

NATIONAL REGISTER ELIGIBILITY ASSESSMENT
VESSEL: T.S. *Patriot State*, ex-*Santa Mercedes*



T.S. *Patriot State* underway circa 1990s. Maritime Administration photo.

Vessel History

The cargo/passenger vessel *Patriot State*, originally named the *Santa Mercedes*, was built by Bethlehem Steel at its Sparrows Point Shipyard in Baltimore, Maryland. The ship was delivered to its owner, Grace Lines, Inc. on April 7, 1964. It was the last of four cargo/passenger vessels of the *Santa Magdalena* class completed between 1963 and 1967 for Grace Lines in a modernization of its aging fleet.

Grace Lines, Inc. began as a small company established in Peru in 1854 by the Irish brothers, William Russell Grace and Michael Grace. Their business, based in the port town of Callao, centered on the export of guano from the Chincha Islands¹ to the United States. In 1860, William left Peru for New York and in 1865 he established the firm W.R. Grace and Company. He purchased a line of sailing ships and began running service

¹ Guano consists of the excrements of sea-fowl collected during long periods on certain islands, such as the Chincha Islands, located off the southwest coast of Peru. Guano was exported to the U.S. and Europe and used for fertilizer.

between New York and Peru under the British flag. In the 1890s, Grace purchased a line of steamships and initiated routine service from New York to South America also under the British flag through its New York and Pacific Steamship Company. By 1913, Grace Lines was running service from the U.S. Pacific coast to South America's west coast. The company purchased the steamship *Santa Cruz* and began transporting lumber and passengers under the Atlantic and Pacific Steamship Company. This was the first vessel in its fleet to fly the U.S. flag and their trademark green funnel, white band, and black top. Both companies merged in 1916 to become the Grace Line Steamship Company, specializing in service to South America's west coast and later expanding to the Caribbean as a U.S.-flagged steamship company.

Grace Lines continued regular service from the U.S. to the west coast of South America throughout the 1950s. During that time, "combo" ships (cargo/passenger ships) were popular and Grace Lines acquired nine; six through the government and three ordered by the company. Grace outfitted the first six to carry bulk cargo from the United States to South America, returning with bananas in its refrigerated cargo holds. The other three ships serviced the Caribbean, but did not carry bananas.

In 1960 Grace Lines planned to replace its aging passenger/cargo vessels with four new vessels they called "M" ships. In addition to *Santa Mercedes*, the "M" ships included *Santa Magdalena*, *Santa Mariana*, and *Santa Maria*. The new ships had speeds capable of 20 knots, room for 125 first-class passengers, space allocated for container carriage, and holds that could carry a variety of break-bulk cargo.

The *Santa Mercedes* began service in 1964. Its voyage began in New York City continuing south to Port-au-Prince, Haiti; Santa Marta and Cartagena, Columbia; Cristobal, Balboa, and Buenaventura, Panama; Guayaquil, Ecuador; and Callao, Peru. A normal cruising schedule took 26 days and workers loaded and offloaded refrigerated freight at the ports of call. The December 1965 schedule included stops in Baltimore, Maryland; Jacksonville, Florida; Port-au-Prince; Santa Marta; Cartagena; Cristobal; Balboa; Buenaventura; Guayaquil; Salaverry, Callao, and Matarani, Peru; and Arica, Antofagasta, Chañaral, San Antonio, and Valparaiso, Chile. In October 1968 the schedule ran from New York; Bermuda; Charleston South Carolina; Santa Domingo, Dominica Republic; Kingston, Jamaica; Cartagena; the Panama Canal Zone; Buenaventura; Guayaquil; and Callao.

Prior to launching the "M" ships, J. Peter Grace (grandson of William Russell Grace) became increasingly concerned about the unstable political climate in Latin America and what this could mean for business there. Fidel Castro's successful overthrow of the Cuban government in 1959 confirmed his skepticism and he viewed the area as a business risk. Grace was also confronted by competing shipping companies in Latin America after the company tried to expand the line's services. Further, by 1969 the currency in Latin America had depreciated, finally causing Grace Lines to sell its

shipping service to Prudential Lines in December of 1969. Prudential continued service to the west coast of South America under the name Prudential-Grace Lines. In 1971, Grace sold its remaining vessels to Lykes Brothers.

Prudential-Grace Lines continued service to the west coast of South America until the company was forced to sell its assets in 1977. The July 1971 sailing schedule listed the ships departing New York and making port calls at Port-au-Prince, Santa Domingo, Kingston, Cartagena, the Panama Canal Zone, Buenaventura, Guayaquil, and Callao. In 1973, Prudential-Grace began operating from the west coast, originating in Vancouver, Canada, and making stops in Seattle, Washington; San Francisco and Los Angeles, California; Balboa; Cristobal; Cartagena; La Guaira and Puerto Cabello, Venezuela; Curaçao; Rio de Janeiro, Santos, and Paranagua, Brazil; Buenos Aires, Argentina; the Straits of Magellan, Valparaiso, Callao, and Guayaquil. In 1977, Prudential sold its Grace Line holdings to Delta Line.

Shortly after Delta Line acquired the vessels from Prudential the company replaced the *Santa* class. Delta Line had suffered economic losses from the operation of their LASH² vessels so it purchased Prudential Line and combined their South America services. In 1978, the company failed to turn a profit so they turned to Andrew Gibson, a former administrator of the Maritime Administration. One of his priorities included converting the old freight fleet to container ships, later resulting in the sale of the *Santa* class to the Maritime Administration.

Santa Mercedes becomes Patriot State

In 1984 after Delta Line sold *Santa Mercedes* to the Maritime Administration, the ship entered the James River Reserve Fleet (JRRF) off Fort Eustis in Virginia. The Massachusetts Maritime Academy, a nautical training school founded in 1891, obtained the *Santa Mercedes* from the Maritime Administration for use as a training ship and renamed it *Patriot State*. The conversion of the *Patriot State* took two phases to complete before it was ready to sail as a training vessel. The activation phase occurred first at the Triple A Shipyard in San Francisco, California. With this work completed, tugs towed the ship to Bender Shipyard in Mobile, Alabama for alterations. The shipyard removed the inside and outside cargo handling gear and installed a berthing area in hold number three. In 1986, cadets modified hold number four to include a machine shop, maintenance-training labs, classrooms, spare parts storage area, and a gym. *Patriot State* began its new career as a training vessel in the winter of 1986.

In 1993, *Patriot State* was modified further. The school upgraded the berthing arrangement in hold number three D-deck by installing heads, showers, lockers, and bunks. The academy finished the upgrades in 1997 and more modifications continued into the C-deck and B-deck areas. The upgrade allowed the vessel to carry 698

² LASH stands for Lighter Aboard Ship and uses a system of barges carried on board a lighter ship.

passengers (50 crewmembers and 648 cadets and faculty). Additionally, the school installed desuperheaters in the boilers to produce more steam thereby accelerating the ship's speed without exceeding the boilers' temperature limits.

The training cruises, normally run in winter, provided practical experience for the cadets. On average, the *Patriot State* was underway for 60 days providing educational training, but there were also ports of call along the way. The cadets led a Spartan life aboard the vessel and it was crowded, with the entire school and faculty sailing on the cruises. The favorite spot on the ship was the "steel beach" where cadets would sunbathe forward of the amidships house. Other cadets enjoyed the gym, hold number four – D-deck, where weightlifting was popular.

The *Patriot State* returned to the Maritime Administration in 1999 after 13 years of service as a school training ship. The Massachusetts Maritime Academy determined that the upkeep required more funds than what was available. The Maritime Administration took control of the vessel and berthed it in its JRRF. Its design layout attracted the attention of military officials who saw it as a good training platform for their special counterterrorist units. Members of these special units would simulate a scenario where the ship was overrun by terrorists and military personnel would attack the ship through close-quarters combat. Berthed in the JRRF, *Patriot State* remained a training auxiliary for the military. Evidence of the training exercises is still noticeable by the large number of shell casings and torn targets scattered throughout the ship.

Description/Characteristics of Vessel Type

Type: C4-S1-49a --Cargo/passenger vessel

Official Number: 293943

Builder: Bethlehem Steel, Sparrows Point, Maryland

Year: 1964

Sister Ships: *Santa Magdalena*, *Santa Maria*, and *Santa Mariana*

Location: James River Reserve Fleet

Length: 546'-7 5/8"

Beam: 79'

Draft: 29'

Depth to BulkheadDeck (molded) 48'-1"

Displacement: 19,799 (long tons)

Deadweight: 9,200 (long tons)

Gross Tonnage (GRT): 13805

Net Tonnage (NRT): 7,221

Gross Tonnage: 12,400

Cargo Cubic Capacity:

Speed: 20.5 knots

Main Engine: 18,000 Shaft Horsepower, Cross Compound Steam Turbine
High Pressure Turbine, Eight Pressure Stages, 6400 rpm

Low Pressure Turbine, Seven Pressure Stages, 2 Astern Stages, 3200 rpm

Boilers: Two Babcock&Wilcox D-Type Boilers



The *Patriot State* as it now looks at the James River Reserve Fleet at Fort Eustis in Virginia. Maritime Administration photos.

The container revolution was taking shape in the early 1960s and Grace Line chose to allocate container space on board its ships. Grace Lines specified to the naval architectural firm of George Sharp that it required a design that would decrease its cargo handling time and expenditures. Before Grace Lines ordered its four new “M” ships, Sharp’s firm did an in depth analysis of Grace’s trade routes to produce a more efficient class of vessels. Grace’s economists contributed to the study and in the end the firm produced a design that was modern, unique, and practical for its commercial services. The design of the *Santa Magdalena* class, which centered on a high cubic capacity of freight, consisted of five holds that were four decks deep – three holds forward amidships and two holds aft. Holds two and five had space to carry containers, as well as on the deck, and holds three and four carried containers in a single cell group. Holds three and four could also carry vehicles. The standard container size was 20 feet, but the ship could also carry 40-foot containers on the deck. Total carriage capacity for 20-foot containers was 175 and if mixed the ship could carry 147 containers (20-foot containers beneath the deck and 40-foot containers on top). For southbound voyages from New York, the cargo consisted of a variety of manufactured goods: machinery, rails, steel pipe, and vehicles. Provisions were made for bagged or packed cargo to be carried in containers or pallets. Northbound voyages from South America carried up to 90,000 stems of bananas in refrigerated holds; containers carried approximately 200,000 cu. ft. of cargo, 1,500 tons of liquid cargo, and vehicles.

To reduce the time spent loading and offloading cargo, architects incorporated conveyors and elevators into the design. This allowed for bananas or palletized freight to be carried in holds one, three, and four. To expedite the loading, workers loaded them by hand or with vertical conveyors attached to the side ports. Once on board, horizontal conveyors moved the freight across and elevators lowered it through the decks where they were stowed by hand. Discharging was the same and the deck personnel took the cargo to the B Deck via an elevator and offloaded them by a conveyor connected to the side port.

To load and offload containers, two gantry cranes were placed forward of the deckhouse and two were placed aft. Engineers rated the “C” type gantry cranes at 20-tons and they traveled along rails located on the port and starboard sides of the ship. The cranes were counterbalanced and deck personnel could marry two cranes together to lift and lower 40-foot containers or heavy vehicles. Once docked in port, the cranes lifted the freight and shifted it sideways, which cleared the side of the ship and allowed the operator to lower it on the dock. The entire procedure was accomplished without the aid of dock personnel or equipment.

To achieve the design speed of 20 knots, architects determined that the ship would need a power plant rated at 19,800-shaft horsepower (shp) to turn a single screw. There was a single machinery room (amidships). Two Babcock and Wilcox D-type boilers generated superheated steam at 905 degrees Fahrenheit producing 600 psi. Steam pipes fed into a General Electric cross-compound turbine that turned a shaft at 119 rpm. With 1,691 tons of fuel oil, the *Santa Mercedes* had a steaming radius of 8,525 miles. The machinery room also contained auxiliary equipment for the ship to operate. Three steam turbine generators created 750kW of electricity for the ships power and one diesel generator rated at 200 kW provided emergency backup power.

The bridge deck in the amidships house contained a number of rooms related to the navigation and safety of the vessel. The wheelhouse was in the forward room and included the engine controls, a helm, and modern navigation equipment such as loran, radar, and radio communications. The helm sent electric signals to the steering room where an electric-hydraulic ram turned the rudder. The chartroom was located aft of the wheelhouse. The radio room was on the port side on the same level. The captain’s quarters were on the same level on the starboard side.

Berthing space and amenities for the crew occupied a small section of the ship in the amidships house. The officers berthed in the forward section of the second deck that contained private bathrooms. Crewmembers berthed on the main deck in rooms against the port and starboard sides of the ship and shared bathrooms between the rooms. On the third deck, the officers’ mess was in a small room on the starboard side off the galley and crewmembers ate in a small dining room on the port side off the galley.

Architects placed the ship’s galley on the second deck in the center of the amidships house. The galley contained all of the modern appliances needed to prepare meals for the crew and passengers. There was a bakery, butcher shop, and vegetable preparation room located in the galley. The crew was served cafeteria style while waiters served the passengers. During the extended cruise, food was stored in reefers on the second platform accessible by an elevator.

Designers set aside a majority of the space in the amidships house for passenger rooms. Architects allocated berthing space for 125 passengers on the “A” deck, sun deck, and

promenade deck. All of the rooms were first class and had private bathrooms. The rooms were aesthetically modern and contained all of the amenities that a person would find at home. A tiled swimming pool and a lounge leading outside were on the "A" deck. The sun deck had a dining area and a bar. In the evening passengers could watch movies on a screen painted on the wall. The promenade deck had an evening lounge where passengers could retire for cigars and drinks. An elevator allowed passengers to travel from the main deck to the promenade deck. The open rooms were spacious and moderately decorated, but had a casual feel to provide warmth.

Statement of Significance

The cargo/passenger vessel *Patriot State*, originally named *Santa Mercedes*, is the last of four cargo/passenger vessels of the *Santa Magdalena* class built between 1963 and 1967. Moreover, the class represents the first generation of ships built for container carriage, unlike the earlier modified versions. Designed by the renowned naval architectural firm of George G. Sharp, it combined cargo and passenger accommodations with state-of-the-art technology. Unlike earlier designs, the vessel came equipped with one 'kingpost' type stack located on top of the midship house, and "four Gantry cranes –two forward and two aft." The design was a departure from its predecessors in that it was faster, carried 125 passengers, and included equipment to load and off-load its cargo without the use of dock workers and equipment.

Integrity of Characteristics/Features

The overall condition of the vessel is poor. After the Maritime Administration purchased the vessel in 1984, it underwent a two-year conversion before being delivered to the Massachusetts Maritime Academy for use as a training ship. However, the bulk of the conversion was in the banana holds and the decks and basic structure were retained in those holds. No changes occurred in the container holds or in the forward general cargo/reefer hold. The superstructure and public spaces retained their previous function and in most cases their arrangement and decoration. Exterior changes were generally minor; however, the ship's inside and outside cargo handling gear was removed. Two of the gantry cranes, one fore and one aft, were removed sometime in the 1970s. The remaining two were removed during its conversion to a training ship. The vessel is largely representative of its as-built condition; however, it is in a deteriorated state and would not make a good donation candidate.

National Register Eligibility Statement

The vessel is not yet 50 years-of-age. However, the ship does possess the significant design, type, and technological characteristics necessary for listing on the National Register of Historic Places under Criteria C and Consideration G.

Date: 16 July 2009

Determination: ELIGIBLE

Source

Draft of "Historic American Engineering Record, Santa Mercedes (T.S. Patriot State)," by Brian Clayton, HAER No.VA-134, Washington, DC: National Park Service, Fall 2008.