



## *Joseph Henry, 1972*

WHEO-701 (a.k.a. CGC *Never Built*)

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Joseph Henry (1797-1878) was a famous scientist, the first director of the Smithsonian Institution, and a member of the Lighthouse Board. He joined that august body in 1852. He became the chairman in 1871 and held that position, the only civilian to do so, until 1878. He was also known for laying the groundwork for the formation of the U.S. Weather Bureau.

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### **Specifications** (as of 1969):

Builder: N/A

Commissioned: N/A

Decommissioned: N/A

Length: 374'

Beam: 48' 6"

Draft: 17'

Displacement: 3,400

Propulsion: Fully automatic steam turbine; 10,000 SHP; single propeller

Performance:

    Max: 16 knots

    Economic: 12 knots; 13,000 mile cruising range (1969)

Fuel Capacity: 156,535 gallons

Deck Gear: 20-ton articulated crane aft; 5-ton crane forward

Facilities: Extensive laboratories for chemical, biological, microbiological, meteorological, and research. A Research Control Center and Data Evaluation

Room. Extensive handling equipment for general oceanography, bottom coring, trawling, and towing.

Aviation: A helicopter landing deck with a rigid hangar. JP-5 storage capacity of 13,360 gallons.

Complement: 117 officers & men; 14-16 scientists

Armament: None

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### **History:**

The Coast Guard began planning for a new marine science research vessel in 1966 to replace the *Evergreen* and in response to a 1965 memo that circulated through Coast Guard Headquarters regarding the service's "ill-defined" oceanographic program. By the time that each Coast Guard office had decided what should be on or in the cutter the cost estimates had reached 15 million dollars. Funding was procured in FY 1969 legislation and a projected completion date was set for sometime in 1972. The Design Agent was M. Rosenblatt & Son, Inc. A publicity brochure published by the Coast Guard noted that the WHEO (Coast Guard Oceanographic Research Ship) was designed to support Coast Guard and "other national oceanographic programs" and would be:

. . .the first multi-discipline American research ship especially designed and outfitted for near-polar, high-sea-stated operations. While she will be capable of in-depth research in each of the oceanographic disciplines, capability for biological, geological, physical, chemical, and geophysical studies were particularly emphasized in the data system. . .[the cutter would be] the most flexible and sophisticated oceanographic research vessel in modern times. Emphasis has been placed on highly automated and reliable systems to provide a very high degree of operational effectiveness. In particular, the ship has fully automated steam propulsion, radio and ocean data systems.

She was projected to serve 30-percent of each year on International Ice Patrol missions, 10-percent on water-mass studies, and 5-percent each on physical oceanographic studies, marine geological studies, marine geophysical studies, marine biology studies, and marine chemistry studies. Her crew quarters were all forward with the scientific spaces and quarters for scientists aft so that there would be "minimum interference" between the two. Her propulsion plant was scheduled to be a single-cylinder turbine of 10,000 shaft-horsepower driving a fixed propeller through a double reduction gear. This machinery plant was designed "for fully unattended operation." She was also designed with a bow thruster. The above specifications reflect the compromises agreed to between the various offices involved in the ship's design. These specifications were listed

in the "Notice of Ship Construction Requirement" issued by the Coast Guard in early 1969.

With the advent of NOAA, however, whose mission competed directly with the Coast Guard oceanography program and other Coast Guard budget priorities of the time, including an increase in the law enforcement missions of the service, the funding for the new cutter was cut and the plans shelved in 1969. [Click here](#) for a memo from the Chief of the Office of Naval Engineering to the Chief of the Office of Engineering that details the somewhat sordid history of the ill-fated WHEO (**Note:** this is a "pdf" file).

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Caption: "FUTURE COAST GUARD RESEARCH SHIP: Previewed in this artist's concept of the new 374-ft. U.S. Coast Guard high endurance cutter WHE-701 is the most advanced oceanographic vessel of modern times, completion expected in 1972. It is designed to support the Coast Guard and other national oceanographic programs. . . Among other special features the cutter will be equipped with a unique machinery plant including tunnel type bow thruster and bridge control of main propulsion and steering machinery that will be automated to provide safe operation unattended by engineering watchstanders. It will carry advanced computerized communications and ocean data systems. Its hull reinforced for ice work, the cutter will be the first American research ship specially designed for operating from the fringes of the polar ice packs to the tropics. . ."

Photo of the rendering is dated 6 September 1968.

U.S. Coast Guard Photo # API-09-06-68 (01) GEN.

Photographer not listed.

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## Sources:

Pete Capelotti. "Oceanography in the Coast Guard." *Coast Guard Magazine* (August 1996), insert.

Subject Files, Oceanography History File; WHEO-701 sub-folder. USCG Historian's Office, USCG HQ, Washington, D.C.

