NPS Form 10-900
(Rev. 8-86)

OMB No. 1024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, styles, materials, and areas of significance, enter only the categories and subcategories listed in the instructions. For additional space use continuation sheets (Form 10-900a). Type all entries.

1. Name of Property

historic name Lightship No. 87
other names/site number "Ambrose," "Relief," f-LS512, "Scotland"

2. Location

street & number South Street Seaport Museum, Pier 16 ☐ not for publication
city, town New York ☐ vicinity
state New York code 36 county New York County code 61 zip code

3. Classification

Ownership of Property	Category of Property	Number of Resources within Property	
		Contributing	Noncontributing
☒ private	☐ building(s)		buildings
☐ public-local	☐ district		sites
☐ public-State	☐ site		structures
☐ public-Federal	☒ structure	1	objects
	☐ object		Total

Name of related multiple property listing:

Number of contributing resources previously listed in the National Register 1

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this ☐ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of certifying official — Date

State or Federal agency and bureau

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of commenting or other official — Date

State or Federal agency and bureau

5. National Park Service Certification

I, hereby, certify that this property is:

☐ entered in the National Register.
☐ See continuation sheet.
☐ determined eligible for the National Register. ☐ See continuation sheet.
☐ determined not eligible for the National Register.
☐ removed from the National Register.
☐ other, (explain:) _____

Signature of the Keeper — Date of Action

6. Function or Use

Historic Functions (enter categories from instructions)	Current Functions (enter categories from instructions)
Government Aid-to-Navigation	Museum

7. Description

Architectural Classification (enter categories from instructions)	Materials (enter categories from instructions)
N/A	foundation N/A walls N/A roof N/A other N/A

Describe present and historic physical appearance.

The 1907 lightship No. 87, now known by her last U.S. Coast Guard designation of "Ambrose," is a floating historic museum vessel moored on the Manhattan waterfront in New York, New York. Owned and operated by South Street Seaport Museum, No. 87 is preserved and on exhibit.

No. 87 as Built and Modified

Lightship No. 87 was built according to the U.S. Lighthouse Service standing plans for First Class Light Vessels. Five lightships were built to this plan. She is a steel-hulled vessel 135 feet, 9 inches long overall, 112 feet, 11 inches in waterline length with a 29-foot breadth, a 13-foot depth of hold and 12-foot-1-inch draft. The vessel is registered at 683 gross tons and 488 net tons and displaces 683 tons in fresh water. [1] Built to the characteristic lines of a 20th century American lightship, No. 87's double-riveted hull was constructed to be strong and seaworthy. As a typical lightship hull, No. 87 shared many characteristics with her contemporary and later steel sisters:

> The American vessel generally...has her lighting elements divided into two, and two lamps are arranged, one each at the top of a pole mast. Cones, cages, and other day marks are arranged on the masts above or below the lanterns... There is usually a bar keel, big rise of floor, and large tumble home, the outline of midship section being somewhat reminiscent of that of an icebreaker. The sheer is severe, rising rapidly both to the bow and to the stern. The bow is a strong forging and sharply raked, containing the hawse pipe for the mushroom mooring anchor. There is also the hawse pipe for the standby anchor. The stern is of

[X] See continuation sheet

8. Statement of Significance

Certifying official has considered the significance of this property in relation to other properties:
☐ nationally ☐ statewide ☐ locally

Applicable National Register Criteria ☐A ☐B ☐C ☐D NHL CRITERIA 1, 4

Criteria Considerations (Exceptions) ☐A ☐B ☐C ☐D ☐E ☐F ☐G

Areas of Significance (enter categories from instructions)	Period of Significance	Significant Dates
Government	1907-1964	1907
Humanitarian	1907-1964	
Architecture (Naval)	1907-1964	

NHL XIV-B
Transportation: Ships, Boats, Lighthouses & Other Structures

Cultural Affiliation
N/A

Significant Person
N/A

Architect/Builder
U.S. Lighthouse Service/New York Shipbuilding Co., Camden, N.J.

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

Built in 1907, Lightship No. 87 possesses integrity of location, setting, design, materials, and workmanship, and now known by her last official designation of "Ambrose," is one of a small number of preserved historic American lightships. Essential partners with lighthouses as major aids to navigation along the coast of the United States, lightships date to 1820 when No. 1 was commissioned. While her engine, and lights were "modernized" in the early 1930s, these changes to No. 87 reflect modifications to better enable the vessel to carry out her historic function. Built to serve as the first lightship on the newly established Nantucket station, No. 87 served to guide mariners to the nation's busiest port, New York. Serving on America's most important lightship station, No. 87 had a profound impact on local, coastal, and international trade. No. 87 is also important in the history of radio, being the site of the first successful shipboard radiobeacon used to guide ships at long distances in poor weather.

The preceding statement of significance is based on the more detailed discussion which follows.

☒ See continuation sheet

9. Major Bibliographical References

SEE FOOTNOTES IN THE TEXT.

☐ See continuation sheet

Previous documentation on file (NPS):
- ☐ preliminary determination of individual listing (36 CFR 67) has been requested
- ☒ previously listed in the National Register
- ☐ previously determined eligible by the National Register
- ☐ designated a National Historic Landmark
- ☐ recorded by Historic American Buildings Survey # _____
- ☐ recorded by Historic American Engineering Record # _____

Primary location of additional data:
- ☐ State historic preservation office
- ☐ Other State agency
- ☐ Federal agency
- ☐ Local government
- ☐ University
- ☒ Other

Specify repository: South Street Seaport Museum

10. Geographical Data

Acreage of property Less than one acre

UTM References

	Zone	Easting	Northing
A	18	584270	4506260
B			
C			
D			

☐ See continuation sheet

Verbal Boundary Description

All that area encompassed by the extreme length and beam of the vessel.

☐ See continuation sheet

Boundary Justification

The boundary encompasses the entire area of the vessel as she floats at her berth.

☐ See continuation sheet

11. Form Prepared By

name/title Kevin Foster, Historian
organization National Park Service (418) date August 5, 1988
street & number P.O. Box 37127 telephone (202) 343-9550
city or town Washington state D.C. zip code 20013

stereotypical single knuckle type and contains the rudder, sternpost of usual construction, and the propelling wheel... The ships generally have two complete decks and a third part deck forward and aft of the machinery space. Side doors in the hull give access to the second deck and tend to follow...characteristic side loading.... [2]

No. 87 was originally painted a straw color with large black letters, "87 Ambrose 87," on her side. A succession of other names followed to reflect the stations to which No. 87 was assigned. She is now painted in the colors used on American lightships after the 1930s. Her hull is bright red, with buff colored masts and superstructure, and the name of her most famous station, "Ambrose," is painted in bold white block letters on the hull.

The design of No. 87 reflected improvements made in lightship design by the United States Lighthouse Establishment (USLHE). Among those improvements, as embodied in No. 87, were the placement of the primary hawsepipe low in the bow as opposed to immediately abaft the stem, the installation of bilge keels to reduce rolling, a reduced metacentric height to give an easier motion, an increased bow height and sheer for drier decks, and most importantly a shift from wood to metal hulls and unpowered to powered vessels. An improved version of the first generation "modern" lightships, No. 87 was a drier, roomier vessel with greater ability to stay on station in the roughest seas.

The principal features of the vessel above decks are the pilothouse, smokestack, and two steel masts that supported the lights. The wooden pilothouse is located forward of the foremast. The rounded front is fitted with extra-large bronze port lights over a large steam radiator. The large wooden ship's wheel uses a drum wound with the steering cable to manually turn the rudder by way of a pulley system running on deck. The captain's cabin and radio room are located in the rear of the pilothouse. The two masts were schooner rigged on spencers rigged immediately abaft the steel masts. Originally surrounded at deck level by wooden lamp-trimmer's cabins with hinged roofs that opened in the middle, the masts mounted three oil-burning lamps which were trimmed and lit in the cabins and then winched to the truck of the mast. Only one mast's lamps were lit at a time--usually the foremast's--with the mainmasts's lamps serving

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as a relief when oil was being added to the foremast lamps. Between the two masts stood the single stack and a 12-inch diameter steam fog whistle. [3]

No. 87 was built with a 325-h.p. compound, reciprocating-condensing, marine steam engine and two tubular coal-fired boilers that drove No. 87's single screw. The engineroom is flanked forward by the two coal bunkers, which could be filled through scuttles through the main deck. Below the weather deck forward on the main deck, was the forecastle, which provided crew quarters to port and starboard and housed the lightship's steam powered anchor windlass and protected it from weather and heavy seas. Manufactured by the Hyde Windlass Co., the windlass has 9-x 9-inch engines used to raise No. 87's 5000-ton mushroom anchor. The anchor cable, a heavy forging weighing 200 lbs. per fathom, was usually allowed a long scope to give the lightship better holding without additional strain on the cable.

The crew quarters for No. 87's complement on the main deck proudly described by the USLHE as "roomy, comfortable, and well ventilated staterooms," were built to provide better amenities of life for lightship crews. Officers' quarters are aft beneath the stern. These quarters remain basically unaltered. Beautifully-appointed joinery including pilasters, panelled walls, and louvered doors distinguish the cabins. The cabins line the hull and open into a central wardroom. Forward of these cabins are the galley, and mess, amidships.

In the course of her career as a lightship, No. 87 underwent several modifications. The major modification was the shift from two coal fired boilers and an inverted, direct-acting compound steam engine to a six-cylinder Winton diesel engine in the 1930s. The coal bunkers were sealed and converted into oil tanks. The second major change involved the lights. The original kerosene lights had a range of nine miles. In 1920 the vessel was the first lightship to be electrified with carbon-arc lights, increasing the range to 15 miles. The last major alteration to the lights occurred in the early 1930s, when a 1,000-watt light in a 375-mm, cut-glass, 15,000-candlepower lens (then the standard optic for lightships) was installed atop each mast. The shift in lighting systems doomed the lamp-trimmer's sheds on deck, and the lamp houses were removed in 1934 and the present additions to the

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pilothouse with master's cabin and a radio shack were added. The last alteration was the installation of steam diaphone whistles on the foremast in 1935 to replace the original 12-inch whistle installed in 1907. [4]

No. 87's Present Appearance

Since her decommissioning in 1968 No. 87 has undergone no alteration. The vessel is in fine condition; the hull is sound though thin in a few spots. The decks leaked and were recently patched with concrete and plywood and are being returned to original appearance with in-kind materials. The wooden superstructure is intact with all features in place including the 375-mm lenses atop the masts.

Despite some evidence of deterioration, the vessel retains a remarkable integrity. All original fittings are in place, including the ship's massive bell mounted forward at the bow with the legend "USLHE, 1907" on its face. The pilothouse retains the original wheel, radiator, and speaking tubes. The six-cylinder Winton "Diesel" compression-ignition engine occupies the center of the engine room. Two small diesel generators are to starboard of the main engine and two small air compressors are to port. The engine can be turned over by hand and is free of rust; smaller equipment is in excellent condition, with little surface rust, and with overhauled engines and some other work, No. 87 could be moved under her own power once again.

NOTES

1
Thirty-Eighth Annual List of Merchant Vessels of the United States (Washington, D.C.: Government Printing Office, 1906) and James P. Delgado, ed. Evaluative Inventory of Large Preserved Historic Vessels in the United States (Washington, D.C.: National Park Service, 1987), entry for "Ambrose."

2
A.C. Hardy, American Ship Types: A Review of the Work, Characteristics, and Construction of Ship Types Peculiar to the Waters of the North American Continent (New York: D. Van

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Nostrand Co., Inc., 1927), pp. 254-256. "Trials of Lightship Number 88," American Society of Naval Enginneers (May, 1908), p. 551.

3
"87 Ambrose Channel 87," photo of Ambrose when new. Ambrose file, South Street Seaport Museum Library.

4
"Arc Lights on the Ambrose Channel Lightship," International Marine Engineering (January, 1912), p. 42.

THE DEVELOPMENT OF THE AMERICAN LIGHTSHIP

While the first American lighthouse dates to the colonial era, the use of lightships is a more recent 19th century phenomenon in the United States, though employed earlier in Europe. Moored on treacherous reefs and shoals, or marking the narrow approaches to a channel or harbor entrance where lighthouses could not be built, or placed far offshore where a shoreside lighthouse's beam could not reach, lightships were fewer in number than the hundreds of lighthouses. In all, less than 200 lightships were built between 1820 and the 1950s, and in 1909, the heyday of the United States Lighthouse Establishment, there were 51 lightships (46 on the eastern seaboard and five on the Pacific Coast) on station in the United States.

The more famous and significant lightship stations included "Ambrose," marking the southern entrance into New York harbor along the New Jersey coast; "Nantucket," marking not only the entrance to Boston harbor but also the American end of the transatlantic route; "Diamond Shoals" off the Outer Banks of North Carolina, which marked a dangerous spot along the coastal ocean highway by way of the Gulf Stream; and "San Francisco" on the bar three miles outside the Golden Gate. The first lightship, No. 1, was a small wooden sailer moored on Chesapeake Bay. From this pioneer, the lightship type developed through the 19th century from sail to steam, from wood to iron to steel hulls, and to more powerful optics. Numbered sequentially as they entered service under the United States Lighthouse Board, later the United States Lighthouse Establishment, and finally the United States Coast Guard, lightships, like lighthouses, remained constant in their location, with new vessels replacing the old. Thus there were more than one "Nantucket," "Ambrose," "Diamond Shoals," and "San Francisco," as well as others, on the various stations through the years. [1]

By the end of the 19th century, hard-learned lessons had resulted in a standardization of lightship form and design. Heavily constructed steel hulls moored with massive mushroom anchors and strongly forged huge cables, built to ride out storms and rough seas and survive collisions, with decks designed to let the water run off, and a dual mast system to always keep a light lit became the "typical" lightship in the United States. Technological advances--the introduction of electrical lighting, welded hulls, and the switch from steam to diesel to diesel

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electric engines--brought modifications to the lightship without necessarily changing the basic form. While older lightships were modified to accept the technological changes, new classes of ships were also built to embody the technology. Thus the first class of lightships built in the 20th century with riveted steel hulls and massive steam engines--numbering in the high 70s through the low 80s--were replaced at some stations by welded steel lightships with diesel-electric propulsion, diaphone air horns, 1,000-watt electric lights in 375-mm lenses, and a reduced tonnage meaning less resistance to the sea and hence less battering. [2]

In 1950, the last class of lightship, built under the auspices of the United States Coast Guard was introduced. While modern with welded hulls and diesel engines, and offering more amenities of life for their crews, these vessels closely resembled in appearance the earlier lightships of the early 20th century and the 1930s, a number of which were still in commission. Technology finally brought an end to manned lightships about the same time manned lighthouses were being automated. Texas towers and large navigational buoys 40 feet in diameter and 42 feet high, painted lightship red with automatic lights, fog signals and radio beacons, began to replace lightships in 1967. At the beginning of the 1980s the last lightship was retired, ending a 150-year maritime tradition in the United States.

CONSTRUCTION AND CAREER OF NO. 87

The first lightship on the coasts of North America was placed on station marking a shoal at the entrance to the Elizabeth River near Portsmouth, Virginia, in 1820. Built as one of a five-vessel contract by the New York Shipbuilding Co. of Camden, New Jersey, a firm of considerable reputation and ability that successfully built a number of vessel for the U.S. Government, including battleships and other naval vessels, No. 87 was laid down and launched in 1907. The Lighthouse Board said of her:

> In pursuance of the policy to give the marking of Ambrose Channel, New York Harbor, the best and most efficient service, the Light House Board equipped and placed Ambrose Channel light-vessel No. 87 at the entrance of the lower bay of New York on December 1, 1908. This vessel has the latest type of electrical systems installed for the service of its lighting

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> apparatus, and is a modern full-powered steamer capable of any service. Her outfit is the result of careful thought and a strong desire to make her worthy of the prominent position she occupies in the lighting system of the approaches of New York Harbor. Thus far she has given perfect satisfaction and fulfilled the expectations of the officials of the Light-House Board. It is proposed to increase the intensity of the light at an early date by the installation of a lens similar to that used in light-houses. [3]

She remained on station through the worst storms and collisions with a number of vessels bound for or from New York. Other lightships were rammed and several were sunk on station, but "Ambrose" was a particularly dangerous station because it had, as one one veteran officer put it,"a lot more shipping aimed for you." No. 87 served as "Ambrose" until 1932 when she was replaced by a newer vessel.

No. 87 became "Relief" vessel for the Third Light House District working from St. George, Staten Island. During the following four years she had her steam propulsion plant replaced by a diesel plant, the lantern houses were removed, and the radio shack and captain's quarters were added to the rear of the pilothouse. No. 87 was detailed to take over Scotland station near Sandy Hook, New Jersey, in 1936. No. 87 was redesignated f-LS 512 in 1939 when the U.S. Lighthouse Establishment was absorbed into the U.S. Coast Guard. Manned by Coast Guard crews, No. 87 took on a more direct military role in 1942, when she served as an examination ship at Fort Hancock, New Jersey, following the United States' entry into the Second World War. [5]

Replaced in 1964 by a new Coast Guard-built lightship, WAL 612, old No. 87 was sent to the 1964 World's Fair where she served as an exhibit for the U.S. Coast Guard. Following the Fair she was laid up in Curtis Bay, Maryland, until 1968 when she was given to South Street Seaport Museum in New York City. She has been well maintained and is now undergoing renewal of wasted plating in places beneath her decks to prepare for new wooden decks. The period of service when No. 87 served on the most important station in the country has been aptly chosen as the time period to be interpreted. Once again "Ambrose" serves the port she guarded for 67 years. [6]

SEE CONTINUATION SHEET

NOTES

1
See George R. Putnam, Lighthouses and Lightships of the United States (New York: The Houghton-Mifflin Co., 1917).

2
A.C. Hardy, American Ship Types: A Review of the Work, Characteristics, and Construction of Ship Types Peculiar to the Waters of the North American Continent (New York: D. Van Nostrand Co., Inc., 1927), pp. 254-257, passim.

3
Report of the Lighthouse Board (Washington D.C.: Government Printing Office, 1909), p. 13.

4
"Signposts of the Sea; The United States Lighthouse Service," Scientific American, (December 13, 1919), p. 582.

5
Robert L. Scheina, U.S. Coast Guard Cutters and Craft of World War II (Annapolis: Naval Institute Press, 1982), pp. 159-160.

6
"History of WLV-512," Typescript of file at Portsmouth Naval Museum, p. 2.