

WELCOME ABOARD

USS LA JOLLA
(SSN 701)



FORTUNE FAVORS THE BRAVE

THE SUBMARINER

Only a submariner realizes to what extent an entire ship depends on him as an individual. A submarine at sea is a different world in itself. It is a submerged city; constantly vigilant of the demanding ocean, constantly ready to go into battle. In consideration of the protracted and distant operations of submarines, the Navy places great responsibility and trust in the hands of those who take these independent ships to sea.

In an hour of emergency or peril at sea, these men must turn to each other. They are responsible to themselves and to each other for the survival of their submarine. They are the crew, they are the ship.

This is perhaps the most difficult and demanding assignment in the Navy. There is not an instant during his tour as a submariner that he can escape the grasp of responsibility. His privileges in view of his obligations are small, nevertheless, it is the spur which has given the Navy its greatest mariners - the men of the Submarine Service.

It is a duty which most richly deserves the proud and time honored title of - Submariner.



**COMMANDING OFFICER
USS LA JOLLA (SSN 701)**

WELCOME ABOARD!

On behalf of the officers and crew, I take pleasure in extending to you the hospitality of the Submarine Force of the United States Navy. It is our desire to make your visit with us as pleasant as possible. All members of the ship's crew are ready to assist you in any way possible.

As a U.S. Naval warship, LA JOLLA is neither spacious nor designed for large numbers of personnel. I ask that you bear with us in this respect since we share your inconvenience. This pamphlet has been prepared as a memento of your visit. It also provides information necessary to ensure your health and comfort while aboard.

As your hosts, all of us on LA JOLLA hope your visit will be informative, interesting and pleasant.

Commanding Officer
USS LA JOLLA

UNITED STATES SHIP LA JOLLA
(SSN 701)

BUILT BY
GENERAL DYNAMICS
ELECTRIC BOAT DIVISION

KEEL LAID: OCTOBER 16, 1976

LAUNCHED: AUGUST 11, 1979

COMMISSIONED: OCTOBER 24, 1981

Sponsored By
Shirley H. Wilson

HOW A SUBMARINE IS ORGANIZED

Few modern institutions can rival the nuclear submarine for complexity and absolute self-sufficiency. The often inhospitable environment of the vast sea only intensifies the need for coordination of each crew's activities. The keystone of the submarine organization is the Commanding Officer - the Captain of the Ship. The responsibility of each operation of the submarine - in fact, the responsibility of each individual aboard - converge at the command level and create the Commanding Officer's ultimate charge; to successfully carry out the missions assigned. Whatever measures are required in his judgment to accomplish this task, the Commanding Officer is empowered to employ. It is this necessary conferral of discretion, in isolated circumstances, that lends to the submarine command a sense of creativity and individuality.

Second in Command is the Executive Officer - always next senior in rank to the Captain and not very far from attaining his own command. The Exec, or XO as he is informally called, offers his wide ranging experience to the submarine organization through direct coordination of the administrative and training activities of the ship. His knowledge and position extend his responsibilities and interests to every aspect of submarining.

The Chief of the Boat is the principal enlisted advisor to the Commanding Officer. He keeps the command aware of existing or potential situations, procedures, and practices which affect the welfare, morale, job satisfaction and utilization of its enlisted members.

The remainder of the ship's force is composed of five departments: Navigation, Combat Systems, Engineering, Supply and Medical. The first four are normally led by the more senior officers of the ship who rank just below the Executive Officer. The more junior officers are assigned within these departments to act as Division Officers. Divisions are the smallest organizational units aboard, and consist of groups of enlisted specialists organized according to skills.

Every piece of material on the ship from the propeller to the paint job is assigned to a division and finally to an individual technician for its care. Each of these men soon becomes an expert not only in the technical functions to which his special training has been directed, but also in the demands of administration, leadership and instruction of his shipmates.

There is a second organization aboard the ship: The Watch. Whereas the first organization is designed to maintain equipment, training and administer to various groups of men, the Watch organization is designed to conduct and coordinate the actual operations of the ship around the clock. This organization is ordinarily divided into three similar groups called sections. At any given time on the submarine one of these sections "has the Watch." Each watch section is headed by the Officer of the Deck who carries out the Commanding Officer's orders during the hours of his watch. It is the Officer of the Deck who orders ship's course, speed and depth, and conducts all combined shipboard evolutions. He is assisted by a Second Officer, the Engineering Officer of the Watch, who controls the reactor plant and all engineering evolutions in the propulsion plant.

Members of each watch section include a Helmsman, who steers the ship; throttleman, to control the steam turbine engines; sonar operators, who silently probe the ocean's depths; reactor operator, who controls the ship's remarkable energy source; torpedomen, to service and launch LA JOLLA's weapons; radiomen, who maintain an invisible link with command centers ashore; and electricians, who supply power from the reactor for virtually every service on the ship. These watchstanders, among others stand alertly by their equipment and stations throughout the duration of each watch.

The tempo of the watch is the heartbeat of the ship - and, since one third of a submariner's time is spent standing his watch, it is also the principal determinant of his day to day routine.



USS LA JOLLA (SSN 701)

LA JOLLA, one of the LOS ANGELES Class of nuclear-powered submarines, is the most advanced undersea vessel of its type in the world. Her mission: to hunt down and destroy enemy surface ships and submarines.

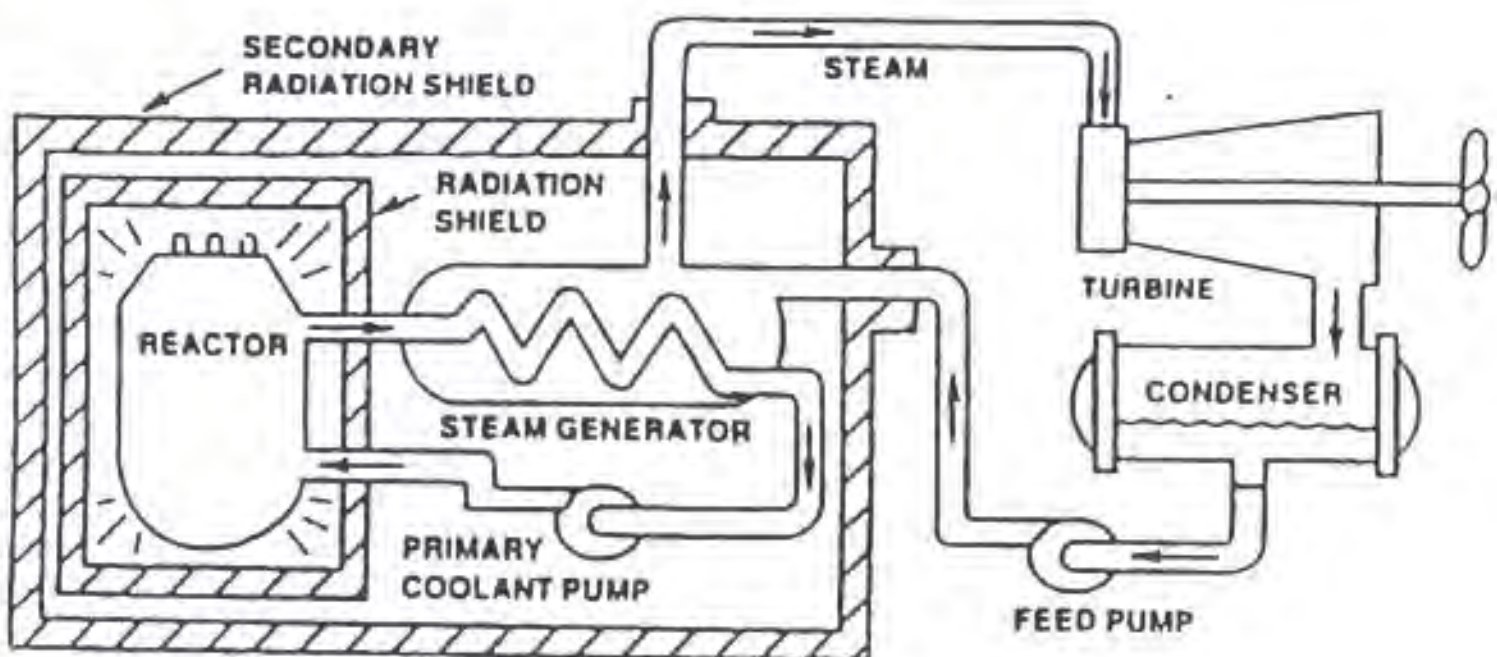
This 360 foot, 6,900 ton ship is well equipped to accomplish the task. Faster than her predecessors and equipped with highly accurate sensors and weapon control systems, she can be armed with sophisticated Mark 48 ADCAP anti-submarine torpedos and Tomahawk guided cruise missiles. This vessel carries a crew of about 145, 14 officers and 131 enlisted men, all specialists in their respective fields.

DESCRIPTION OF A SUBMARINE NUCLEAR PROPULSION PLANT

The propulsion plant of a nuclear powered ship is based upon use of a nuclear reactor to provide heat. This heat comes from the fission of fuel contained within the reactor. The nuclear propulsion in this ship uses a pressurized water reactor design which has two basic systems: the primary system and the secondary system. The primary system circulates pressurized water and consists of the reactor, piping loops, pumps and steam generators. This water, termed reactor coolant, is pumped through the steam generators and back into the reactor for reheating.

In the steam generators, the heat from the water in the primary system is transferred to the secondary system to create steam. The secondary system is isolated from the primary system so that the water in the two systems do not intermix.

In the secondary system the steam flows from the steam generators to drive the ship's turbine generators which supply electricity, and to the main propulsion turbines, which drive the propeller. After passing through the turbines, the steam is condensed into liquid and pumped back into the steam generators by the feed pumps. Thus, both the primary and the secondary systems are closed systems where water is recirculated and reused.



Note that no part of the generation of power from a nuclear submarine requires the presence of air or oxygen. This allows the ship to operate completely independent from the earth's atmosphere for extended periods of time.

OUR HERITAGE

Man's first recorded attempt to descend under the water in a vessel was in the period 356 to 323 BC, when Alexander the Great had himself lowered into the sea in a glass barrel. Leonardo da Vinci, the great artist, was also among the scientists of the Renaissance who experimented with submersible boats. About one hundred years later, Cornelius van Drebbel of Holland built a wooden submarine powered by oars. Further development steps were made by David Bushnell in 1776 with a one man submarine propelled by a hand cranked screw, Robert Fulton who built a submarine in Europe, and the Confederate Navy whose HUNLEY rammed the Union corvette USS HOUSATONIC, sinking both the corvette and the submarine.

None of these early designs were really practical naval warships until John P. Holland, a schoolmaster in Cork, Ireland, designed the first submarine bought by the U.S. Navy. This submarine was built in 1898 at Electric Boat Company, New London, CT, and was commissioned as the USS HOLLAND on April 11, 1900, the Submarine Force's birthday.

By the First World War, nearly every major navy had a submarine force, but they were considered boats suitable for coastal defense, not major warships. The term "boat" has remained common usage to this day, but by the end of World War I Germany has shown the powerful potential of a wide ranging submarine force.

Following the Japanese attack on Pearl Harbor the U.S. Pacific Fleet was heavily damaged and unable to mount creditable offensive action....with the exception of the submarine force. Asiatic Fleet submariners were already on patrol, and within three days USS TRITON attacked and damaged enemy warships while six other Pearl Harbor based submarines began important patrols deep in Japanese waters.

Although comprising only 1.6% of Navy personnel, the submarine force destroyed over 55% of all enemy shipping lost, including 29% of the warships. Submarines carried the offensive to the Japanese while the Pacific Fleet was rebuilding, then starved Japan of raw materials while American industrial might overwhelmed her. More decorations for valor were awarded, per man, to submariners than those of any other Naval branch. However, the 200+ warships and 1,750 merchant ships sunk came at a very high cost. Submarine casualty rates were six times that of other Naval forces. 52 submarines and 3,500 submariners are still on patrol.

The introduction of nuclear propulsion, improved hull designs, advanced sensors, electronics, and weapons including long range ballistic missiles has extraordinarily multiplied the power of today's submarine force. But it is the officers and men of the Silent Service who must remember the sacrifices made by those still on patrol, and carry on the proud tradition of thorough knowledge of the boat, selfless dedication to shipmates, and exceptional esprit de corps common to every man wearing Dolphins. It is our heritage.

DOLPHINS

Qualified submariners wear the traditional insignia: A bow view of a submarine proceeding on the surface with bow planes rigged for diving, flanked by two dolphins (traditional attendants to Poseidon, the patron deity of sailors) resting their heads on the bow planes.

"Earning Dolphins" is one of the most significant events in a Navy submariner's career - one of those special high points that instills great personal pride and recognizes a tremendous accomplishment.

Dolphins are earned through a process of "Qualifying". Individuals must learn the location of all major equipment, operation of all systems, damage control procedures and have a solid understanding of operational characteristics of their boat. Dolphin wearers qualify initially on one boat and must requalify on boats to which they are subsequently assigned.

Once Dolphins have been earned, they are awarded by the Commanding Officer in a special ceremony.

The origin of the U.S. Navy's Submarine Service Insignia dates back to 1923. On 13 June of that year, Captain Ernest J. King, USN, later to become Fleet Admiral and Chief of Naval Operations during World War II, and at that time Commander Submarine Division Three, suggested to the Secretary of the Navy, via the old Bureau of Navigation, that a distinguishing device for qualified submariners be adopted. A Philadelphia firm, which had done work for the Navy previously, was approached with the request that it undertake the design of a suitable badge. Two designs were submitted by the firm and these were combined into a single design still in use today.

The Officer's Insignia is a gold plated metal pin, worn centered above the left breast pocket and above the ribbons or medals. Enlisted men wore the insignia, embroidered in silk, in white on blue for blue clothing, and in blue on white for white clothing. This was sewn on the outside of the right sleeve, midway between the wrist and elbow. In mid 1947 the embroidered device shifted from the sleeve of the enlisted men's jumper to above the left breast pocket. Subsequently, silver metal Dolphins were approved for enlisted men.

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 exceptional pride by members of the Submarine Force.

A SUBMARINER'S PRAYER

*"Eternal Father, strong to save,
Whose arm hath bound the restless wave,
Who biddest the mighty ocean deep
It's own appointed limits keep.
O hear us when we cry to Thee
For those in peril on the sea.*

*Bless those who serve beneath the deep,
Through lonely hour their vigil keep.
May peace their mission ever be,
Protect each one we ask of thee.
Bless those at home who wait and pray.*



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SSN 701



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**COMMANDING OFFICER
USS LA JOLLA**

UNITED STATES SHIP LA JOLLA (SSN-701)

FORTUNE FAVORS THE BRAVE

USS LA JOLLA (SSN-701) is named for LA JOLLA, California and is the first warship named for this city. USS LA JOLLA is the fourteenth ship of the LOS ANGELES class. Larger and faster than earlier SSN classes, LA JOLLA is 360 feet in length and displaces approximately 6900 tons of water when submerged, yet is quiet, maneuverable and capable of submerged speeds in excess of 20 knots. The ship's highly accurate sensors, weapons control systems, and central computer complex make it a highly capable and versatile platform.

The keel was laid on 16 October 1976 with Congressman Bob Wilson participating. She was launched 11 August 1979 with Mrs. Bob Wilson as Sponsor and Congressman Wilson as the primary speaker.

LA JOLLA was commissioned on 24 October 1981. In March of 1982 LA JOLLA transitted the Panama Canal, transferred from the Atlantic to the Pacific Fleet and commenced operating under the cognizance of Commander Submarine Force, U.S. Pacific Fleet and Commander Submarine Group FIVE. On 21 March 1982, LA JOLLA arrived in her current homeport of San Diego, California.

USS LA JOLLA served as the first 688 class submarine in the Pacific to participate in the Tomahawk Cruise Missile program. Following the successful firing and testing of nine missiles, two variants of the Tomahawk missile were deployed to operational forces.

LA JOLLA deployed to the Western Pacific August 1984 through February 1985, visiting Chinhae, Korea, Yokosuka, Japan, Subic Bay, Republic of the Philippines, and Hong Kong.

1984 was a banner year for LA JOLLA. At an awards ceremony in March 1985, Commander Submarine Group FIVE presented LA JOLLA the 1984 Battle Efficiency "E", Engineering "E" (third consecutive), Antisubmarine Warfare/Operations "A", Communications "C", Supply "E", and Deck Seamanship Award.

Commander Kent Van Lewis MacNeil took command of LA JOLLA in a change of command ceremony on board in April 1985.



COMMANDER KENT V.L. MACNEILL

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Commander MACNEILL is a native of Boston, Massachusetts. A Navy junior, he graduated from Coronado High School, California in 1964. He graduated from the United States Naval Academy in 1968, with a Bachelor of Science Degree in Marine Engineering.

After completing nuclear power training and submarine school, Commander MACNEILL reported for duty in USS FINBACK (SSN-670) in 1970 where he served in the Operations and Engineering Departments. Following the Submarine Officer's Advanced Course (SOAC) where he was awarded the David Lloyd Award, in 1973 Commander MACNEILL was assigned as Weapons Officer in USS PINTADO (SSN-672). In 1975, he reported as Engineer Officer in USS THOMAS A. EDISON (SSBN-610) (BLUE), followed in 1977 by a two year tour as Navigator and Operations Officer in USS LAPON (SSN-661). Commencing in 1979, he served a three year tour of duty as Executive Officer in USS BERGALL (SSN-667). Commander MACNEILL completed a two year tour of duty on the Staff of the Director, Naval Nuclear Propulsion Program in 1984. He took command of USS LA JOLLA (SSN-701) in April 1985.

Commander MACNEILL has been awarded the Meritorious Service Medal, the Navy Commendation Medal with four gold stars and the Navy Achievement Medal with one gold star.

Commander MACNEILL is married to the former Janet McComas of Oakland, California. They and their children, Laurie and Jesse, reside in Coronado, California.



COMMANDER GARNET C. BEARD, JR.
UNITED STATES NAVY

Commander BEARD attended the University of Washington from which he received his degree in Mechanical Engineering in June 1965 and was commissioned through the NROTC Program. He then attended Naval Nuclear Power School in Mare Island, California, followed by prototype training in Idaho and Submarine School in New London. In April 1967 he reported for duty in USS ATULE (SS-403).

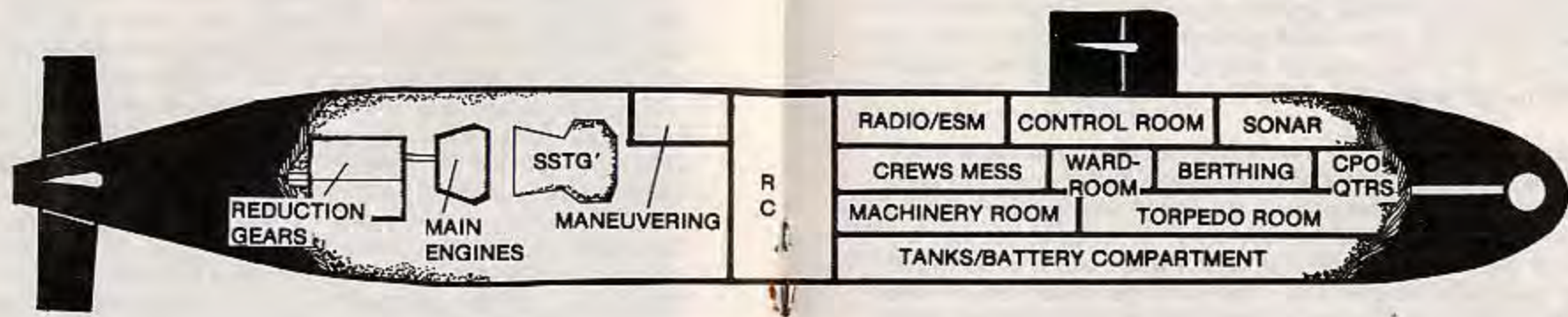
Commander BEARD qualified in submarines in ATULE and served as Engineering Officer until August 1968. His next assignment was to new construction in USS PUFFER (SSN-652). Serving in numerous division officer billets. Commander BEARD detached PUFFER in May 1972 and reported to USS PLUNGER (SSN-595) as Navigator. Upon detachment in December 1975, he served a fourteen month tour on Submarine Squadron ONE Staff, then reported in August 1977 as Executive Officer USS ABRAHAM LINCOLN (SSBN-602). Upon detachment from LINCOLN in February 1981, Commander BEARD completed the Prospective Commanding Officer training and reported to LAJOLLA in November 1981.

Commander BEARD's awards include the Navy Commendation Medal and the Navy Achievement Medal.

A native of Seattle, Washington, Commander BEARD is married to the former Alpha Hendon of Hammond Indiana. Their children are Dan and Rebecca.



INTERNAL ARRANGEMENTS



The USS LA JOLLA (SSN-701) is a front line warship. She is the fourteenth ship of the LOS ANGELES class fast-attack, nuclear powered submarines. This is the largest class of attack submarines. The LA JOLLA displaces 6900 tons, and is capable of speeds in excess of 20 knots and depths greater than 400 feet. The LA JOLLA is 360 feet in length and 50 feet from the keel to the top of the sail.

The ship's keel was laid on 16 October 1976 in Groton, Connecticut at Electric Boat Division of General Dynamics. She was commissioned on 24 October 1981.

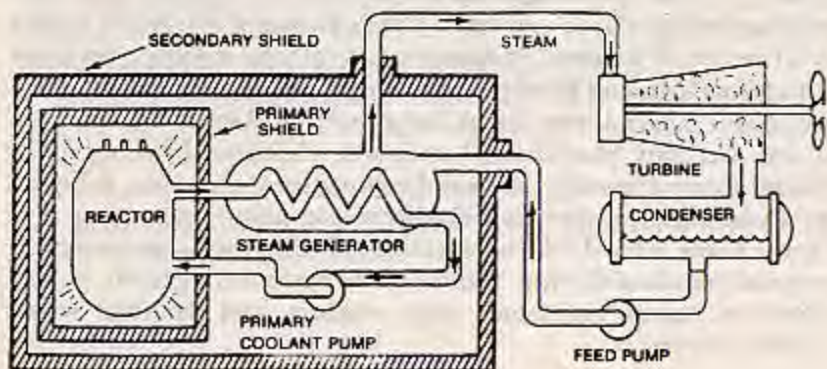
The LA JOLLA is made up of three compartments. The Forward Compartment, shown in the diagram above, has three levels; Upper Level, Middle Level, and Lower Level.

The Upper Level consists of operating spaces. The Control Room is the hub of the ship, where all evolutions are controlled. Upper Level also includes the Radio Room, Navigation Space, Sonar, and Fire Control computers. Middle Level consists of common areas and berthing for the officers and crew. Crews Mess and Wardroom are the social centers of the ship. In addition to meals and movies, most of the ship's formal training lectures and planning conferences occur in these two spaces. The Lower Level includes Store Rooms, the Torpedo Room, Auxiliary Machinery Room, and additional berthing. The Reactor Compartment is the second compartment going aft. It houses the reactor, steam generators and other reactor plant components. The Engine Room is the third compartment. The Engine Room houses the propulsion train of the ship. It includes the maneuvering room, turbine generators, motor generators, main engines, and the shaft which propels the ship.

THE POWER PLANT

LAJOLLA is powered by a nuclear power plant, which consists of a nuclear reactor with its associated circulating water, steam cycles, and auxiliary machinery. 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, where it boils water to form steam. It is then pumped back to the reactor by the primary coolant pumps where it is heated for the next cycle.

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 which 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 and then flows to the engine room, where it drives the ship service turbo-generators, which supply the ship with electricity, and 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.



RADIOLOGICAL CONTROL

Radiation Warning Signs and Markers consisting of magenta and yellow signs, markers and tape or ribbons, must be observed. Only authorized persons are allowed in areas marked "RADIATION AREAS" and no loitering in such areas is allowed. Entrance into areas marked "HIGH RADIATION AREA" or "RADIOACTIVE CONTAMINATION" is prohibited unless approved by the Commanding Officer and supervised by the ship's force Radiological Control personnel.

TLD's must be worn by all persons embarked. These badges are issued on arrival to all persons not already possessing one. It is anticipated that visitors will receive no detectable radiation. Should detectable radiation be received, appropriate reports will be made. These film badges must be worn at all times except when sleeping. They are to be worn external to all clothing, on the front of the body between the waist and the shoulder. Loss of a TLD should be reported to the Medical Department Representative as soon as noted. All film badges will be collected by the Medical Department Representative prior to visitor debarkation.

SECURITY

Most features of LAJOLLA are of a classified nature. The radio Room, the Sonar Space and the Propulsion Plant Spaces are security areas into which access may be granted only to authorized persons. Information concerning the speed, depth, weapons, fire control, and reactor plant equipment and operations are classified. In the event that one of your questions to a member of the ship's company is not answered, please do not be offended. Personnel must be assured of your clearance and "need to know" to divulge such information. In case of doubt you will be referred to the appropriate ship's officer.

BUILT
BY
GENERAL DYNAMICS ELECTRIC BOAT DIVISION

KEEL LAID16 OCTOBER, 1976
LAUNCHED.....11 AUGUST, 1979
COMMISSIONED24 OCTOBER, 1981
LENGTH.....360 FEET
BEAM33 FEET
DISPLACEMENT6,900 TONS
SPEEDOVER 20 KNOTS
DEPTHDEEPER THAN 400 FEET

SSN 701

USS La JOLLA

FORTES FORTUNA JUVAT

