



**WELCOME ABOARD**



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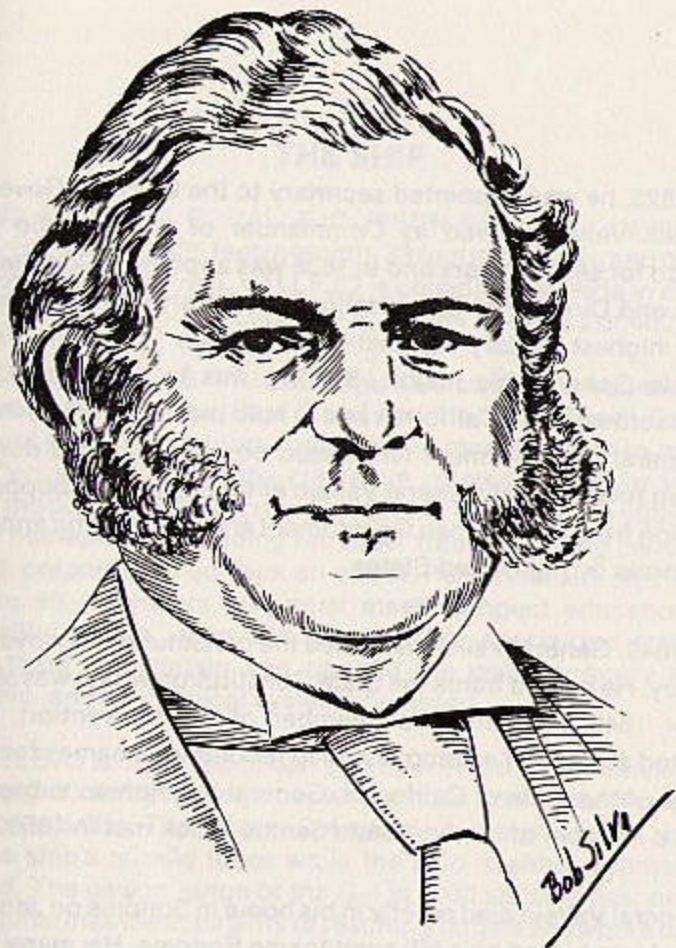
The officers and crew of VALLEJO take exceptional pride in extending to you the hospitality of the Submarine Force of the United States Navy. It is our sincere desire to make your stay with us as pleasant and rewarding as possible. Every member of the crew stands ready to assist you in any way, so please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

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

## **SHIP'S MISSION**

USS MARIANO G. VALLEJO (SSBN-658) 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-1 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 MARIANO G. VALLEJO, and her sister FBM's, to provide the United States with a powerful and credible deterrent to attack and a firm persuasion for peace.



## GENERAL MARIANO G. VALLEJO

General Mariano Guadalupe Vallejo for whom the ship was named was born July 7, 1808 in the settlement of Monterey. His father, Sergeant Ignacio Vallejo, was stationed in Monterey with the Mexican Army when Mariano was born. Young Mariano entered the Monterey Presidial Academy at the age of fifteen.

In 1825, he was appointed secretary to the Mexican Governor of California. Vallejo served as Commander of the Presidio at San Francisco for several years and in 1836 was appointed Commandante General and Director of Colonization of the Northern Frontier which was the highest military command in Northern California. As Commandante General, his major objective was to discourage further Russian settlement in California and to hold the Indian tribes in check. The General's appointment terminated on June 14, 1846 during the Bear Flag revolt, when General Vallejo enthusiastically supported the separation from the Mexican Government and the peaceful annexation of California by the United States.

In 1849, General Vallejo attended the constitutional convention in Monterey. He helped frame the State Constitution which was signed in October 1849. An influential member of the convention, he was appointed as head of a commission to recommend names for various counties of the State of California. General Vallejo was subsequently elected a member of the first State Senate which met in 1850.

General Vallejo died quietly in his home in Sonoma on January 12, 1890 and was buried on a hill overlooking Sonoma. His many years of service, loyalty, and devotion to California throughout its early settlement, development, and statehood have been given just recognition through the naming of the USS MARIANO G. VALLEJO (SSBN-658).

## THE SHIP

USS MARIANO G. VALLEJO (SSBN-658) is a Lafayette class submarine which is 425 feet in length, 33 feet in breadth, and displaces approximately 7000 tons. VALLEJO is capable of speeds in excess of twenty (20) knots and can operate at depths in excess of 400 feet.

USS MARIANO G. VALLEJO has two complete, equally trained crews, referred to as the "Blue Crew" and the "Gold Crew". Each crew has about one-hundred forty officers and men. In order to maximize patrol "on station" time, the crews are rotated at regular intervals. During the period that one crew has the ship on patrol, the other crew is at their homeport undergoing refresher training, taking leave, and in general, preparing to go back on patrol. Personnel selected for FBM duty are all volunteers and must meet stringent educational and personality criteria. They are given highly specialized training to enable them to maintain and operate the many complex nuclear, electronic, and mechanical systems on board.

VALLEJO is designed to carry sixteen Trident C-4 missiles which are of significantly greater capability than the older Polaris and Poseidon missiles. The Trident C-4 missile is designed to be launched from the ship's missile tubes while the ship is either submerged or surfaced. The design range of the C-4 is 4000 status miles, providing FBM submarines the capability of reaching targets anywhere on earth. While Trident C-4 will leave no spot unreachable by FBM submarines hidden in the oceans of the world, the effectiveness of the Trident system is best measured by the deterrent strength this capability gives to our country in its ceaseless efforts to prevent nuclear war and to maintain peace.

The ship is divided into six compartments which provide water-tight integrity and damage control ability. The following page gives a brief description of these compartments.

**BOW COMPARTMENT** - The torpedo room encompasses the entirety of the bow compartment and houses the torpedo weapons system and the related air, water, and hydraulic support systems. Four 21-inch torpedo tubes and a stowage capability of twelve "state-of-the-art" MK-48 torpedoes gives VALLEJO a most formidable offensive and defensive posture. Berthing for three torpedomen is also provided.

**OPERATIONS COMPARTMENT** - This compartment is divided into three "levels". The upper level houses navigation, communication, and sonar equipments, along with the centralized control center from which the overall operation of the ship is directed. Berthing is provided here for the Commanding Officer and the Executive Officer. The middle level houses basic habitability areas such as the wardroom, officer berthing, CPO quarters, the galley, and all messing facilities. Lower level operation contains crew berthing, the crew lounge and library, the missile control center, and the ship's battery.

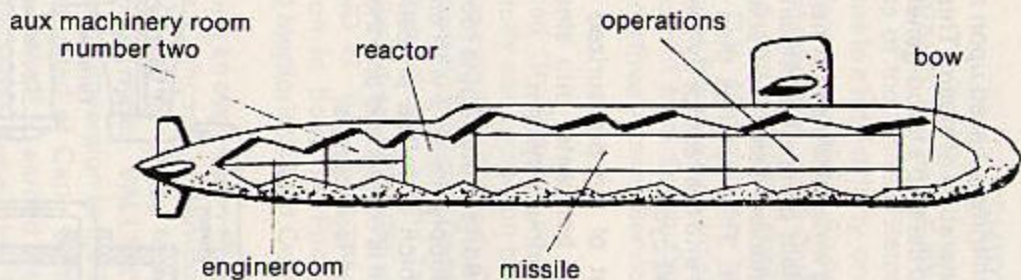
**MISSILE COMPARTMENT** - This compartment is again divided into three levels which house sixteen missile tubes and their accompanying launch and support systems. The after portion of the compartment is referred to as "Auxiliary Machinery Room Number One" and provides space for atmosphere control, refrigeration, electric, and hydraulic support equipment. A nucleonics laboratory, sickbay, and berthing for twenty-one missile technicians is also provided.

**REACTOR COMPARTMENT** - This area provides space for the pressurized-water type reactor and the associated primary plant systems. A passageway in the upper portion of this space, known as the "tunnel", allows the passage of personnel fore-and-aft.

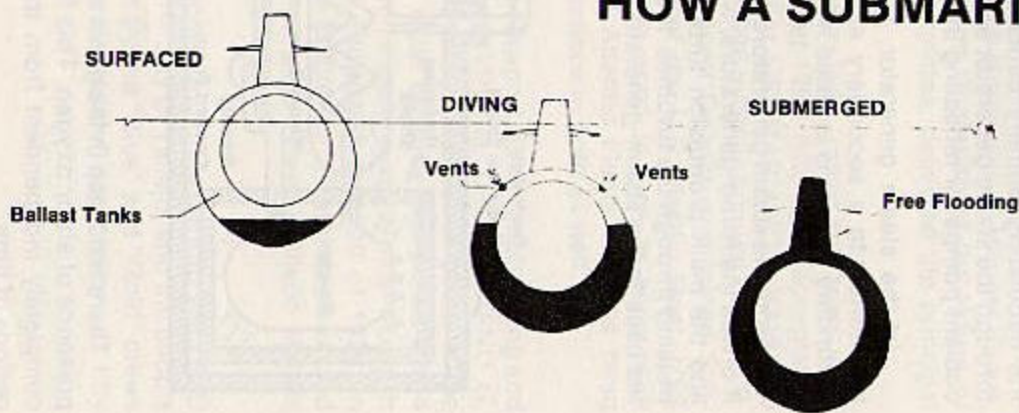
**AUXILIARY MACHINERY ROOM NUMBER TWO** - This space has two levels. The ship's motor generator sets, numerous electrical switchboards, some secondary steam plant equipment, and the electronic and electrical systems which comprise the reactor protection and indication complex are located here.

**ENGINE ROOM** - Another space containing two levels, the engineroom houses the ship's propulsion and electric generation systems, steam support systems, the main hydraulic plant, the air conditioning plant, and all the lube oil, cooling, and indication systems required for their operation. The "Maneuvering Area" is the centralized control station for the engineering spaces and is located in the upper level.

# SUBMARINE COMPARTMENTS



## HOW A SUBMARINE DIVES



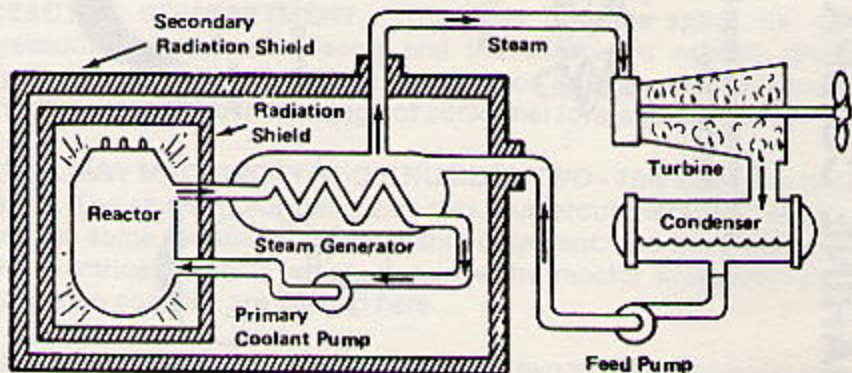
## THE POWER PLANT

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 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.



## SHIP'S HISTORY

MARIANO G. VALLEJO (SSBN-658) was authorized by the Congress of the United States as the fortieth Fleet Ballistic Missile Submarine in a total of forty-one. Keel-laying took place on 7 July 1964 at the Mare Island Naval Shipyard in Vallejo, California. A little over fifteen months later, on 23 October 1965, MARIANO G. VALLEJO was launched and officially christened with appropriate ceremonies. Patricia O.V. McGettegan, great-great-granddaughter of General Vallejo, was the ship's sponsor, and the Honorable L. Mendel Rivers, Congressman from South Carolina and Chairman of the House of Representatives Armed Services Committee, delivered the principal address.

Placed "In Service" on 9 October 1966, initial sea trials were successfully conducted on 6 November 1966. After final acceptance trials were completed in early December, USS MARIANO G. VALLEJO was commissioned on 16 December 1966 by Rear Admiral Clark, U.S. Navy, Commandant of the Twelfth Naval District, and joined Submarine Squadron FIFTEEN as part of the U.S. Pacific Fleet. USS MARIANO G. VALLEJO has had the good fortune to serve with distinction in both the Pacific and Atlantic Fleets and has been awarded Meritorious Unit Commendations in both as well.

During an overhaul in 1973 at the Newport News Shipbuilding and Drydock Company in Newport News, Virginia, USS MARIANO G. VALLEJO was converted to carry Poseidon missiles in place of the older Polaris types. VALLEJO has most recently completed a C-4 Backfit and conversion to the Trident-1 missile system, most of which was conducted at Cape Canaveral, Florida in the Fall of 1979. In addition, VALLEJO earned the Battle Efficiency "E" and was awarded the Commander Submarine Force Atlantic "Fleet Ballistic Missile Submarine Outstanding Performance Award".

The extraordinary diligence, concern, and pride put into VALLEJO by the Mare Island Naval Shipyard, the City of Vallejo, and the people of California have been carried forth by the "Blue" and "Gold" crews and is chiefly responsible for the successful completion of fifty deterrent patrols.



## DOLPHINS

Dolphins, the insignia of the United States Navy Submarine Service, identify the wearer as "qualified in submarines." The officers' insignia is a bronze gold-plated pin, while the enlisted insignia is a silver pin.

The submarine insignia adopted in March, 1924, is a bow view of a submarine proceeding on the surface with bow planes rigged for diving, flanked by dolphins in horizontal position with their heads resting on the upper edge of the bow planes. The dolphins on this insignia are symbolic of a calm sea and are the traditional attendants of Poseidon, Greek god of the sea.

In more recent time, dolphins for specialist officers in the Submarine Force have been developed. These include the Engineering Duty Officer dolphins, Medical Officer dolphins, and Supply Corps dolphins. Regardless of the color of the pin or the insignia at the center, dolphins are worn with pride by members of the Submarine Force.



Submarine Engineering Duty



Submarine Medical



Submarine Supply Corps

