Form No. 10-300 (Rev. 10-74)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

FOR NPS USE ONLY
RECEIVED
DATE ENTERED

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC: U.S.S. Texas

AND/OR COMMON: The Battleship Texas

2 LOCATION

STREET & NUMBER: San Jacinto Battleground State Park ca. 22 mi. east of Houston on Tex. 134 — __NOT FOR PUBLICATION

CITY, TOWN: X VICINITY OF Houston — CONGRESSIONAL DISTRICT: 8

STATE: Texas — CODE: 48 — COUNTY: Harris — CODE: 201

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE	
__DISTRICT	XPUBLIC	XOCCUPIED	__AGRICULTURE	XMUSEUM
__BUILDING(S)	__PRIVATE	__UNOCCUPIED	__COMMERCIAL	__PARK
__STRUCTURE	__BOTH	__WORK IN PROGRESS	XEDUCATIONAL	__PRIVATE RESIDENCE
__SITE	**PUBLIC ACQUISITION**	**ACCESSIBLE**	__ENTERTAINMENT	__RELIGIOUS
XOBJECT	__IN PROCESS	XYES: RESTRICTED	__GOVERNMENT	__SCIENTIFIC
	__BEING CONSIDERED	__YES: UNRESTRICTED	__INDUSTRIAL	__TRANSPORTATION
		__NO	__MILITARY	__OTHER:

4 OWNER OF PROPERTY

Contact: C.H. Taylor, Chairman

NAME: State of Texas, The Battleship Texas Commission

STREET & NUMBER: EXXON Building; Suite 2695

CITY, TOWN: Houston — __ VICINITY OF — STATE: Texas

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC.: The Battleship Texas Commission

STREET & NUMBER: EXXON Building, Suite 2695

CITY, TOWN: Houston — STATE: Texas

6 REPRESENTATION IN EXISTING SURVEYS

TITLE: ASME National Historical Mechanical Engineering Landmark Program

DATE: 1975 — __FEDERAL __STATE __COUNTY __LOCAL — ~~national~~, private

DEPOSITORY FOR SURVEY RECORDS: ASME United Engineering Center

CITY, TOWN: New York — STATE: New York

7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
_EXCELLENT	_DETERIORATED	_UNALTERED	_ORIGINAL SITE
X GOOD	_RUINS	X ALTERED	X MOVED DATE 1948
_FAIR	_UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

Newport News Shipbuilding and Dry Dock Company built Texas (BB35) in 1911-14. Upon her completion she measured 573 feet long, was 94 3/4 feet wide at the beam, had a normal displacement of 27,000 tons and a mean draft of 28 1/2 feet, and boasted a top speed of 21 knots. She carried ten 14-inch guns, sixteen 5-inch guns, eight 3-inch guns, assorted anticraft weapons, three seaplanes launchable from a catapult, and a crew of 1,314.[8]

Texas was one of the last two American warships built with reciprocating steam engines, and she is the only surviving one. The engines, which drive twin screws, are four-cylinder, triple-expansion machines with a total designed horsepower of 28,100 at 125 revolutions per minute and steam at 265 pounds per square inch. Cylinder bores are: high pressure, 39 inches; intermediate pressure, 63 inches; and low pressure (two cylinders), 83 inches. All have a 48-inch stroke. Cylinder sequence is: forward low pressure, high pressure, intermediate pressure, and aft low pressure. Crank angles are 90° and the working sequence is high, intermediate, forward low, and aft low. Each high pressure cylinder has one piston valve, and each of the other cylinders has two. All are actuated by Stephenson's double-link valve gear. Cylinders and valve crests are cast iron; working liners are close-grained cast iron. The pistons, all conical, are cast steel, except the high pressure which is cast iron. Except for the high pressure, the cylinders are steam-jacketed around the liners and at both ends. Bedplates are cast steel, and framing consists of Navy-type forged steel columns bolted to the bedplate and cylinders and braced by diagonal, cross, and longitudinal stays.

All working and moving parts of the main engines, except the valve links and valve-stem guides, are force lubricated under a pressure of about 50 pounds per square inch. The crank pits are totally enclosed by galvanized sheet-steel casings within 18 inches of the bottoms of the cylinders. Steam is supplied by 15 Babcock and Wilcox water-tube boilers working at 295 pounds per square inch, throttled down to 265 pounds per square inch at the engines. The heating surface is 62,213 square feet and the grate area 1,554 square feet. Furnaces operate under closed fire-room forced draft with an ashpit pressure of 2 inches of water. Total machinery weight is 2,375 tons. The propellers are three-bladed; have manganese bronze blades; measure 18 feet, 7 1/2 inches in diameter; and have a pitch of 19 feet, 11 1/2 inches.[9]

[8] Murphey and Serratore, "Reciprocating Steam Engines: U.S.S. Texas," 3.

[9] Ibid., 5-6. Although still intact, Texas' engines are no longer operable.

8 SIGNIFICANCE

RELATED TO BOTH THE MILITARY AND THE ENGINEERING THEMES.

PERIOD

AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW

__PREHISTORIC	__ARCHEOLOGY-PREHISTORIC	__COMMUNITY PLANNING	__LANDSCAPE ARCHITECTURE	__RELIGION
__1400-1499	__ARCHEOLOGY-HISTORIC	__CONSERVATION	__LAW	__SCIENCE
__1500-1599	__AGRICULTURE	__ECONOMICS	__LITERATURE	__SCULPTURE
__1600-1699	__ARCHITECTURE	__EDUCATION	X MILITARY	__SOCIAL/HUMANITARIAN
__1700-1799	__ART	X ENGINEERING	__MUSIC	__THEATER
__1800-1899	__COMMERCE	__EXPLORATION/SETTLEMENT	__PHILOSOPHY	__TRANSPORTATION
X 1900-	__COMMUNICATIONS	__INDUSTRY	__POLITICS/GOVERNMENT	__OTHER (SPECIFY)
		__INVENTION		

SPECIFIC DATES 1910-1948

BUILDER/ARCHITECT Newport News Shipbuilding and Dry Dock Company

STATEMENT OF SIGNIFICANCE

When completed in 1914, the U.S.S. Texas (BB35) was one of the last two American-built warships powered by reciprocating steam engines. Today she is the only surviving one. Navy guns and planes sent Texas' sister ship, U.S.S. New York, to the bottom of the Pacific Ocean during a training exercise in 1948.

In addition to making Texas unique, her reciprocating steam engines, which the American Society of Mechanical Engineers calls the "most sophisticated" of their class, make the vessel a symbol of the rapid evolution of steam power in U.S. warships between the 1880's and the first decade of the 20th century.[1] Although one-quarter of all Navy ships had steam power by 1850, naval authorities did not fully accept steam for major vessels until the 1870's. Once adopting steam power for capital ships, however, the Navy moved quickly from reciprocating to turbine engines. When Texas and New York were authorized in 1910, the Navy already had three turbine-powered battleships and selected reciprocating engines for the two new vessels largely to force turbine builders to adopt improved designs.

In 34 years of service Texas not only proved the durability of its engines but performed outstandingly in both the First and Second World Wars. In World War I Texas joined the 6th Battle Squadron of the British Grand Fleet in protecting the British Isles, and in World War II the still formidable vessel escorted several Atlantic convoys, participated in the North African and Normandy invasions in the Atlantic Theater, and assisted in the preinvasion bombardments of Iwo Jima and Okinawa in the Pacific Theater. Of the Normandy action, Ernest Hemingway, who observed the scene, wrote that while Texas fired 14-inch shells at enemy defenses, soldiers approaching the beach in landing craft watched the ship's flashing guns with both surprise and great joy. "Under their steel helmets," he said of the troops, "they looked like pikemen of the Middle Ages to whose aid in battle had suddenly come some strange and unbelievable monster."[2]

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1 Carey Murphey and Peter Serratore, "Reciprocating Steam Engines: U.S.S. Texas" Mimeographed (New York, 1975), 3.

2 Quoted in Samuel Eliot Morison, The Invasion of France and Germany, 1944-45 (Boston, 1957), 135.

9 MAJOR BIBLIOGRAPHICAL REFERENCES

Battleship Texas Commission, "The Battleship Texas." Pamphlet (Houston: The Battleship Texas Commission, n.d.).

Blount, William J. (illus.), "U.S.S. Texas." Diagram (Houston: The Battleship Texas Commission, 1971).

(cont.)

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY _____

UTM REFERENCES

	ZONE	EASTING	NORTHING
A	15	249,795	3,293,380
B			
C			
D			

VERBAL BOUNDARY DESCRIPTION

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

11 FORM PREPARED BY

NAME / TITLE

George R. Adams, Managing Editor

ORGANIZATION — DATE

American Association for State and Local History — April 1976

STREET & NUMBER — TELEPHONE

1400 Eighth Avenue South — 615-242-5583

CITY OR TOWN — STATE

Nashville — Tennessee

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL ___ STATE ___ LOCAL ___

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

FEDERAL REPRESENTATIVE SIGNATURE

TITLE — DATE

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DATE

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION

ATTEST: DATE

KEEPER OF THE NATIONAL REGISTER

Initially Texas burned coal and used oil only as an auxiliary fuel in an emergency. During a major overhaul in 1925, the Navy converted the vessel to oil. At the same time workmen took down her two cagemasts, installed a high tripod foremast, and added advanced fire control equipment, more armor, and antitorpedo blisters.

At the end of World War II, the United States made major military cutbacks, and Texas appeared expendable. Rather than watch the gallant vessel mothballed or scrapped, Texans, led by Lloyd Gregory, created the Battleship Texas Commission and raised money to save her. Tugs towed the huge ship from Norfolk Navy Yard to Houston in 1948, and there the U.S. Government decommissioned her and presented her to the State for use as a historic monument.

Today Texas is permanently moored in a slip off the Houston Ship Channel on the edge of the San Jacinto Battleground State Park. Her only enemies now are air pollution and the weather. Constant exposure plus heavy tourist traffic and lack of a large crew of sailors for swabbing and polishing have led to deterioration of the ship's teakwood main deck, much of which is covered today with a concrete slab. Rust is a constant problem too, but Texas' curator and staff do a good job in combatting it. Many areas of the ship are open to the public, including the engine rooms, and several small museums are maintained aboard her. In 1975 the American Society of Mechanical Engineers declared Texas a National Mechanical Engineering Landmark for her reciprocating steam engines.

Morison, Samuel Eliot, The Invasion of France and Germany, 1944-1945 (Boston: Little, Brown, and Company, 1957).

_____, Victory in the Pacific, 1945 (Boston: Little, Brown, and Company, 1960).

Murphey, Carey and Peter Serratore, "Reciprocating Steam Engines: U.S.S. Texas." Mimeographed (New York: American Society of Mechanical Engineers, 1975).

Pater, Alan F., United States Battleships: The History of America's Greatest Fighting Fleet (Beverly Hills: Monitor Book Company, 1968).

Pratt, Fletcher, The Compact History of the United States Navy. Revised Edition (New York: Hawthorn Books, Inc., 1962).

Decommissioned in 1948, the 573-foot-long, 34,000-ton Texas now lies permanently moored in a slip off the Houston Ship Channel on the edge of San Jacinto Battleground State Park.

History

The U.S.S. Texas (BB35) is the second battleship named for the Lone Star State. Workmen at Norfolk Navy Yard built the first one in 1892-95. It played a leading role in naval operations in the Caribbean during the Spanish-American War and was decommissioned and sunk in 1911. By that time Congress had authorized construction of the second Texas and two other new battleships--New York and Oklahoma.

For the new Texas, destiny saved a special niche in shipbuilding history. Having opposed for years the use of steam to power its capital ships, the Navy Department had accepted it in the 1880's and, following a rapid evolution in engine design, had concluded that steam turbines represented the engines of the future. By 1910 the U.S. Fleet included three turbine-powered battleships, and eventually Oklahoma would be the fourth. For Texas and New York, however, the Navy reverted to reciprocating steam engines largely to force turbine builders to improve future designs according to Navy specifications. When completed, Texas and New York had, according to the American Society of Mechanical Engineers, "the last, and most sophisticated, reciprocating steam engines" installed in American warships.[3] Today only Texas survives, New York having been decommissioned and sunk in 1948.

Building Texas at a bid price of $5,830,000, Newport News Shipbuilding and Dry Dock Company laid the vessel's keel in April 1911 and launched the new ship in May 1912. The Navy commissioned her in March 1914. Upon her completion Texas measured 573 feet long, was 94 3/4 feet wide at the beam, had a normal displacement of 27,000 tons and a mean draft of 28 1/2 feet, and boasted a top speed of 21 knots. She carried ten 14-inch guns, sixteen 5-inch guns, eight 3-inch guns, assorted anticraft weapons, three seaplanes launchable from a catapult, and a crew of 1,314.[4]

Texas' first cruise began May 19, 1914, and took the warship to the eastern coast of Mexico, where following the Tampico Affair, U.S. troops

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[3] Murphey and Serratore, "Reciprocating Steam Engines: U.S.S. Texas", 3.

[4] Sources differ on number of men and guns. These figures are accepted by the Battleship Texas Commission.

briefly occupied Vera Cruz, and the Navy blockaded Mexican ports. Once the two countries resolved their difficulties, Texas underwent repairs in the New York Navy Yard and then spent 2 years engaged in fleet tactics and battle problems from the coast of New England south to the Caribbean Sea.

During the first few months after U.S. entry into World War I, the Navy utilized Texas in training engineers and gun crews for armed merchant ships, and it was at this time that Texas experienced what might have been a major embarrassment had the witnesses not included her sister ship New York. On September 28, 1917, the ship grounded near the north end of Block Island. For 3 days Texas'crew worked unsuccessfully to lighten the vessel and free her. The Navy then brought in tugboats to move the battlewagon, but they also failed to budge her until sailors watching from the nearby New York shouted in unison: "Come on, Texas!" As the cry went up, the huge ship moved slightly, and in no time it backed clear of the island. Since that day, "Come on, Texas!" has been the ship's battlecry.

In February 1918 Texas crossed the North Atlantic and joined other U.S. battleships in the 6th Battle Squadron of the British Grand Fleet. Until the cessation of hostilities Texas cruised off the British Isles to help meet any threat from the German Fleet. The war ended in November, and the following month Texas formed part of the honor escort that took President Woodrow Wilson into Brent, France.

Returning to New York for Christmas, Texas received routine repairs and in the summer joined the Pacific Fleet for maneuvers off the west coast. The veteran warship remained in the Pacific 5 years before steaming to Annapolis in 1924 to join a U.S. Naval Academy practice cruise to Europe. In 1925 Texas put in at the Norfolk Navy Yard for an extensive overhaul. Workmen converted her from a coal-burner to an oil-burner, removed her cagemasts and installed a high tripod foremast, and added antitorpedo blisters, more armour, and the first "electric gunnery director" put in any Navy vessel.

On September 1, 1927, Texas became the flagship of Adm. Charles F. Hughes, Commander of the U.S. Fleet, and for the next few months took part in combined maneuvers in the Caribbean and the Pacific. Back in New York by December, Texas was chosen to transport President Herbert Hoover to the Pan-American Conference in Havana, Cuba, in January 1928. After accomplishing this prestigious task, the ship spent the next 11 years along the eastern seaboard and in the Caribbean, with occasional maneuvers in the Pacific.

When World War II erupted in Europe in September 1939, the Navy assigned Texas to the Atlantic Squadron, which soon became the nucleus of the Atlantic Fleet under the command of Adm. Ernest J. King. Following a series of "neutrality" patrols, the aging but still powerful battleship joined in convoy duty, and between January and July 1942, she escorted troop and supply vessels to the Panama Canal, West Africa, and Scotland. In August of that year, Texas became the flagship of Adm. Monroe Kelly and began preparing to take part in the Allied invasion of North Africa. Kelly commanded the Northern Attack Group, which on October 28 rendezvoused with Adm. H. Kent Hewitt's Western Naval Task Force. Consisting of 102 ships, this was the greatest U.S. war fleet yet assembled. During the ensuing landings, Texas' heavy guns were not needed, but her recently installed radio station broadcast in French the proclamations of President Franklin Roosevelt and Gen. Dwight Eisenhower. Over the next few days Texas rained shells on enemy reinforcement convoys, and one of her scout planes scored a direct hit, with a depth charge, on a German tank.

Between January 1943 and April 1944, Texas led six major troop convoys across the Atlantic and then entered Belfast Lough to get ready for the long-awaited invasion of France. On May 19, 1944, Eisenhower came aboard to address the officers and crew, and on June 6 Texas, now the flagship of Adm. Carleton F. Bryant's naval bombardment support group, took up her battle station off Omaha Beach. The effectiveness of the great ship, once the shelling began, is perhaps best described by Ernest Hemingway, who rode in the sixth wave of landing boats and wrote later that the soldiers "were watching the Texas with looks of surprise and happiness. . . . Under their steel helmets, they looked like pikemen of the Middle Ages to whose aid in battle had suddenly come some strange and unbelievable monster."[5] Before noon Texas destroyed six 155mm German guns on Pointe du Hoe, blasted numerous machine gun nests and pillboxes, and scored direct hits on four 155mm mortars and at least one mobile gun battery. After noon she reduced to rubble a group of fortified points near Vierville, where the initial landing had become stalled by snipers and Howitzers. "Texas' expenditure on D-day of 428 rounds of 14-inch and 254 rounds of 5-inch ammunition is" says naval historian Samuel Eliot Morison, "good evidence of her zeal."[6] The battleship per-

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5 Quoted in Morison, The Invasion of France and Germany, 135.

6 Ibid., 148.

formed similarly on succeeding days too. On June 25 she took on the German Battery Hamburg, probably the most powerful enemy strongpoint on Cotentin Peninsula, and despite having only half the range of the battery, knocked out one of its four guns and kept the rest occupied for hours. During the action, Texas took two shells, one of which was a dud, and suffered the only fatal casualty of her 34-year service.

July 1944 found Texas off Algeria preparing for the invasion of southern France. Still Admiral Bryant's flagship, on August 15 she led what Morison calls "an unusually strong gunfire support group" for the landing of Gen. William W. Eagles' 45th Army Division.[7] Following a successful operation, Texas returned to New York for overhaul.

Adm. Isaac C. Sowell relieved Bryant in October as Commander of Battleship Division Five but retained Texas as its flagship. A month later she joined Missouri and Arkansas and steamed for the Pacific, where Adm. Peter K. Fishler replaced Sowell. By February 10, 1945, Texas was underway with Amphibious Task Force 52 to conduct battle rehearsals for the invasion of Iwo Jima, which began 6 days later. Here, as at Normandy, Texas performed brilliantly. She silenced several Japanese batteries, pounded the enemy battlefield, destroyed two aircraft on the ground, blasted at least three antiaircraft emplacements, and knocked out a radar control station. In March, April, and May, Texas participated effectively in a similar bombardment of Okinawa.

Late in September, following the Japanese surrender and several weeks of patrol duty, Texas sailed for the States. In subsequent weeks she made three round trips to Pearl Harbor to bring home 4,267 troops, and then she steamed to Norfolk Navy Yard to undergo preparation for inactivation. Her reciprocating steam engines had served her--as she had served the Nation--well. With the war over, though, she was deemed expendable. On April 21, 1948, the Government decommissioned the vessel and presented her to the State of Texas for preservation as a historic monument.

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[7] Ibid., 265.