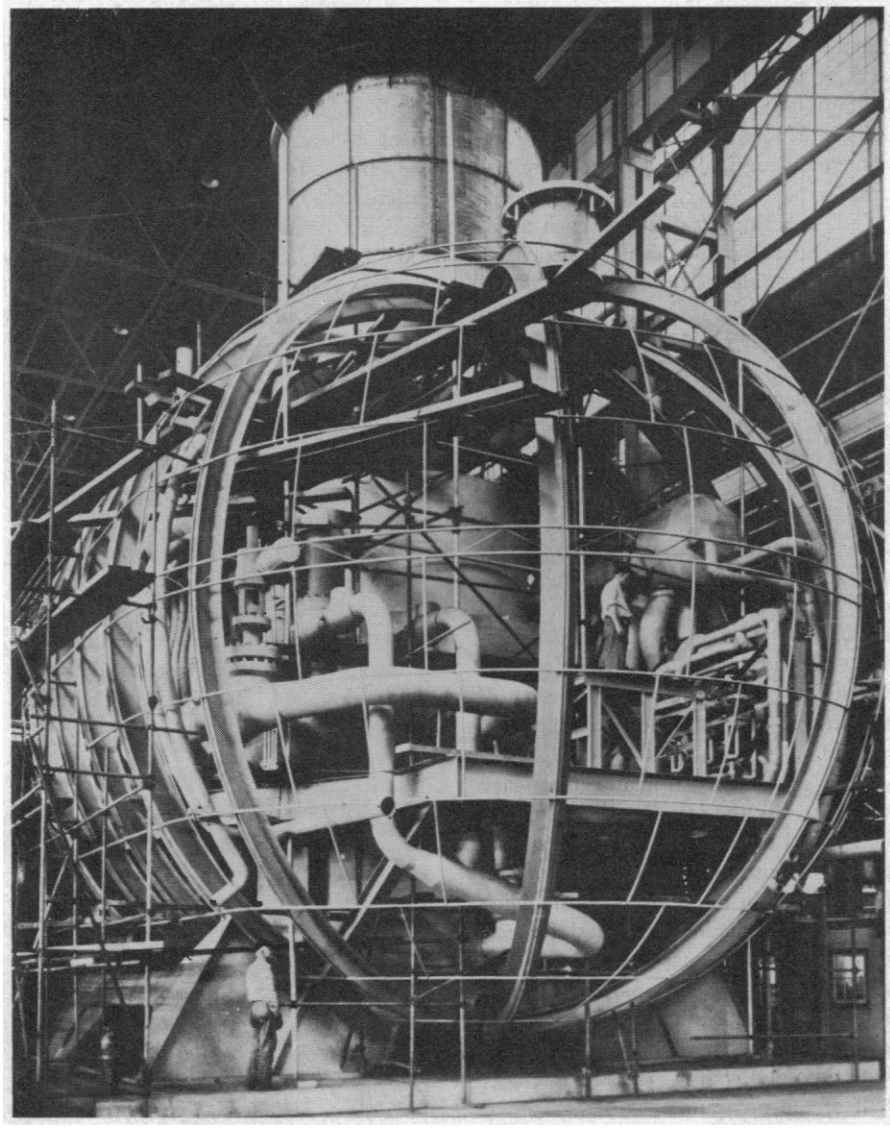
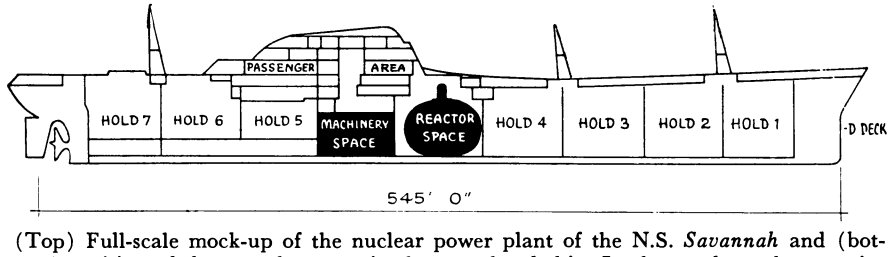
Nuclear Ship "Savannah" Launched

In ceremonies at Camden, N.J., the N.S. *Savannah,* the world's first nuclear-powered passenger and cargo ship, was launched in the Delaware River. Mrs. Eisenhower christened the ship. Work on the vessel, which is about 70 percent complete, will continue; the concrete shielding has still to be poured and the nuclear propulsion system installed.

The building of the *Savannah* was undertaken, in line with administration and congressional policy, to develop the U.S. merchant marine and to demonstrate to the world the United States' intention to employ the power of the atom for peaceful, productive purposes.

The design and construction of the ship are the joint responsibility of the Maritime Administration of the U.S. Department of Commerce and of the U.S. Atomic Energy Commission. The combined effort is being made through a joint group known as the Nuclear Projects Office in the Maritime Administration, and as the Maritime Reactors Branch in the Atomic Energy Commission. The vessel was designed by George G. Sharp, Inc. The Babcock and Wilcox Company was awarded the principal contract for developing and manufacturing the propulsion machinery.





(Top) Full-scale mock-up of the nuclear power plant of the N.S. *Savannah* and (bottom) position of the actual reactor in the completed ship. In the mock-up the containment vessel of the reactor is outlined in skeletal form to permit a clear view of the interior. The reactor is approximately 70 feet long and 55 feet high.

The building of a nuclear-powered merchant vessel was first proposed by President Eisenhower in a speech in New York on 25 April 1955. Construction was authorized by Public Law 848, on 30 July 1956. States Marine Corporation of Delaware will operate the ship as general agent for the Maritime Administration.

The contract with the Babcock and Wilcox Company was signed 4 April 1957; the contract for construction of the vessel was signed with the New York Shipbuilding Corporation, Camden, N.J., on 15 November 1957; the keel was laid on National Maritime Day, 22 May 1958.

Construction of the vessel will be completed by early 1960. It is expected that the *Savannah* will undergo extensive testing next spring and that she will be ready for unrestricted operation by next summer.

From the first it has been acknowledged that the *Savannah* will not be able to compete economically with passenger and cargo ships powered by traditional means, and she is not intended to be a prototype. Rather, the objective in building this "first generation" nuclear-powered merchant vessel was to develop practical construction and operating techniques which could be evaluated and used in designing "second and third generation" nuclear-powered ships which would provide real economic competition.

The *Savannah* will be a test ship. Many special features, such as extensive means of controlling operational components from a distance and means of achieving greater maneuverability than is essential to a merchant vessel, have been incorporated for evaluation. It is expected that, during operation of the *Savannah,* changes will be made in components, and even in entire plant systems, when it seems probable that significant improvements can be made.

The *Savannah,* according to its designers, has five important missions: (i) to demonstrate to the world the employment of nuclear power in an instrument of peace; (ii) to utilize the power of the

atom for trade and commerce; (iii) to demonstrate that nuclear-powered ships are dependable and safe; (iv) to stimulate study of such problems as international liability and legal security against accidents and to win acceptance of nuclear ships in the world's ports; and (v) to give the Maritime Administration and the Atomic Energy Commission opportunity to assess the potential contributions of atomic power to American commerce.

Seven NATO Allies To Get Atomic Data from U.S.

On 11 August the last of seven atomic cooperation pacts between the United States and certain of her NATO allies will go into effect. The agreement, through which Greece will receive from the United States training, equipment, and information which will enable her to use and to defend herself against nuclear weapons, is similar to other pacts the U.S. signed last May with Canada, Turkey, West Germany, and the Netherlands. Related agreements with a somewhat different purpose were made at the same time with Britain and France. These atomic cooperation agreements, which were among the last official actions of the late John Foster Dulles, automatically became effective during the last half of July. They had been signed 60 days earlier in Bonn, Ankara, and The Hague and in the capitals of other NATO countries, but the U.S. Congress, before approving them, made provision for a 2-month interim period to permit further deliberation on the part of its members. During the 60-day period the pacts could have been repudiated by the passage of a concurrent, or combined, House and Senate resolution. No such action was taken, and there was almost no debate on the pacts. Senator Hubert Humphrey (D-Minn.) raised questions about the agreements on the Senate floor, and five Representatives spoke against them in the House. There was, however, no organized opposition, and on the effective dates six of the pacts become operative. Four days from now the last one—the Greek-U.S. agreement, will be established.

Under the pacts, the U.S. will provide the signatory countries, other than Britain and France, with the means to train personnel in the use of atomic weapons and in defense measures; with information which will enable these countries to develop defense plans and systems for delivering atomic weapons; and with nonnuclear components of atomic weapons systems, the "gear" that is used to attach a nuclear warhead to a missile or a plane. Under the agreement the U.S. will not furnish information on the design of the weapons themselves, or on the electronic devices that are incorporated in them.

The agreement with Britain differs significantly. In accepting the pact proposals Congress specified that information on design be given only to nations which had made "substantial progress" toward the manufacture of atomic weapons. Britain alone qualifies under this stipulation, and she will receive information on design, materials, and other matters relevant to bomb construction. France will receive information on constructing power plants for atomic submarines together with about half a ton of enriched uranium to fuel the prototype of such a plant.

Spurred by Sputniks

The NATO pacts which have just become effective had their origin in the conferences that followed the launching of the first Soviet satellite, on 4 October 1957. At those conferences it was decided that "an enlarged Atlantic effort in scientific research and development" was necessary to meet the challenge of the sputniks. At a later meeting of the North Atlantic Council, in December 1957, it was further decided that atomic weapons should be stockpiled in certain NATO countries and that systems for delivering them should be developed in those countries.

At the time this decision was made, the laws of this country, specifically the Atomic Energy Act of 1954, prevented the United States from cooperating to the extent the NATO leaders felt necessary. This law was amended, and, with the fulfillment of the pact with Greece, the sharing of American atomic defense information with NATO allies has now become a reality.

Williams Named for AEC Post

John Harry Williams, a physicist at the University of Minnesota, has been named by President Eisenhower to succeed Willard F. Libby as a member of the Atomic Energy Commission. Williams, who has been director of the commission's programs of basic research, will be the scientist on the five-man commission. It has become customary in the last 12 years to have at least one scientist among the five commissioners. The nomination, which was announced 16 July, must be confirmed by the Senate. Quick, favorable action is expected because the nomination was informally approved by the members of the Joint Atomic Energy Committee of the Congress before the announcement was made.

Most of William's teaching and research career has been at the University of Minnesota, where he has been a professor of physics since 1946. During World War II he participated in the development of the atomic bomb at the Los Alamos Laboratory in New Mexico.

Williams was born in Asbestos Mines, Quebec, Canada, on 7 July 1908. He was graduated from high school in Kelowna, British Columbia, and received his B.A. degree from the University of British Columbia in 1928. As a teaching fellow at the University of California he received his master's degree in 1930, and as a Whiting fellow, received his Ph.D. in physics in 1931. From 1931 to 1933 he was a National Research fellow in physics at the University of Chicago. He joined the University of Minnesota as a physics instructor in 1933, became assistant professor in 1934, associate professor in 1937, and professor on his return from Los Alamos. In 1942 he became a naturalized citizen of the United States.

Radioisotope Training Program

The Atomic Energy Commission has announced a new program which will give students of small undergraduate colleges opportunity for specialized training in the techniques of using radioisotopes. The program will utilize a 35-foot, bus-type mobile training laboratory, which can be moved to the college campus for presentation of a two-week, concentrated course on the basic techniques of handling radioisotopes. The mobile laboratory will be similar to one presented last year to the International Atomic Energy Agency by the United States.

The program is expected to begin in the fall of 1959, and initially the course will be available to colleges in the South and Southeast. The project is designed to serve in particular the smaller colleges whose nuclear facilities are limited.

Scientists and technicians from the Oak Ridge Institute of Nuclear Studies, which will administer the program for