

NATIONAL REGISTER ELIGIBILITY ASSESSMENT VESSEL: SS *Resolute*



Left: Sistership SS *Gopher State* (ex-*Export Leader*) in 1986; Right: SS *Resolute* at the James River Reserve Fleet. Maritime Administration photos.



Vessel History

The SS *Resolute* is a moderately-sized, fully cellular, steam-propelled containership. It was built for Farrell Lines, Inc. of New York, by the Bath Iron Works (BIW) shipyard in Bath, Maine. *Resolute* was delivered February 22, 1980 and sailed on its maiden voyage February 26, 1980. It was the eighth and last in a series of virtually identical ships, the first of which, the *Sea Witch*, was completed by BIW for American Export-Isbrandtsen Lines in 1968. Beginning with the *Sea Witch*, the class was constructed in three groups; two of three ships each between 1968 and 1973, and two final ships that were completed in 1980.

The eight ships were collectively known as the *Sea Witch* class and were built for the same operating company. However, in the 12 years between the completion of the *Sea Witch* and the *Resolute*, several corporate changes occurred. In 1960, the Isbrandtsen Steamship Company, headed by Jakob Isbrandtsen, acquired American Export Lines. The merged company, known as American Export-Isbrandtsen Lines, constructed the first three ships, and placed the orders for the second three. The first three ships, *Sea Witch*, *Lightning*, and *Stag Hound* followed Isbrandtsen's practice of naming company ships after famous American clipper ships of the 19th Century. In the early 1970s Jakob Isbrandtsen experienced financial and legal difficulties, which forced him to relinquish his interest in the company. The merger was dissolved in 1973 and the company reverted to the name American Export Lines. The second three ships were delivered to American Export Lines, and carried the historic nomenclature of that company (*Export* prefix). In July of 1977, American Export Lines declared bankruptcy. Its ships and other assets were acquired by Farrell Lines, Inc., briefly making Farrell the second largest U.S. Flag shipping company. American Export's plans to complete two additional *Sea Witch* class ships were assumed by Farrell, and the ships were delivered to that company.

The head of Farrell Lines, James A. Farrell Jr., maintained Isbrandtsen's legacy by naming these last two ships after clipper ships, instead of the more typical nomenclature of either Farrell Lines or American Export Lines. Farrell used the book, *American Clipper Ships* by Howe and Matthews and chose the names *Argonaut* and *Resolute*. The choice of the name *Argonaut* had a

Farrell family connection. Farrell's father, James A. Farrell Sr., had operated the *Tusitala*, the last U.S.-flagged cargo carrying square-rigged vessel for the company called the Argonaut Line. Farrell's reason for choosing the name *Resolute* is not known.

Resolute entered the North Atlantic service for which it and its sisterships were designed (see next section). On its maiden voyage *Resolute* loaded containers in Norfolk, Virginia; Baltimore, Maryland; and New York, finally proceeding across the Atlantic to ports in Great Britain and Northern Europe. Farrell Lines maintained a weekly service with four container ships serving the three U. S. Ports and Felixstowe, Great Britain; Bremerhaven, Germany; Amsterdam, The Netherlands; and Le Havre, France. After the acquisition of American Export and with the completion of the *Argonaut* and *Resolute*, the company had a fleet of 44 vessels operating on a variety of trade routes worldwide. Unfortunately by 1980 it was already becoming clear that Farrell had over-extended itself financially with the purchase of American Export. Before the end of 1981, services to Europe and South and West Africa ended and the fleet was reduced to just 11 ships.



The Bridge of the SS *Resolute* in 2008 at the James River Reserve Fleet. Maritime Administration photos.

The North Atlantic service and the ships employed there were acquired by United States Lines. That company had been bought in 1977 by Malcolm McLean, credited as the father of containerization. McLean was in the process of building a fleet of (then) giant 4,380 TEU (20-foot equivalent unit) vessels for a one-way around the world service, and was buying up services on shorter trade routes as “feeders.” In addition to acquiring part of Farrell Lines, he bought Moore-McCormack Lines and Delta Line outright in 1983 and 1984. Under the United States Lines house flag *Resolute* was renamed *American Resolute*.

By 1986 United States Lines was also severely overextended, which finally forced it into bankruptcy and the *American Resolute* became the property of the Maritime Administration. It was returned to the management of Farrell Lines under bareboat charter¹ and in 1990 given back the name *Resolute*. Farrell was now down to only four ships operating between U. S. East Coast ports and the Mediterranean and the Persian Gulf. The ships were still operating in the service to Europe, primarily the Mediterranean, when in 2000 the Maritime Administration approved the sale of Farrell Lines to a U.S. subsidiary of the British corporation P & O Nedlloyd. *Resolute*

¹ A bareboat charter is when a company charters a vessel from its owner without a crew, fuel, or other supplies. The company is responsible for all expenses required to operate the ship, thus receives it “bare.”

was taken out of service, returned to the Maritime Administration, and placed in the James River Reserve Fleet at Fort Eustis, Virginia on June 26, 2000. It was maintained there in a militarily-useful retention status for several years; however, with the abundance of cellular containerships in commercial trade available for military sealift, the need for a reserve containership diminished quickly. *Resolute* was considered for conversion into a training ship between 2003 and 2005, but that effort was superseded. *Resolute* was removed from retention status in 2008.



Clockwise from left: SS Resolute moored at the James River Reserve Fleet in 2008; the ship's superstructure; the ship's bridge; the ship's smokestack. Maritime Administration photos.

Description/Characteristics of Vessel Type

Type: Cellular Container ship

Builder's Hull Number: 401

Official Number: 612715

Previous name: *American Resolute*

Builder: Bath Iron Works, Bath, Maine

Year: 1980

Sister Ships: *Sea Witch; Lightning; Stag Hound; Export Freedom; Export Leader; Export Patriot; Argonaut*

Location: James River Reserve Fleet, Fort Eustis, VA.

Length: 610'

Beam: 78'

Depth: 54.5'

Draft, full load: 31.5'

Deadweight: 16205

Gross Tonnage (GRT): 17042

Net Tonnage (NRT): 6388

Gross Tonnage (GT ITC International tonnage certificate):

Cargo Cubic Capacity:

Speed: 22.5 knots

Main Engine: Double reduction steam turbines

Shaft Horsepower: 17,500

The *Sea Witch* class was originally planned and designed during a period of rapid transition in the shipping industry. The containerization revolution was quickly making the traditional break-bulk general cargo ship obsolete. The *Sea Witch* was designed as a transitional vessel, equipped to carry conventional break-bulk cargo and to more efficiently stow containers. The contracts for *Sea Witch*, *Lightning*, and *Stag Hound* were placed to the original design; however, before construction could begin, AEIL determined to complete the vessels as fully cellular container ships. This would seem to be a major change, but in fact the original design anticipated that such a change might be made in the future. The hull form, machinery and arrangements were not altered by the change. Instead, the cargo gear was eliminated and the hull was lengthened within the parallel midbody. These design modifications were accomplished by BIW and the naval architectural firms J.J. Henry of Philadelphia, and John McMullen of New York.

As built the *Sea Witch* was designed to stow containers in stacks and rows inside the cargo holds and on top of the hatches. Cell guides inside the cargo holds maintained the alignment of the containers without the need for lashing gear; hence the term "cellular" containership. The ships had a distinctive appearance. The superstructure was divided with the forward unit containing the wheelhouse and deck officers' quarters just 50 feet aft of the stem. The unit containing the upper machinery spaces and the remaining crew quarters was located well aft. There were five cargo holds; four between the deckhouses and a smaller hold (No. 5) abaft the aft deckhouse. One reason for placing the wheelhouse so far forward was its function as a "breakwater" providing further protection for the containers on deck in heavy seas. Cargo holds 1 through 4 were each 90' long, permitting two stacks of 40' containers (or four stacks of 20' containers) in each hold. Each stack was generally seven containers across and six high, with some reduction at the extreme forward and after ends of the ship due to the shape of the hull. On top of the hatches, containers were stowed in stacks that were nine across and two high, with the stacks

secured by lashing gear.

The ships were completely devoid of cargo handling gear but included features which would make possible the later installation of gantry cranes if needed. The original service they were designed for was between the U.S. East coast and the European ports of Felixstowe, Antwerp, and Le Havre where container handling cranes were available. There were also provisions for carrying self-sustained refrigerated containers on deck. The *Resolute* had living quarters for 12 officers and 29 non-licensed crewmembers.

Containership cargo capacity was originally measured in “twenty-foot equivalent units” or TEUs, based on the size of the first standardized cargo containers (20' x 8' x 8'). By this measure, the *Sea Witch* class, at about 2,000 TEU, was reasonably large when designed in 1965. However, by the time the *Resolute* was completed in 1980, the average size of containerships internationally had grown by 50% or more. Contemporary vessels are much larger, with average TEU capacity of between 6,000 and 8,000. However, the basic design of cellular containerships has not changed significantly over time.

Three of *Resolute*'s sister ships, the *Export Leader*, renamed *Gopher State*, the *Lightning*, renamed *Flickertail State*, and the *Stag Hound*, renamed *Cornhusker State* were acquired by the Maritime Administration in the mid-1980's for service in the Ready Reserve Force. The vessels were modified by the addition of a pair of single-pedestal, twin 60-ton marine cranes offset to the starboard side of the ship (see photo of *Gopher State* at header), and an industrial diesel generating plant in the number 5 cargo hold. The addition of these cranes allows the ships to offload containers from non-self-sustaining containerships (or cargo from other vessel types), either alongside a pier or to lighters (barges) while at anchorage. The modified vessels are classified as auxiliary crane ships (T-ACS), and are principally intended to support the transport of defense cargos in support of military operations. Auxiliary crane ships maintain much of the original container-carrying capacity, and can also transport supplies and equipment to support emergencies around the world.

Statement of Significance

The *Resolute* is a typical early generation cellular containership. The evolution of containership design progressed quickly after the first introduction of containers in the late 1940s. The first containerships were tankers and break-bulk vessels designed to stow containers on the main deck, and were often fitted with gantry-type container handling cranes because port facilities did not have shoreside cranes to offload cargo. Although this arrangement was somewhat more efficient than conventional break-bulk designs, it did not maximize the potential offered by containers.

The next evolutionary step included the major modification of existing ships to carry containers above and below decks. Ship operators did not invest in new construction vessels because the concept was not yet fully supported. The cellular stowage concept required a major change in ship structural design, because the intermediate (tween) decks in the cargo holds were eliminated to allow more rapid and efficient vertical cargo handling and stacking of containers. Those decks contributed to the structural strength of conventional vessels. To replace the lost strength, a “box

girder” arrangement in the upper, outboard sections of the hull was developed. Containers inside the hold were stowed inboard of the box girder. Above decks, containers could be stowed out to the ship side (above the box girder), usually resulting in one or two additional rows of containers above deck, compared to below. Many relatively new breakbulk vessels were converted to carry containers by adding cellular container holds through a process known as “jumboizing.”² In radical cases, the entire conventional ship hull was removed and replaced by cellular cargo holds, with only machinery and superstructure retained. Many such conversions were completed domestically in the 1960s using wartime T2 tankers and C4 troopships.

The first purpose-built cellular container ships appeared in the late 1950s / early 1960s. In the United States, several classes of purpose-designed cellular container ships were developed and constructed beginning in the late 1960s. By then, the fully cellular container ship had matured, and was being constructed in large numbers worldwide. The *Sea Witch* class was contemporary to vessels developed for Farrell Lines, American President Lines, Matson Lines, and United States Lines. All continued the U.S. preference for steam propulsion vice diesel, as was typical internationally. The *Sea Witch* class and Matson’s *Mau* class employed the split-superstructure arrangement, while the other designs had tall superstructures situated above the machinery space, similar to break-bulk vessels.

Container shipping was evolving along with the ships. By the 1970s, ports were making the infrastructure improvements necessary to support container operations, and ships gradually lost their container handling cranes; thus differentiating vessels as either “self-sustaining” or “non self-sustaining.” In the 1980s, the trade began developing into a “hub and spoke” method, similar to air transport. Smaller vessels began to appear on “feeder” routes, with larger vessels employed in dedicated liner service between the hub ports. As the hub and spoke system matured, the liner vessels began to rapidly grow in size. By the late 1980s, the first “post panamax” (i.e., too large to transit the Panama Canal) vessels appeared, with container capacities in the 5,000 TEU range. Today’s super vessels are being constructed with capacities of as much as 10,000 TEU. These modern container ships, although much larger and with much more powerful machinery, are still arranged on the basic cellular concept pioneered in the 1960s. In this respect, the *Resolute*, although now classifiable as a “feeder” vessel in terms of size, remains quite typical and contemporary.

Historical Integrity

The overall condition of the SS *Resolute* is good; it has experienced only normal wear. At just 29-years-old the vessel is not of sufficient antiquity or interest to warrant preservation.

Register Eligibility Statement

The SS *Resolute* is not 50-years-old and does not possess the extraordinary historical significance in any category necessary to be eligible for listing on the National Register of Historic Places. It is a fairly typical container ship, similar in size, construction, machinery, propulsion, cargo

² See MARAD’s historic assessment report for the Shirley Lykes, dated 2004, for a description of this process.

capacity and other features to many of the domestic vessels constructed in the United States beginning in the late 1960s.

Date: 09 January 2009

Determination: NOT ELIGIBLE

Sources

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