

THE T2 TANKERS HISTORY



The T2 tanker design was based on that of several commercial tankers built by Bethlehem Steel in 1939. As the United States was gearing up to be the industrial engine for the Allied Powers in 1940, the US Maritime Commission finalized the design for its National Defense Tanker or T2.

It was envisioned as a civilian tanker that could be easily converted for use as a fleet auxiliary. For companies that agreed to build tankers to the T2 design, the Maritime Commission paid a subsidy to cover the excess cost of naval features beyond normal commercial standards.

The original T2 design was for a ship 501 feet long, with a beam of 68 feet and a displacement of 21,100 tons.

Steam turbines rated at 12,000 horsepower provided a top speed of 16 knots.

Even before the US commenced a combat phase in the war, the design for the T2 was modified, lengthening the hull to 526 feet.

The most common version, though, was the T2-SE-A1. It was 523 feet long, 68 feet wide.

Its turbo-electric propulsion system gave it a top speed of 15 knots.

After the attack on Pearl Harbor, the Maritime Commission directed that this model be built en masse on an assembly line basis.

Before the war ended, 481 such tankers were built in four different shipyards. Due to the speed of construction (the record was set by the SS Huntington Hills with 33 days from keel laying to being ready for sea trials), quality and craftsmanship were sometimes lacking.

Several of the ships fractured amidships at the keel. In 1946, the General Accounting Office (GAO) issued a report concerning possible shoddy construction.

Many of the T2 tankers, though, were converted to civilian use after the end of hostilities.

One, the SS Marine Sulphur Queen, sank with the loss of all 39 crewmembers near the Strait of Florida on February 4, 1963.

Subsequent investigation revealed that the ship had been in poor condition (unseaworthy), but there was insufficient evidence to clearly identify a single cause for the casualty.

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The T2 tanker design was first adapted from S.S. Mobilfuel and S.S. Mobilube, built for the Socony-Vacuum Company (later to become Mobile Oil). They were 501 feet six inches long overall, with a beam

of 68 feet. They were rated at 9,900 tons gross, and a deadweight tonnage of 15,850 tons. They displaced about 21,100 tons. Six of these ships were built by Bethlehem-Sparrows Point Shipyard in Maryland.

The T2-A type tanker was another variety of the T2 design. These 5 ships were built by Sun Shipbuilding and Drydock Co., Chester, PA for the Keystone Tankship Corporation and its affiliates in 1940. The Navy took them over before construction was complete in 1942 to use as Navy oilers. They were 526 feet long, 68 feet abeam, rated at 10,600 tons gross and a deadweight tonnage of 16,300. They displaced about 22,445 tons. Propulsion was provided by geared steam turbines driving a single propeller at 12,000 shaft horsepower, giving a maximum rated speed of 16 and a half knots.

The T2-SE-A1 Type

The most common variety of the T2 style tanker was the United States Maritime Commission type T2-SE-A1, a commercial design already being built by Sun Shipbuilding Company for Standard Oil Company of New Jersey. There were 481 of these built between 1942 and 1945. Propulsion was provided by a turbo-electric drive. This consisted of a steam turbine generator connected to a propulsion motor to turn the propeller, thus obviating the need for a large main reduction gear, which would have taken quite a lot of time and machinery to produce, machinery that was already busy making these gear sets for naval vessels. These ships were built by Alabama Drydock & Shipbuilding Company of Mobile, Alabama, the Kaiser Company's Swan Island Yard at Portland, Oregon, the Marinship Corporation at Sausalito, California and the Sun Shipbuilding & Drydock Company of Chester, Pennsylvania in extremely short production times. The average production time from laying of the keel to completion for sea trials was about 70 days, including 55 in the building ways and another 15 in the fitting out dock. The record was held by Marinship Corporation, completing S.S. Huntington Hills in just 33 days; 28 days on the way and 5 days of fitting out!

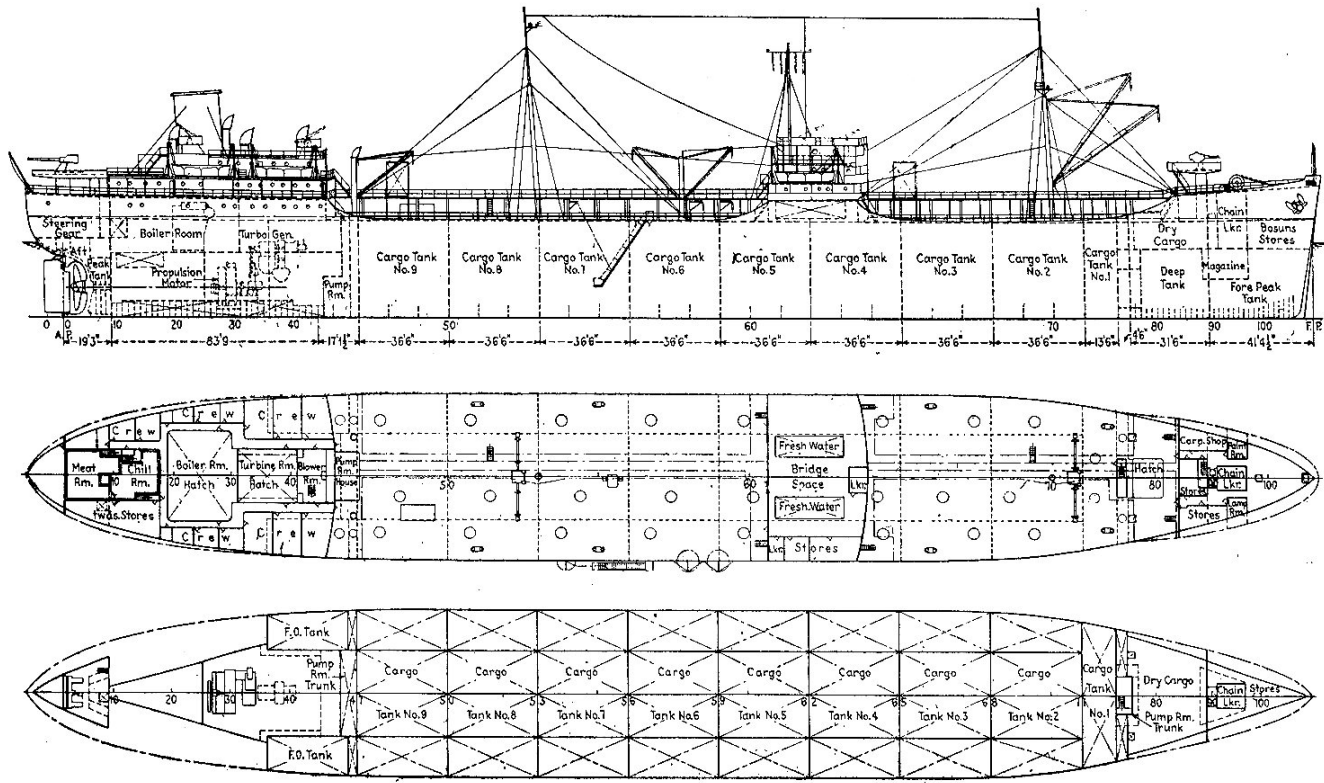
These ships were 523 feet 6 inches long, 68 feet abeam and carried a gross rated tonnage of 10,448. Deadweight tonnage was 16,613 and they displaced about 21,880 tons. The turbo-electric propulsion system delivered 6,000 shaft horsepower, with a maximum power of 7,240 horsepower giving a top rated speed of about 15 knots with a cruising range of about 12,600 miles. (The A2 and A3 versions of the T2 had 10,000 SHP propulsion machinery, developing a top speed of 16 knots.) The propulsion machinery was produced by the General Electric Company, Lynn MA; the Elliott Company, Jeanette, PA; and the Westinghouse Electric and Manufacturing Company of Pittsburgh, PA.

The T2-SE-A1 tankers were not the first to have turbo-electric propulsion, nor was it a novel innovation. During World War I there were several commercial ships and some naval vessels propelled by turbo-electric plants. In 1938, some tankers built for the Atlantic Refining Company of Philadelphia, PA by Sun Shipbuilding Company were given turbo-electric plants. S.S. J. W. Van Dyke and S.S. Robert H. Colley had General Electric equipment giving them 6,040 SHP and a top speed of about 13.5 knots. Atlantic Refining had five more of this type of ship built.

The T2-SE-A1 had 9 sets of tanks. Tanks 2 through 9 had a main center tank carrying 391,500 gallons, and two side tanks (one port, one starboard) carrying about 165,000 gallons each. Tank number one consisted of only two side by side tanks, divided by a common bulkhead, as this tank set was only 13 feet 6 inches long. Tank sets 2 through 9 were 36 feet 6 inches long. Total cargo was about 5,930,000 gallons, about 141,200 barrels. There was also a small dry cargo space of about 15,200 cubic feet located forward of Tank Number 1 above the deep tank for a very small amount of dry cargo. There were two pumprooms,

one forward and one aft. The main pumphoom was aft, and contained six pumps. There were three large capacity pumps of 2,000 gallons per minute which were driven by electric motors located in an adjacent machinery space. There were also two 400 GPM pumps and one 700 GPM pump. In the forward pumphoom was one 700 GPM pump and and 300 GPM pump which were reciprocating pumps used for fuel transfer and stripping.

General Arrangement



Pictures

