WELCOME ABOARD

USS ASPRO
(SSN 648)

UNITED STATES SHIP ASPRO

(SSN648)

BUILT BY
INGALLS SHIPBUILDING CORPORATION
PASCAGOULA, MISSISSIPPI

Keel Laid: ..... November 1964

Launched: ..... November 1967

Commissioned: ..... February 1969

Sponsored by: ..... Mrs. Robert H. B. Baldwin
Wife of Former Under
Secretary of the Navy

Commanding Officers: ..... CDR R. R. WIGHT, USN
CDR R. H. HARRIS, USN
CDR E. F. WAGNER, USN
CDR J. C. WARTHIN, USN
CDR F. P. GUSTAVSON, USN

UNITED STATES SHIP ASPRO

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 - you have only to ask.

As a warship, ASPRO 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. This pamphlet has been prepared as a memento of your visit. It also provides information necessary to ensure your health and comfort while on board.

As your hosts, all of us in ASPRO hope your visit will be informative, interesting and pleasant.

F. P. GUSTAVSON, CDR, USN
Commanding Officer

COMMANDING OFFICER

COMMANDER FRED P. GUSTAVSON, U.S. NAVY

Commander Fred P. Gustavson was born on 20 July 1943 in Chicago, Illinois. He grew up in eastern Washington and graduated from Columbia High School, Richland, Washington in 1961. he attended the U.S. Naval Academy and was commissioned an Ensign on 9 June 1965.

Since commissioning he has served on board USS SAILFISH (SS572), USS JAMES MONROE (SSBN622), USS HENRY L. STIMSON (SSBN655) and USS PINTADO (SSN672). He assumed command of USS ASPRO (SSN648) on 21 November 1980.

Commander Gustavson served one tour in Washington, D.C. in the Polaris/Poseidon Branch of the Deputy Chief of Naval Operations for Submarine Warfare (OP-02). His advanced Navy schooling has included Naval Nuclear Power Training, Officer Submarine School, Poseidon Navigation Officer Course and Prospective Commanding Officer Course.

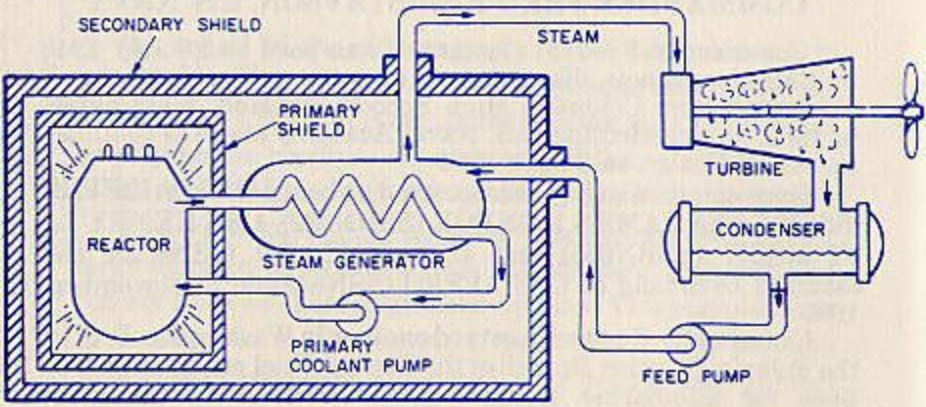
During his career, Commander Gustavson has been awarded the following decorations: Navy Commendation Medal with three gold stars in lieu of second, third and fourth awards; Navy Achievement Medal with gold star in lieu of second award; Meritorious Unit Commendation with four bronze stars in lieu of the second, third, fourth and fifth awards; Navy Expeditionary Medal with one bronze star in lieu of second award; National Defense Service Medal and the Polaris Deterrent Patrol Pin with one silver and one gold star.

Commander Gustavson is married to the former Miss Lynne Pierson of Havertown, Pennsylvania. They reside in Honolulu with their daughter Christina, age 12.

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.

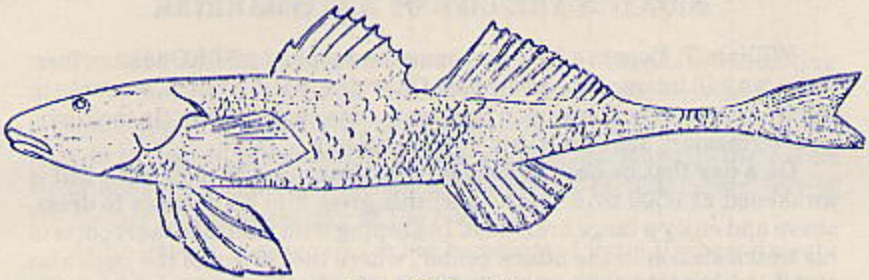


In the steam generator, the heat of the pressurized water is transferred to a secondary system to boil water into steam. This secondary system is isolated from the primary system.

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.



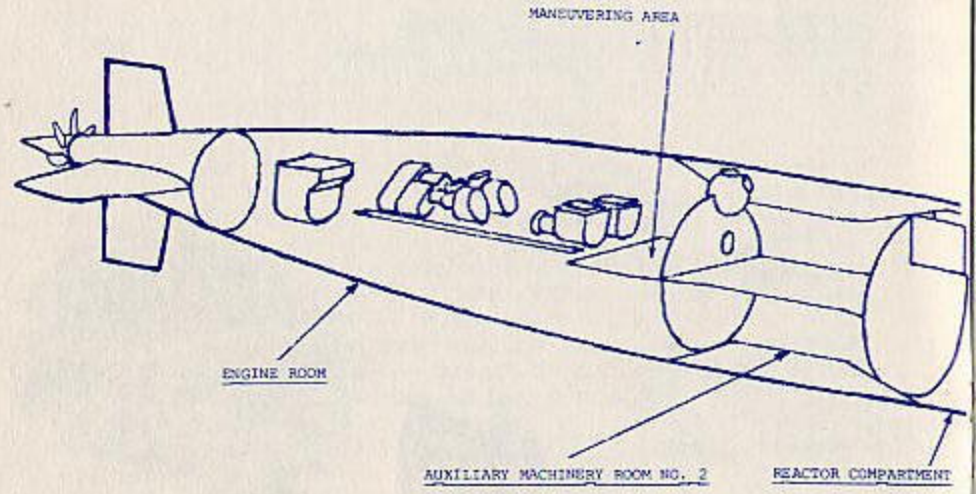
(Aspro Vulgaris)

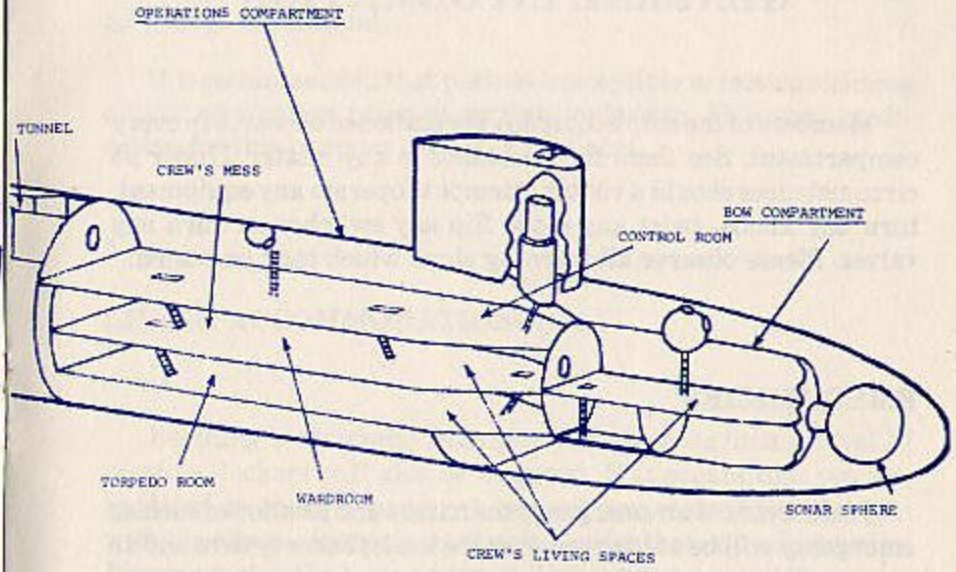
The Name Aspro

The Aspro, or Aspron as it is also called, is known technically as *Aspro asper.* This fish is European, found in the Rhone River system in France. It is most abundant in the upper part of the Rhone and in tributaries such as the Saone, Donbs, Ouche, and Ognon. The Aspro belong to the family Percidae, to which the American perches also belong.

The Aspro lives in swift water at the bottom of streams, where it lurks among the rocks and boulders. When disturbed it darts quickly from stone to stone and abruptly will turn and attack. According to legend, the Aspro comes to the surface only in bad weather, with a north or west wind, when other fishes take refuge near the bottom. This has given it a reputation among the French fishermen, who term it the sorcier (sorcerer).

The Aspro is a small fish, five to seven inches long. It is golden-brown or bronze above and yellowish brown on the side; the belly is whitish. Along the side are four oblique dark brown to blackish bars. The fins are light yellowish-gray.





UNITED STATES SHIP ASPRO (SSN648)

ASPRO (SSN648) is a Sturgeon Class submarine, 292 feet long, with a beam of 31 feet and a displacement of 4800 tons submerged. She is capable of speeds in excess of 20 knots and dives in excess of 400 feet. She is manned by a crew of 14 officers and 120 enlisted men. Her mission is to seek out and destroy enemy ships—primarily other submarines. To accomplish this mission ASPRO has highly advanced electronic detection and ranging equipment and a computerized weapons control system. Combined with long range torpedoes and the SUBROC missile, these systems permit detection and destruction of enemy ships and submarines at great distances.

As are all nuclear powered submarines, ASPRO is capable of operating independently of the earth's atmosphere for long periods of time. This characteristic is a result of power generation by a pressurized water reactor and associated steam plant which requires no oxygen supply or atmospheric exhaust. The power generated by the reactor provides propulsion and drives auxiliary turbine generators which provide the ship with all necessary light and electrical power. To support human life in this enclosed environment, the ship is completely air-conditioned and the atmosphere is highly controlled to prevent buildup of any toxic substances hazardous to life or equipment.

GENERAL INFORMATION

Members of the ship's company are stationed on watch in every compartment. See them for assistance in any matter. Under no circumstances should a visitor attempt to operate any equipment, turn any knobs, twist any dials, flip any switches, or turn any valves. Please observe all warning signs which may be posted.

EMERGENCIES

In the event of an emergency the nature and location of such an emergency will be announced over the loudspeaker system and an alarm will be sounded. In such an event you are requested to stand fast but clear of all passageways and watertight doors. The crewman in charge of the compartment will direct your movements and explain the situation and action to you as soon as he is able to do so. If you are requested to clear an area, please do so expeditiously and quietly. Smoking is prohibited during emergencies.

Should you see water leaking, smell smoke, or have any question concerning the safety of the ship, please call it to the attention of a member of the ship's force who will take proper action.

MEDICAL FACILITIES

The Medical Department Representative, a hospital corpsman, is available at all times. In the event of any injury or illness

that may occur while you are on board, please consult the corpsman immediately.

It is recommended that persons susceptible to motion sickness obtain medication prior to getting underway. However, medication for this purpose is always available.

LIVING ACCOMMODATIONS

Berthing is assigned visitors embarking upon their arrival. If possible, lockers will also be assigned. If it occurs that you are required to share a bunk, we request you make arrangements with the others assigned your bunk in order that no conflicts arise. Please use only the bunk assigned. This enables you to be located if necessary.

Heads and washroom facilities are located throughout the ship. Please realize they are maintained by ship's force who consider the ship their home. Before using a head for the first time, please consult a member of the crew for proper flushing procedures. Please do not discard any solid object, no matter how small, into a water closet. It may foul the seat of the sanitary tank overboard discharge.

Showers may be taken any time at your convenience, but because the number of shower facilities is very limited, showers should be taken as expeditiously as possible. There is no restriction on water. However, the ship's water-making capacity, while large, does have reasonable limits.

Smoking is permitted throughout the ship except in bunks, bilge areas, or the vicinity of pyrotechnics or oxygen bleeding stations located in the Bow Compartment and Engine Rooms.

ORDERS

If you are under military orders, please turn your orders in to the Yeoman in the Ship's Office (Operations Compartment, First Platform, in the passageway). The orders will be endorsed and ready for pickup at the end of your visit.

RADIOLOGICAL CONTROLS

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.

SECURITY

Most features of ASPRO are of a classified nature. The Radio Room, the Sonar Spaces, 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.

CALLS

For embarked visitors, calls are made by the Messenger of the Watch from the Control Room.

ACCESS AND CONGESTION

Visitors are always welcome in any authorized space when the operations of the ship permit. At most operating and control stations the space is very limited, however. As a result, it is necessary for any person not on watch to have permission of proper authority before being allowed in the space. This regulation is in effect at all times and for all persons embarked, including members of the ship's company. You are asked to conscientiously abide by these regulations. If allowed in an area so controlled, you will be requested to leave when necessary. Summarized below are those areas in which access is controlled in this manner and the name of the watchstander who may allow visitors in the area.

Control Room—Officer of the Deck
Chief of the Watch (when surfaced)

Sonar Control—Sonar Supervisor (NOTE: Only authorized personnel are permitted in this space.)

Maneuvering Room—Engineering Officer of the Watch

Bridge—Officer of the Deck; Personnel visiting the bridge are asked to consult the Chief of the Watch prior to proceeding up the ladder. The Chief of the Watch will obtain the necessary permission for visitors to go on the bridge.

Aspro's Heritage

The first ASPRO (SS-309) was built by the Portsmouth Naval Shipyard, Portsmouth, New Hampshire. Her keel was laid 27 December 1942. She was launched 7 April 1943 under the sponsorship of Mrs. William L. Freseman.

The USS ASPRO had a length of 311 feet 6 inches and a beam of 27 feet 3 inches. Her displacement was 1526 tons surfaced and 2391 tons submerged. ASPRO's designed surface speed was 20 knots; submerged speed was 8 knots. Aspro had a complement of 6 officers and 60 men. She was originally armed with one 5 inch gun, one 40mm gun, and two 50 caliber machine guns. She had ten 21 inch torpedo tubes. Her designated depth was 400 feet.

The USS ASPRO began her first patrol of World War II in the East China Sea. On the night of 17-18 December 1943 she expended many torpedoes in a melee with a 15 ship convoy. After three aggressive attacks that filled the air with explosions and orange colored flame, she was forced off the track by depth charging escorts and lost contact. She returned to Pearl Harbor after several successful encounters with the Japanese. Aspro's second war patrol was in support of the first carrier based air strikes on the impregnable Japanese base at Turk in the Carolinas. It was during this patrol that she sunk the large 2,212 ton Japanese submarine I-43.

Upon return to Pearl Harbor in March 1944, she was awarded the Navy Unit Commendation for outstanding heroism in action during her first and second war patrols.

Aspro spent her third war patrol off Palau Island. She assisted the USS BOWFIN in sinking the 4,500 ton BISAN MARU. ASPRO sunk the 6,400 ton JOKUJA MARU and left another freighter settling in the water. She ended her patrol in Fremantle, Australia in June 1944.

Aspro's fourth and fifth patrols were in support of operations near the Philippines. On the fourth patrol Aspro joined the USS CABRILLA and USS HOE in a wolfpack to support the Leyte Landings. They left some 40,000 tons of enemy shipping buried in their wake scoring a tremendous success in the campaign to cut the enemies supply lines prior to the battle for Leyte. After another successful patrol the Aspro was overhauled in San Francisco.

During her seventh patrol she took a life guard station for aircraft striking the Tokyo plains. She made some of the most spectacular and daring pilot rescues of the war only 35 miles from Tokyo.

At the end of the war she was decommissioned for 5 years, then recommissioned in 1951 for use in training operations. The USS ASPRO was decommissioned in 1962 and turned over to Submarine Squadron 5 for destruction as a target.

For her important contributions to the Allied effort in World War II, ASPRO received 8 battle stars and the Navy Unit Commendation.

BRIEF HISTORY OF USS ASPRO (SSN648)

The USS ASPRO (SSN648) was constructed by Ingalls Shipbuilding Corporation Division of Litton Industries in Pascagoula, Mississippi, and commissioned on 20 February 1969. She is the second submarine of the fleet to be named after the fish Aspro, a small fish found in the Rhone River in France. The ship's sponsor is Mrs. Robert H. B. Baldwin, wife of the former Under Secretary of the Navy.

After leaving Pascagoula for her homeport of Pearl Harbor, Hawaii, the ASPRO underwent the extensive training and material readiness programs standard for a 637 class fast attack nuclear submarine. On 19 July 1970, ASPRO departed on her first six month deployment to the Western Pacific. The ship conducted a second deployment from May to November 1972. During the deployments, ASPRO conducted a variety of operations and visited several Western Pacific ports. The ship was awarded the Navy Unit Commendation for superior performance during classified operations during this period. Following the first deployment ASPRO conducted local training operations in the Mid-Pacific area. For one of these training operations the ship was awarded the Meritorious Unit Commendation in July 1971.

After conducting pre-overhaul tests, ASPRO left Pearl Harbor in March 1973 to conduct her first regular overhaul at the Ingalls Shipbuilding Corporation, Pascagoula, Mississippi. The overhaul lasted from April 1973 to May 1974, when ASPRO again departed Pascagoula for Pearl Harbor.

After undergoing extensive refresher training, ASPRO departed on her third WestPac deployment in May 1975. While deployed, ASPRO conducted special operations, port calls in Yokosuka, Guam, Subic Bay and Hong Kong, and provided extensive ASW services for Seventh Fleet ships and aircraft. The ship returned home to Pearl Harbor in December 1975. The ship then conducted local operations until December 1976. In December 1976, ASPRO again deployed, completing her fourth WestPac deployment in April 1977.

In August 1977 the ship shifted homeport to Bremerton, Washington and entered Puget Sound Naval Shipyard in October 1977 for her second overhaul. This overhaul included a refueling of the nuclear reactor. The overhaul was completed in March 1979 and ASPRO returned to Pearl Harbor.

ASPRO conducted her fifth WestPac deployment from February to September 1980, and deployed again to the Western Pacific in September 1981.

A DAY IN THE LIFE OF A SUBMARINER

William T. Door is a fictitious name for a typical ASPRO submariner. He is, we will imagine, a second class Quartermaster. As such, he works in the Quartermaster Division in the Navigation Department. (In the Navy, quartermasters are specialists in navigation.)

On a day that he has the 0600 to 1200 watch (6 AM to 12 PM), Bill is awakened at 0500 by a messenger; this gives him 45 minutes to dress, shave and enjoy a large breakfast. In keeping with tradition, he reports to his watch station in the attack center, where the Officer of the Deck also stands his watch, 15 minutes before his watch begins, in order to be briefed on the activities of the previous watchstander on his time: a custom most appreciated by the departing quartermaster. During this six-hour watch, Quartermaster Door plots the ship's position on the chart, assists the Officer of the Deck by recording and tracking sonar contacts, and maintains the ship's log.

After his relief has taken the watch, Bill cleans up for the noon meal. Today's meal is followed in the Crew's Mess by a "School of the Boat" lecture given by the Auxiliary Division Chief Petty Officer on the ship's ventilation system. Since he is already qualified on the ASPRO, Bill passes the lecture in order to spend some time preparing for his first class Quartermaster examination. At 1500 (3 PM), he has an appointment to examine a newly reported seaman on his knowledge of the ship's periscopes and antennas, for the seaman's submarine qualification. Bill Door's immediate supervisor, a Chief Quartermaster, had told him to make some changes to several navigation charts and publications and to prepare an order for some new training materials - which took the rest of the afternoon.

The ship's daily drill - which today was unannounced - interrupted the task for about thirty minutes. Drills are conducted to test the crew's reaction to casualty and combat situations of various sorts: fire, loss of power, toxic gas, depth charge, and so on. Every drill is an "all hands" effort - even those catching up on lost sleep are summoned by the ship's alarms. Fire hoses are unrolled, medical bags opened, gas masks worn, equipment operated, nothing that can possibly be done to enhance realism is neglected.

The movie after the evening meal was one he had seen before so Bill read some more of a Western he'd gotten in the ship's library. Then he can doze for a couple of hours before standing his next watch - the mid watch, from midnight until six in the morning.

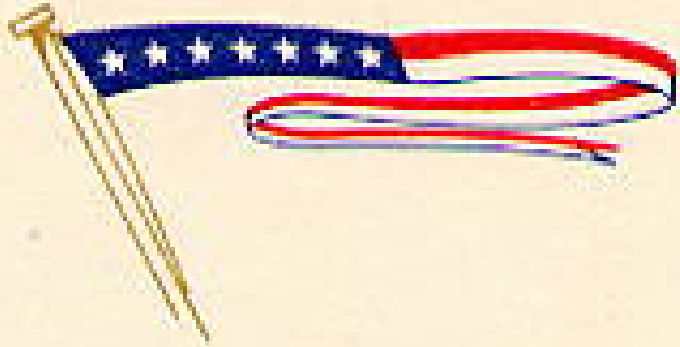
The schedule of our mythical William T. Door is not at all imaginary or exceptional - it is typical of what a submariner does during a usual workday at sea. It is perhaps a fair answer to the oft posed question: What on earth do you do out there for sixty days?

THE SIGN OF THE ZODIAC

represent the mystery surrounding Aspro

THE BRANCHES AND LEAVES

represents peace



Commanding Officer, USS Aspro (SSN 648)
requests the pleasure of your company at the
Change of Command Ceremony at which
Commander Jonathan C. Warthin, United States Navy
will be relieved by
Commander Fred P. Gustavson, United States Navy
on Friday, the twenty-first of November
Nineteen hundred and eighty
at two o'clock
on board USS Aspro (SSN 648)
Pier Sierra Five
Naval Submarine Base, Pearl Harbor, Hawaii

R.S.V.P.
471-9294

Uniform:
Summer White