians to cross the pressure hull boundary of the submarine to perform maintenance on the missile. Last, and most important, the launcher subsystem can eject the missile from the submarine in a matter of minutes after receipt of the command to launch.

BLUE AND GOLD CREW CYCLE

One of the unique features of the FBM submarine program is that each of the submarines has two complete and interchangeable crews, called "Blue" and "Gold". While one crew takes the submarine on its regular cycle of two-month patrols, the other crew is back at its home port. There the crew members relax with friends and family for about a month after their two month deployment in the submarine, and then undergo intensive refresher training in preparation for their next patrol. The following chart shows how the crews are interchanged in a constant cycle:

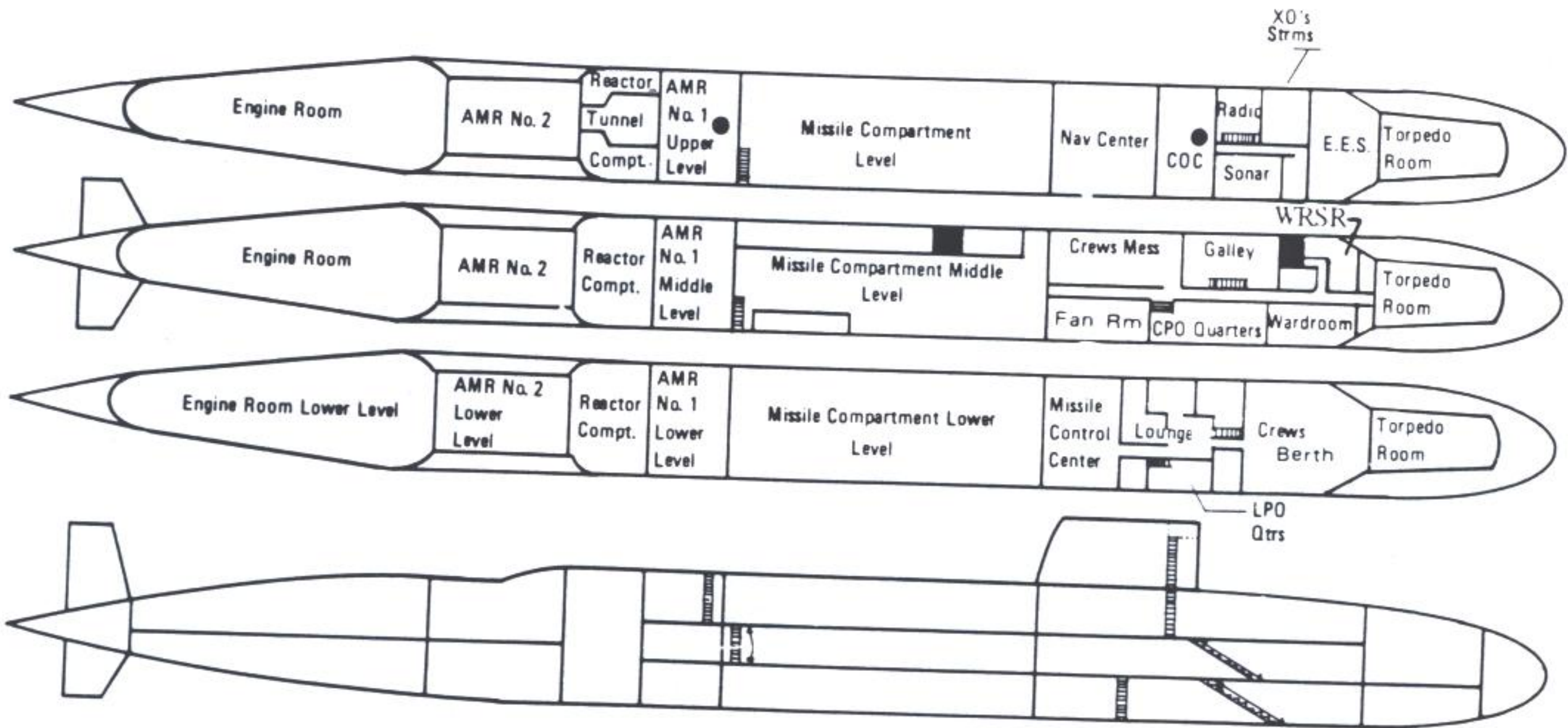
	2 Months	1 Month	2 Months	1 Month
Gold Crew	Patrol	Leave	Refresher Training	Submarine Upkeep
Blue Crew	Refresher Training	Submarine Upkeep	Patrol	Leave

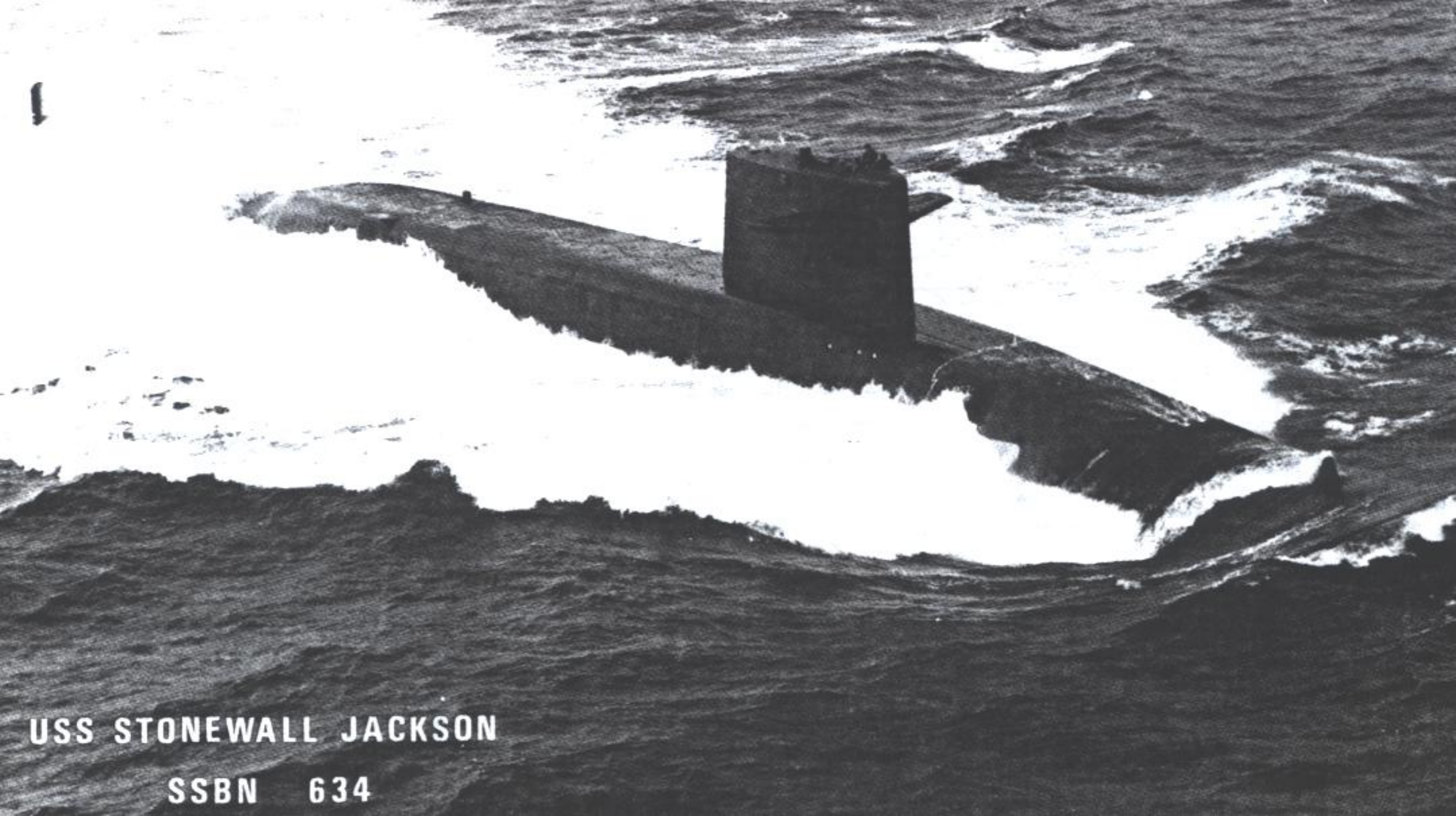
This two-crew system accomplishes several objectives. Most important, it enables the submarine to remain at its forward operating site without having to return to the homeport to provide the crew a rest period. This means that the submarine can be kept on patrol for two-thirds of its operational lifetime, obviating the need for additional numbers of submarines, while at the same time providing for necessary crew rest.

Second, it provides a regular program of refresher training for the off-ship crew. The crews must be ready at all times to launch missiles while on patrol if ordered to do so. Their knowledge of their equipment and their own reactions must be honed to a razor-sharp edge at all times. Refresher training on equipment exactly like that found on their ship keeps them sharp during their off-patrol period.

Finally, there are refinements and improvements constantly being made to the weapon system's various equipments. This often requires changes in circuits, and alteration of equipment operation methods and procedures. These changes, which must be well understood by the submarine's crews, are thoroughly studied during refresher training.







USS STONEWALL JACKSON

SSBN 634

COMMAND AT SEA

The Prestige, Privilege, and the Burden of Command

Only a seaman realizes to what great extent an entire ship reflects the personality and ability of one individual, her Commanding Officer. To a landsman, this is not understandable, and sometimes it is even difficult for us to comprehend — but it is so.

A ship at sea is a distant world in herself and in consideration of the protracted and distant operations of the fleet units, the Navy must place great power, responsibility and trust in the hands of those leaders chosen for command.

In each ship there is one man who, in the hour of emergency or peril at sea, can turn to no other man. There is one who alone is ultimately responsible for the safe navigation, engineering performance, accurate gunfiring and morale of his ship. He is the Commanding Officer. He is the ship.

This is the most difficult and demanding assignment in the Navy. There is not an instant during his tour as Commanding Officer that he can escape the grasp of command responsibility. His privileges in view of his obligations are almost ludicrously small; nonetheless, command is the spur which has given the Navy its great leaders.

It is a duty which most richly deserves the highest time honored title of the seafaring world . . . "CAPTAIN."

Joseph Conrad



USS STONEWALL JACKSON (SSBN 634)

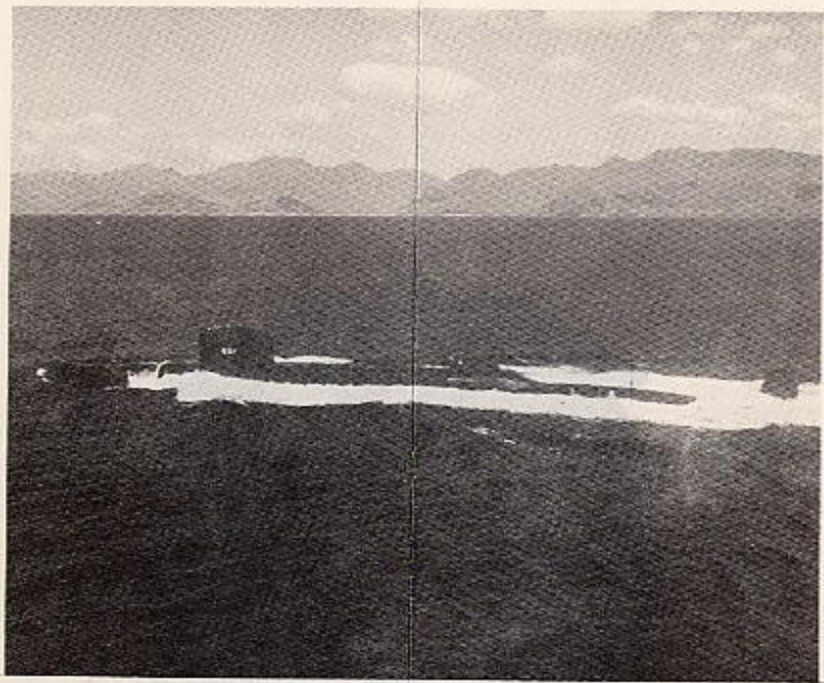
Keel laid on 4 July 1962

Launched 30 November 1963

Commisioned 26 August 1964

Sponser: Miss Julia Christian McAfee

Builder: Mare Island Naval Shipyard



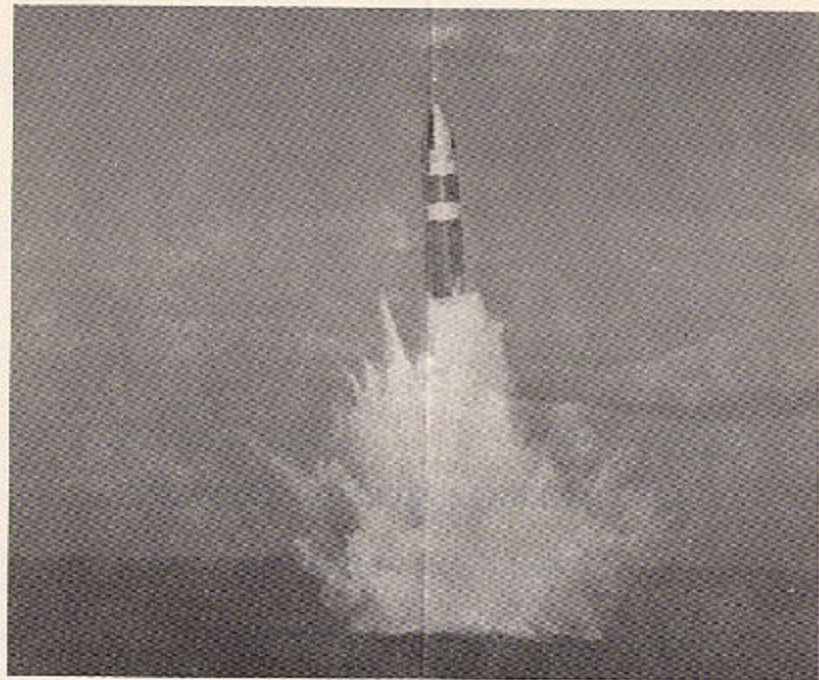
HISTORY OF

USS STONEWALL JACKSON

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