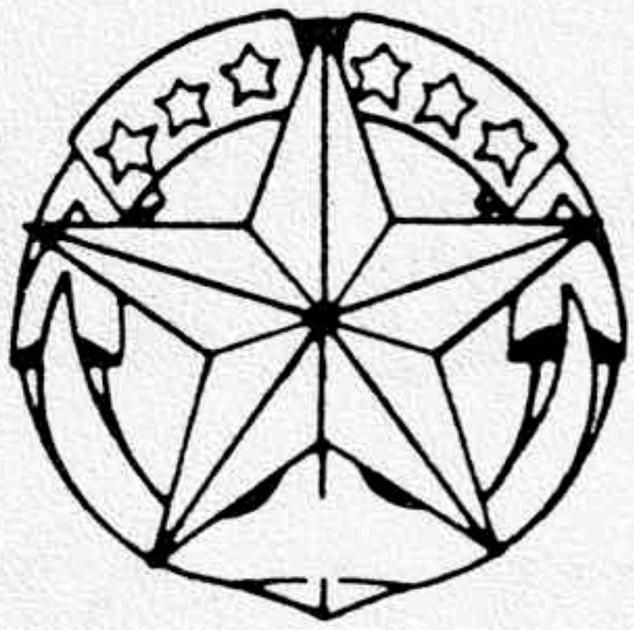
UNITED STATES SHIP

BIRMINGHAM

(SSN 695)

WELCOME ABOARD



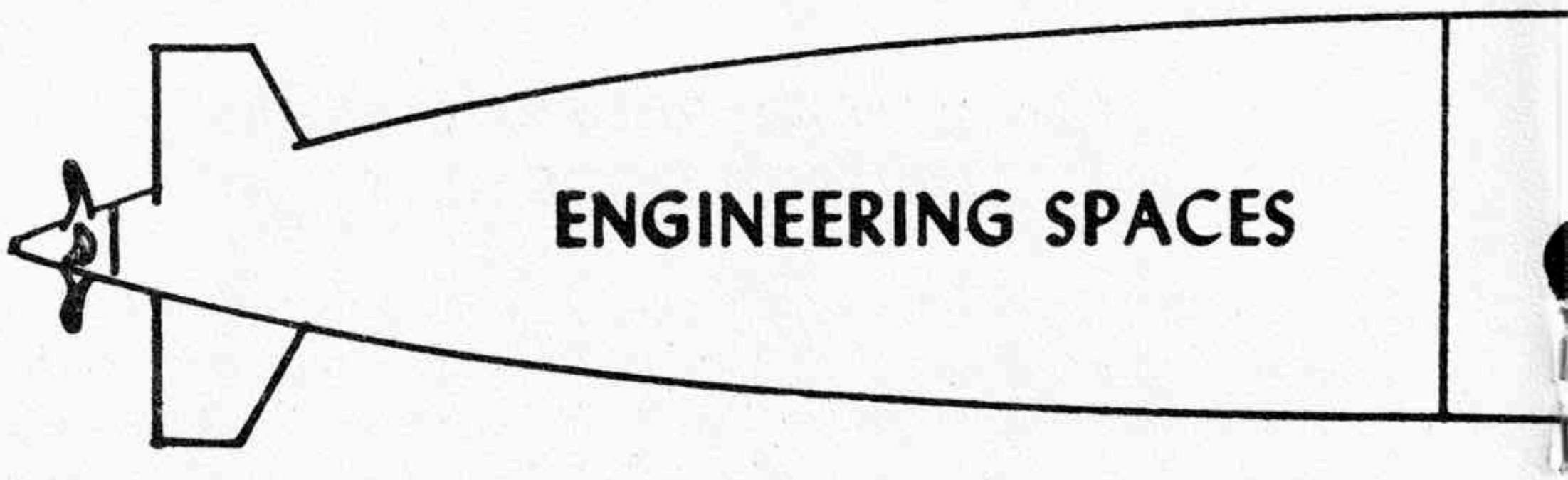
COMMANDER ROBERT E. FRICK
UNITED STATES NAVY

Commander Frick is from Erie, Pennsylvania and graduated from Purdue University in January 1969 with concurrent Bachelor and Master's degrees in Mechanical Engineering. Following graduation he attended Naval Officer Candidate School, Nuclear Power Training and Naval Submarine School.

Commander Frick served in both USS WILL ROGERS (SSBN 695) BLUE and GOLD crews from September 1970 to October 1973. Following this tour he was assigned to Naval Nuclear Power School Bainbridge, Maryland and Orlando, Florida as Director, Pre-Nuclear Power School. His next shipboard assignment was as Engineer Officer USS HADDOCK (SSN 621) from January 1977 to April 1980. Commander Frick then served as Executive Officer USS DRUM (SSN 677) from July 1980 to October 1981 and as Executive Officer USS KAMEHAMEHA (SSBN 642) BLUE from November 1981 to August 1983.

Commander Frick is entitled to wear the Navy Commendation Medal with two gold stars, Navy Unit Commendation Ribbon, Meritorious Unit Commendation Ribbon, Battle "E" Ribbon, Good Conduct Ribbon, Navy Expeditionary Medal, National Defense Service Medal and Navy Sea Service Ribbon. Commander Frick relieved as Commanding Officer USS BIRMINGHAM (SSN 695) on 20 April 1984.

Commander Frick is married to the former Susan Marie Mitchell from Erie, Pennsylvania. They reside on Hospital Point, Oahu with their two daughters Jennifer and Sarah and their son Kevin.



ENGINEERING SPACES

BUILT: NEWPORT NEWS, VIRGINIA

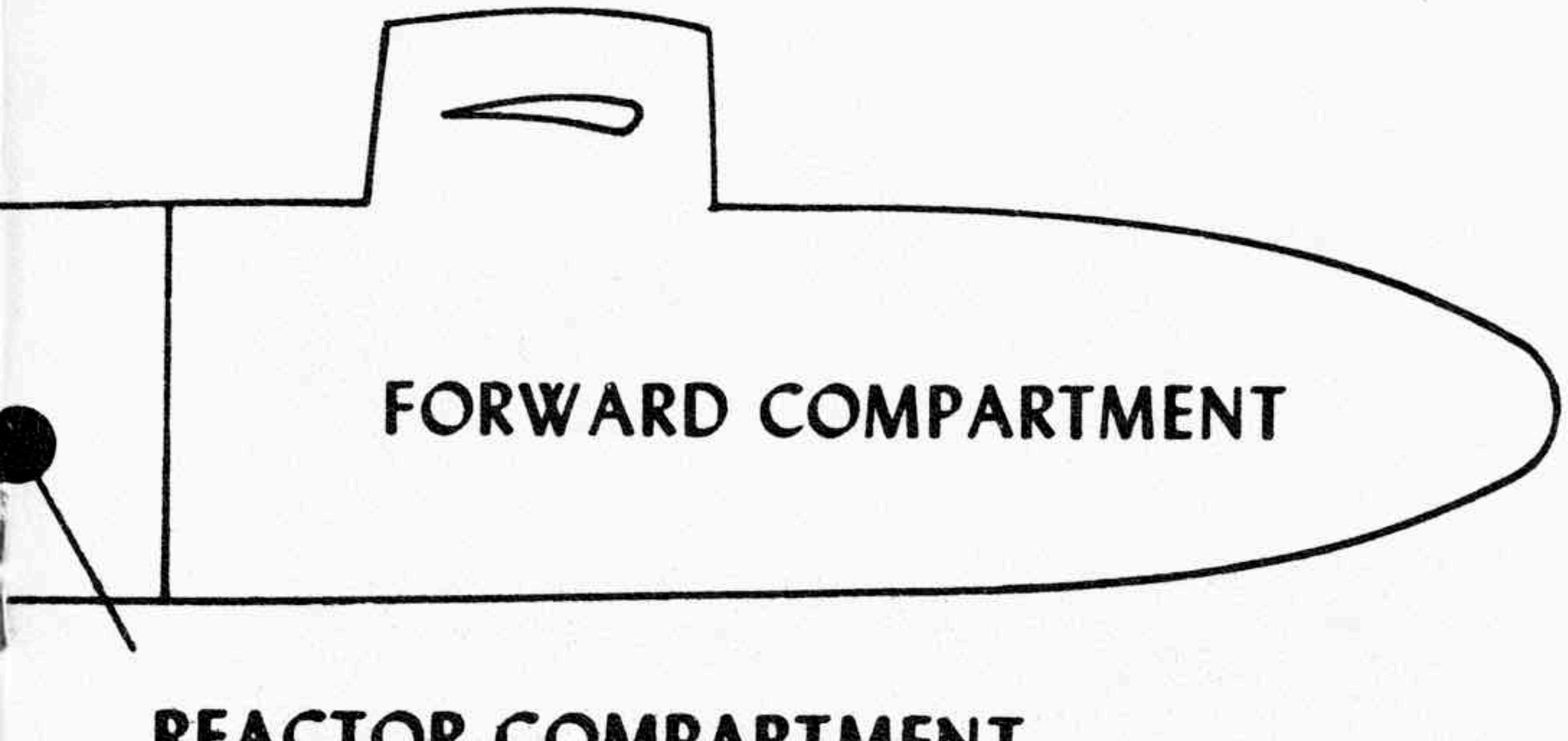
KEEL LAID: APRIL 26, 1975

LAUNCHED: OCTOBER 29, 1977

COMMISSIONED: DECEMBER 16, 1978

BIRMINGHAM is a nuclear attack type submarine of the LOS ANGELES class whose wartime mission is to destroy enemy submarines and ensure freedom of the seas. The noise reduction in all moving parts gives BIRMINGHAM an inherent silent quality and permits optimum performance of her long range sonar system.

The combination of endurance and independence of the earth's atmosphere provided by nuclear propulsion, deep submergence, high speed capabilities. and the latest weapons systems, makes BIRMINGHAM one of the navy's most effective antisubmarine weapons systems.

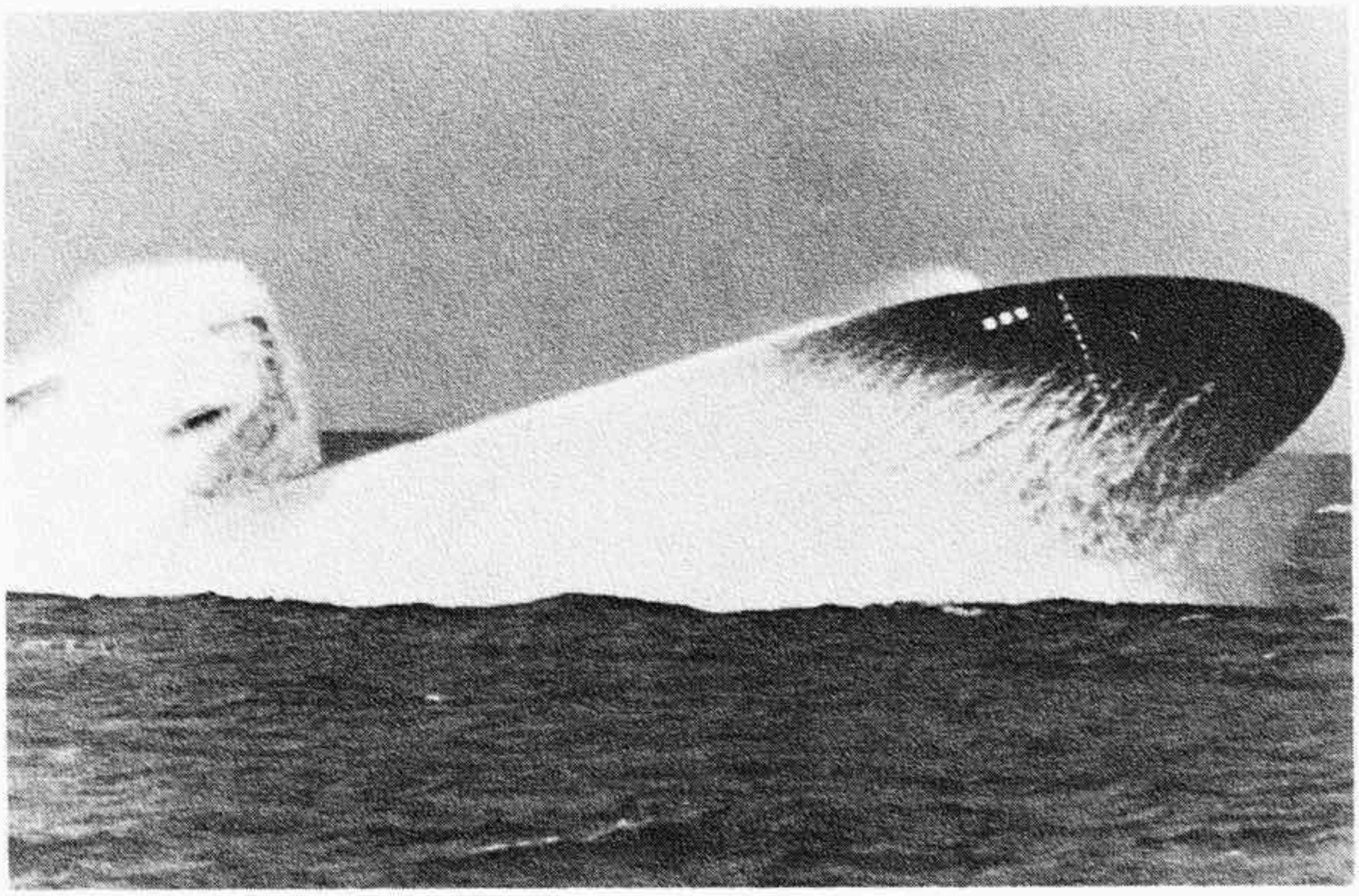


HISTORY

The BIRMINGHAM is the third United States ship to bear the name. The first was a cruiser commissioned in 1908. From her deck in 1910, Eugene Ely made the first airplane flight from a warship. She was decommissioned in 1923. The second was also a cruiser commissioned in 1943. During World War II, she served in the Atlantic and Pacific Fleets, received extensive battle damage three times, and earned nine battle stars. In the Battle of Leyte Gulf she sustained 229 dead and over 400 wounded when a magazine exploded aboard the severely damaged USS PRINCETON (CVL 23) just as the BIRMINGHAM came alongside to assist. Following three months of repair, the BIRMINGHAM was returned to service but was decommissioned in 1947.

ENGINE PLANT DESCRIPTION

BIRMINGHAM is powered by a pressurized water nuclear reactor which generates heat by the fission of uranium. The heat generated in the fission process is transferred to pressurized water which in turn transfers heat in a steam generator.. Steam from the steam generator turns the main propulsion turbine which drives the propellor.



BIRMINGHAM AND THE LOS ANGELES CLASS

The LOS ANGELES class has higher speed capability than its predecessors, along with the most advanced anti-submarine warfare capabilities. Underwater stealth, together with powerful weapon systems and sensors, make ships of this class a deadly force against enemy submarines and surface ships.

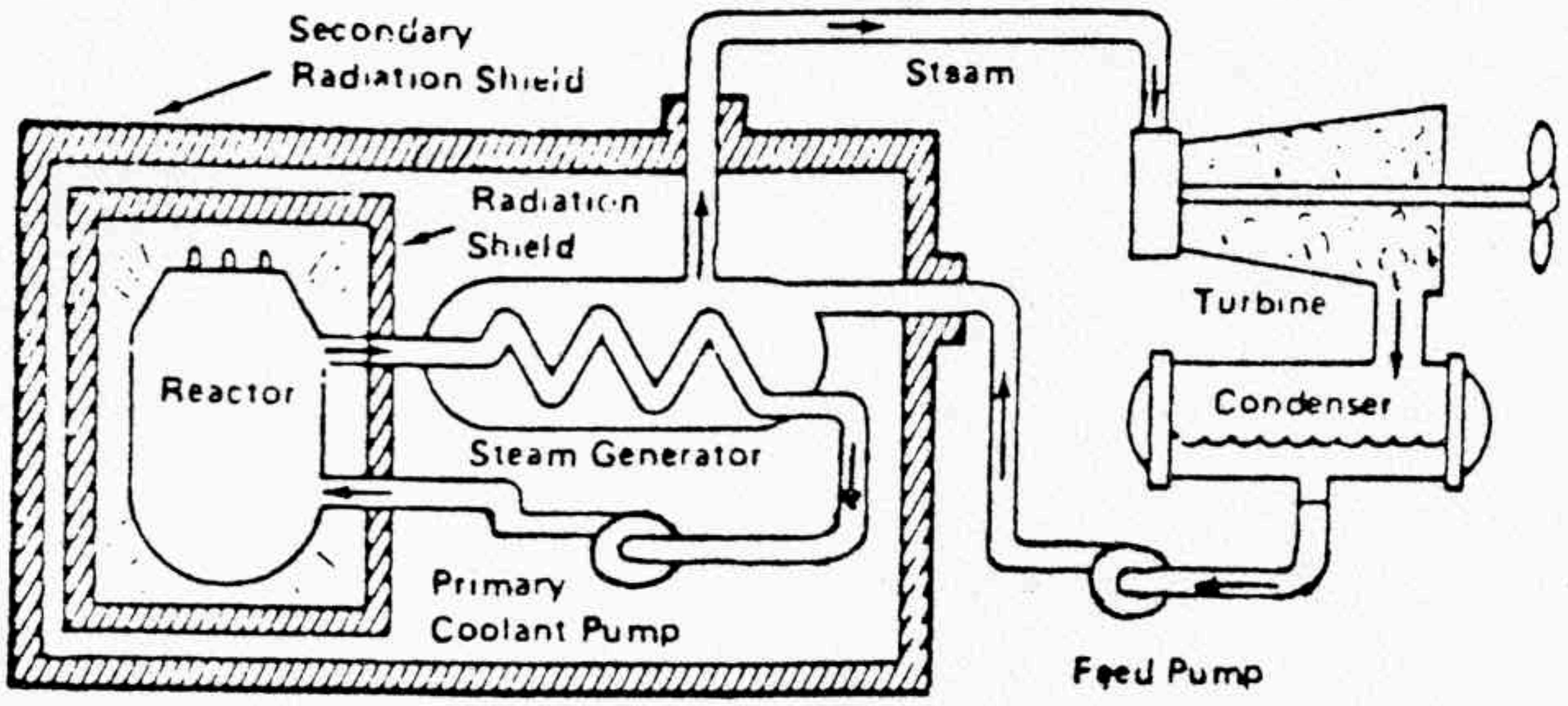
The ship has an overall length of 360 feet, a beam of 33 feet and a submerged displacement of 6,900 tons. The ship's primary mission is anti-submarine warfare, its armament including Mark-48 torpedoes and submarine rockets.

The ship's name honors the city of Birmingham the largest city in Alabama, county seat of Jefferson County and one of the leading industrial cities in the South. It was first settled in 1871 at the junction of two railroads and was named for Birmingham, England.

The keel for the BIRMINGHAM was laid on April 26, 1975.

MY WISH AND PRAYER FOR THIS BEAUTIFUL SHIP IS THAT SHE MAY ALWAYS SAIL WITH GLORY...AND THAT GOD WILL PROTECT HER AND THE MEN, WHO SERVE ON HER, IN THE MYSTERIOUS DEPTHS, THROUGH WHICH SHE WILL MOVE...

Mrs. Maryon P. Allen
at the Christening of the
USS BIRMINGHAM (SSN–695)
October 29, 1977



DESCRIPTION OF NAVAL NUCLEAR PROPULSION PLANTS

The propulsion plant of a nuclear powered ship is based upon use of a nuclear reactor to provide heat. The heat comes from the fissioning of nuclear fuel contained within the reactor. Since the fissioning process also produces radiation, shields are placed around the reactor so that the crew is protected.

The nuclear propulsion plant 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 ordinary water and consists of the reactor, piping loops, pumps and steam generators. The heat produced in the reactor is transferred to the water under high pressure so it does not boil. This water 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 does not intermix.

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

There is no step in the generation of this power which 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.