State or Federal agency and bureau

United States Department of the Interior, National Park Service

National Register of Historic Places Registration Form

4. 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):	
1 -025	
1 John Davige	12/02/02
Signature of Keeper	Date of Action
5. Classification	
Over perhim of Property (Check of many h	over as annly)
Ownership of Property (Check as many b private	oxes as apply)
public-local	
public-State	
X public-Federal	
_A public-i cuciai	
Category of Property (Check only one bo	x)
building(s)	,
district	
site	
X structure	
object	
Number of Resources within Property	
Number of Resources within Property Contributing Noncontributing	
Number of Resources within Property Contributing Noncontributing buildings	
Number of Resources within Property Contributing Noncontributing buildings sites	
Number of Resources within Property Contributing Noncontributing buildings	

Number of contributing resources previously listed in the National Register $\underline{0}$

Name of related multiple property listing: Light Stations of the United States

6. Function or Use

Historic Functions (Enter categories from instructions)

Cat: transportation Sub: water-related

Current Functions (Enter categories from instructions)

Cat: transportation Sub: water-related

7. Description

Architectural Classification (Enter categories from instructions):
No Style

Materials (Enter categories from instructions):

foundation:

caisson

roof:

metal

walls:

metal

other:

Narrative Description (Describe the historic and current condition of the property.)

Description Summary

The Hooper Island Light Station consists of a wooden caisson supporting a round 33-foot in diameter, cement-filled cast-iron cylinder, approximately 36 feet in height, upon which sits a circular metal tower 18 feet in diameter at its base and tapering to 17 feet in diameter at its top. A one-story black iron lantern surmounts the tower. As is the case with caisson-type lighthouses, this is an integral station, i.e., the keeper's quarters, fuel storage areas, and lantern room are all part of the same structure. The first four stories of the tower housed the keeper's quarters and storage. A lower gallery surrounds the tower at the bottom, and an upper gallery surrounds the top. A smaller one-story circular tower, in which the watchroom is located, surmounts the tower. This is then surmounted by the lantern. A second smaller upper gallery surrounds the lantern. The Hooper Island Lighthouse is located in about 18 feet of water, approximately three miles west of Hooperville, Upper Hooper Island, middle Chesapeake Bay, Dorchester County, Maryland. Owned and managed by the U.S. Coast Guard in District 5, access to the station is via boat.

¹ The following description and associated photographs were reviewed in August 2002 by a US Coast Guard Aid to Navigation team responsible for the property. A document verifying that the description and associated photographs reflect the current condition of the property is on file with the Office of Civil Engineering, US Coast Guard Headquarters, Washington, DC.

General Description²

HOOPER ISLAND LIGHT STATION

Hooper Island Lighthouse was constructed using the pneumatic process of sinking the caisson. The base of the cast-iron cylinder was fitted with a wooden caisson containing an airtight compartment and air lock. The caisson assemblage was towed to the required location and sunk. Water was then pumped out of the work chamber. Workers in this chamber would shovel and/or pump material away from the cutting edge of the caisson while weight, in the form of concrete and stone, was added above. When the final depth was achieved, the air lock and compartment were also filled with concrete. As of 1917, there were only 11 light structures supported by foundations installed by the pneumatic process in the United States.³

On top of this foundation inside the cast-iron plates, a lower level, or cellar, lined with brick masonry was constructed. These masonry walls support the cast-iron tower, which takes the form of a truncated cone. The diameter of the tower is 18 feet at the base, and the caisson diameter is 33 feet, which provides room for an outside gallery. The four-story tower is surmounted with a watch room and lantern. The other caisson lighthouses in Maryland lack this watch room level above the tower; the upper tower gallery usually surrounds only a lantern (Newport News Middle Ground Lighthouse, Virginia, uses a similar design).

The cylinder is painted brown. The tower is painted white, and the lantern and watch room are painted black. The structure originally had a roof over the gallery, but this has been removed. Lighthouses of this general appearance are commonly referred to as "spark plugs."

Tower, Foundation

The cast-iron cylinder bolted unto the caisson is approximately 36 feet from the mud line to the gallery deck. Only the upper 18 feet is visible above the high waterline. The visible portion of the caisson is in fair condition. There are cracks adjacent to the integral flanges of the iron plates. The upper tier of plates flares outward like a trumpet to give the gallery deck a wider diameter. Access to the gallery is provided through a hatchway where the flare is discontinued on the east and west side of the structure. The steel hatch on the east side is padlocked. The hatch on the west side of the structure is missing. The boarding ladder on the east side is in poor condition and the rails appear to be damaged by boats impacting the ladder during landings. The original cast-iron deck and gallery roof were removed. A concrete deck was added on the gallery in 1989.

Railing sleeves were cast into the concrete deck to accept the posts of the handrail. The steel pipe handrail consists of 3-inch-diameter vertical posts with 2-inch-diameter horizontal rails. There are three equally spaced rails with the bottom rail approximately 8 inches above the concrete deck. The posts are spaced approximately on 7-foot centers.

² Much of this section taken directly from Chesapeake Bay Lighthouses, Gedell & Associates, Structural Engineers, Wilmington, Delaware, 1991, pp. 263-282.

³ Ralph Eshelman, American Lighthouse Construction Types, part of the Maritime Heritage of the United States National Historic Landmark Theme Context Study on Lighthouses, 1993, unpublished manuscript, National Maritime Initiative, National Park Service, Washington, D.C., p. 36.

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Tower, Lower Level

Access to the lower level is by a cast-iron staircase that wraps the interior masonry lining. The stair was constructed of tread and stringer sections that are bolted together to achieve the required height. Located in the center of the lower level, is a large hollow iron column. The 13-inch-diameter column at one time provided the free fall area for the counterweight of the mechanical fog bell striking device. The counterweight is visible at an access hatch in the base of the column. The column's primary function was to carry the floor loads of the structure. The top of the column supports pie-shaped radial iron plates that have been bolted together at integral flanges that are turned upward. Some of the piping from the gutter system that filled water for the cisterns and piping for getting water up to the kitchen is still in place.

The cast-iron cylinder plates at the upper level (above water level) have been lined with brick masonry on the interior. Masonry arches support the superstructure of the tower. Radial iron beams support the vaulted masonry arches below the gallery.

Tower, Exterior

The superstructure is constructed of cast-iron plates. The tower consists of five tiers of cast-iron plates bolted together at the integral flanges, which are turned inward. The cantilevered brackets that support the watch-level gallery deck are bolted to the narrow fifth tier. Directly below the sill of the second-floor windows, there is a small lip bolted to the iron plates that at one time partially supported the gallery roof. Remnants of the roof are still riveted to the lip. Below the iron lip, are remnants of the bolts that connected goose necked radial roof beams to the superstructure. The five window openings on the structure are all surrounded by decorative cast-iron pediment, jamb, and sill. A large steel plate is bolted over one of the first-level window openings.

Tower, Interior

Access to the interior of the structure is through a four-panel wood door on the west side of the structure. There are two window openings on the first level. One window has a two-over-two wood sash with no glazing, and the other window has a similar sash that has been protected with an unvented acrylic sheet. On the second level, the original two-over-two wood sash windows are still in place, and two of the windows have been covered with unvented acrylic sheets. The third sash has not been covered, and some of the glazing is missing. There are three windows on the third level, none of which have been covered with acrylic. The original two-over-two wood sash is in place although some of the glazing is missing. The fourth level has five porthole-type windows.

Tower, First Level

The lining consists of a white glazed masonry, providing a clean appearance. Only the face bricks were glazed, as can be seen at the masonry openings. The window opening covered with a steel plate has had the interior masonry lining removed below the sill, probably to allow equipment access to the first level when a generator powered the automated light. The first level

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served as the galley. Facing north, there is a small window that overlooks what at one time was the cabinet that held the kitchen sink. The cabinet is partially remaining although the doors and drawers have been removed. The flooring at this level is wood nailed to sleepers laid between the flanges of the floor plates. The wood flooring has been covered with carpet. Where it is visible, the wood flooring appears to be in poor condition.

The interior wall of the stairway has 3-inch iron plates that are but joined with a splice plate. The stairs have iron treads and risers that are bolted to the iron-plate wall and are pocketed into the masonry lining. The central column has been painted to look like a barber pole. The ceiling at this level also has radial cast-iron plates, which are pie-shaped and bear on the interior column.

Tower, Second Level

The terra cotta masonry lining continues on the second level. The ceiling is painted white along with the stairway wall and central column. The flooring is a varnished hardwood. There is a quarter-round wood trim at the floor and masonry interface. The windows at this level still have the original two-over-two wood sashes in place. All of the windows have the original storm sash in place. The storm sashes are a one-over-one casement assembly. The window adjacent to the stair is uncovered and has no glazing. The masonry openings have a segmental arch header course above the windows. There is a closet area below the staircase to the third level, which has what appears to be an original four-paneled wood door in place. Adjacent to the closet, is a flue that has been built using the white glazed brick. The door to the stairway is still in place, although it is in poor condition.

Tower, Third Level

The third level continues use of masonry lining. The central column and the iron plates for the fourth level above have been painted white. The three windows at this elevation have the original sash and storm sash in place. There is glazing in both the sash and storm sash. The masonry openings in the lining differ at this elevation in that they are trimmed with wood. The remnant of an original cabinet, constructed of beaded board, is situated at this level away from the masonry to which it was originally attached. The racked frame is in poor condition. The door to the stairway is also still in place though it is in poor condition. The flooring at this level is in excellent condition.

Tower, Fourth Level

The fourth level also has a central column that has been painted white. The wood flooring is in poor condition. Several areas are water damaged and have rotted. The white glazed masonry is in very good condition. This level has five round porthole-type windows. The original window frames have been removed, and the openings have been covered with clear acrylic. The masonry openings in the lining are square and have wood trim. The openings are approximately 13 1/2 inches in diameter. The ceiling at this level consists of beaded board nailed against sleepers anchored between the flanges of the deck plates above. The watch level, as viewed from below, is constructed of pie-shaped iron plates similar to the other levels except that the flanges are turned down. The ceiling is in fair condition; however, some portions of the wood finish are water damaged. A curved iron ship's ladder provides access to the watch through a hatchway.

Tower, Watch Level

HOOPER ISLAND LIGHT STATION

The interior iron deck has a diamond-plate surface. The exterior walls are lined with beaded board painted white. The exterior watch level deck is accessed through a four-paneled door, which does not appear to be original. There is a curved ship's ladder in the middle of the room that provides access to the lantern level. In the center of the floor, there is a small round plate that has a slot in it that presumably allowed for the passage of the cable that held the counterweights for the fog bell-striking machine. There is a fixed-sash, six-pane, wood-framed window that faces east. The window has no glazing in place. There is a small cabinet that has been covered with sheet metal directly below the window.

The exterior deck plates at the watch level are also diamond plate. The plates appear to be in very good condition. The watch deck cantilevers over the edge of the tower. Decorative iron brackets support the cantilevered deck. The interface between the circular watch room and the deck plates appears to be weather tight although it has not been caulked. The watch room is constructed of flanged iron plates similar to the foundation cylinder. The joints at the flange connections are barely visible. The hinges of the original cast-iron storm door are still attached to the doorframe although the door has been removed.

The watch-level balustrade consists of posts at approximately 5-foot centers, a top, intermediate, and bottom rail, and 3/4-inch balusters on 6-inch centers. The posts are bolted to the drop finial on the cantilevered brackets. The posts are round with a decorative round finial on top. The top rail is a flat bar approximately 3 inches wide by 2 inches thick. The intermediate rail is 6 inches below the top rail. The balusters are located between the intermediate and bottom rails. On the south side of the structure, there are two solar panels connected to the railing.

There is a large solar-powered foghorn on the west side of the structure. Vestiges of the original fog bell support remain on the deck. There is a small hole in the watch-room wall plates that would have allowed the striker hammer to pass through and hit the fog bell. The lantern deck cantilevers approximately a foot over the watch room wall.

Tower, Lantern Level

The hatchway to the lantern is also fitted with a split trap door assembly. The lantern level deck plates are diamond pattern. A central iron pedestal, which looks to be original, supports the lantern. The lantern is round and has a full-sized door facing southeast. There are four ventilators in the parapet wall; the interior brass regulators are missing. The lining of the lantern parapet wall is constructed of cast-iron plates. The plates have butt joints that are covered with a narrow splice plate.

The panes of the lantern are diamond shaped and curved to the circumference of the round lantern. They appear to be in good condition except at one location, where a small 2-inch-wide by 3-inch-long piece of glass is missing. The mullions and clamps all appear to be in good condition with the majority of bolts in place. The original mill markings are still visible on the mullions.

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The handrail at the lantern level consists of only a flat bar rail supported by eight 1-inch-diameter posts. The lower hinge on the cast-iron door is broken. Two of the bolts are still in place although the heads have sheared off. The exterior of the lantern house has been recently painted. The paint is in good condition.

The cast-iron roof of the lantern is round and the underside of the roof has been lined with sheet metal. A vent at the peak of the ceiling allows for air movement through the roof top ventilator ball. The holes in the ventilator ball have all been filled in except for one.

8. Statement of Significance						
Applicable National Register Criteria (Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)						
<u>X</u> A	Property is associated with events that have made a significant contribution to the broad patterns of our history.					
B	Property is associated with the lives of persons significant in our past.					
<u>X</u> C	Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.					
D	Property has yielded, or is likely to yield information important in prehistory or history.					
Criteria Consideratio	ns (Mark "X" in all the boxes that apply.)					
A	owned by a religious institution or used for religious purposes					
B	removed from its original location					
C	a birthplace or a grave					
D	a cemetery					
E	a reconstructed building, object, or structure					
F	a commemorative property					
G	less than 50 years of age or achieved significance within the past 50 years					

Areas of Significance (Enter categories from instructions):

Maritime History Transportation Architecture

Period of Significance: 1902-1952

Significant Dates: 1902, 1904, and 1937

Significant Person (Complete if Criterion B is marked above): N/A

Cultural Affiliation: N/A

Known Design Source: none

Architect/Builder: Toomey Brothers of Guilford, Connecticut, for the U.S. Light-House Board

Narrative Statement of Significance (Explain the significance of the property.)

The Hooper Island Light Station is significant for its association with federal governmental efforts to provide an integrated system of navigational aids and to provide for safe maritime transportation in the Chesapeake Bay, a major transportation corridor for commercial traffic from the early nineteenth through twentieth centuries. This pneumatic caisson lighthouse embodies a distinctive design and method of construction that typified lighthouse construction on the Chesapeake Bay during the late half of the nineteenth and early twentieth centuries. Of the eleven pneumatic caisson lighthouses built in the United States, seven were built in the Chesapeake Bay; three were built in the Virginia portion of Chesapeake Bay (Wolf Trap Lighthouse, 1894, Smith Point Lighthouse, 1897, and Thimble Shoal Lighthouse, 1914); and four in the Maryland portion of Chesapeake Bay (Solomons Lump Lighthouse, 1895, Hooper Island Lighthouse, 1902, Point No Point Lighthouse, 1905, and Baltimore Lighthouse, 1908). Hooper Island Lighthouse is the only cast-iron caisson lighthouse in Maryland with a watch room and lantern surmounted on the tower.

History

Hooper Island received a lightship at least as early as 1855 and had been "thoroughly repaired and refitted" in 1856. During the Civil War, this lightship was either "removed and sunk or destroyed by the insurgents." A lightship was back on duty at least by 1866 when it reported a leak. Exactly when this lightship station was abandoned is unknown, but a request for the

⁴ U.S. Lighthouse Service 1915 (Washington D.C., Government Printing Office 1916), p. 28; Lawrence H. Bradner, The Plum Beach Light: The Birth, Life, and Death of a lighthouse (1988), p. 169; Clifford p. 165 and 173 indicates Alpena Lighthouse and Fourteen Foot Shoal Lighthouse are also pneumatic, but this is apparently incorrect. Bradner gives a date of 1902 for Point No Point Lighthouse while de Gast p. 63 and Clifford p. 130 give a date of 1905.

HOOPER ISLAND LIGHT STATION

establishment of navigational aids between Cove and Smith Points, including Hooper Island, was made in 1897. The Lighthouse Board stated that,

There is a stretch of about 30 miles between Cove Point and Smith Point which should be better lighted. For a part of the distance navigators are without a guide, where a deviation from the sailing course might carry vessels of heavy draft onto dangerous shoals. There are many of this class of craft trading to Baltimore, and their number is increasing. The shore on the west side of the bay hereabouts is bluff and can be more easily seen at night than that on the eastern side, which is low. The shoals to be dreaded lie along the latter, and a light placed near that vicinity would be a great aid to navigation. It is estimated that a proper light can be established here for not exceeding \$60,000, and it is recommended that an appropriation of this amount be made therfor.

These lights were necessary to divert ships, especially those of deep draft, away from the nearly 30 miles of shoals along the Eastern Shore of Maryland. On July 1, 1898, Congress authorized up to \$60,000 for the establishment of a light and fog signal near Hooper Island, appropriating \$30,000. A second appropriation of \$30,000 was approved on March 3, 1899. By 1899, contracts of \$18,955 were awarded to Variety Iron Works, Co. of Cleveland for the metal work and \$29,000 to Toomey Brothers of Guilford, Connecticut, for the construction of the lighthouse. A third contract called for the supplying of the fog bell and supporting yoke. The complete order of metalwork for the lighthouse was not delivered until December 21, 1899, though the contract called for delivery by September 13. The contractor was not able to begin construction on time because of this delay, and the contract was annulled in May 1900. The contract was readvertised for bids on June 14, and the lowest bid, of \$31,300 by Toomey Brothers, was accepted; work began on February 4, 1901.

The caisson, with two tiers of cast-iron plate forming the foundation cylinder and 12 inches of concrete to serve as ballast, was launched on May 21, 1901. A temporary pier and work platform was completed at the site on June 23, 1901. By the end of June, the fifth course of plates had been bolted to the caisson and the assemblage towed by tug to the site on July 6, 1901. Workers proceeded to fill the cylinder with concrete and to sink the caisson and partially completed iron cylinder to the required depth of 13 1/2 feet below the mud line. The weight of the assemblage, now containing a 30-foot thickness of concrete, as well as, the use of sand pumps got the assemblage down 5 feet, 10 inches. At this point, about 300 tons of riprap was placed around the cylinder to prevent bottom scour. Continued pumping and adding of concrete got the assemblage to its desired depth on August 31. The final courses of cast-iron plates forming the cylinder were completed on September 17. The upper portion of the cylinder was then lined with brick masonry forming the cellar walls that support the iron light tower. Construction on the tower including the brickwork, woodwork, piping, windows, doors, and painting was "practically" completed by February 10, 1902. Additional riprap stone was added in April, and the flashing white light was first lit on June 1, 1902. The original lens was a fourth-order Fresnel manufactured by F. Babier & Company, Paris, in 1888. In 1904, the characteristic of the light was changed to a fixed white with an eclipse every 15 seconds. The 41 1/2-inch-diameter fog

⁵ Lighthouse Board, Annual Report, 1855; 1856, p. 600; 1862, p. 152, 1866; and 1897, pp. 37, 98.

HOOPER ISLAND LIGHT STATION

bell, manufactured by McShane of Baltimore in 1901, was changed to a Cunningham air diaphragm foghorn in the late 1930s. The fog bell was retained as a backup.⁶

A 110-volt generator system was installed on August 28, 1937. This replaced a 10-volt battery pack. The fog bell was removed at that time and replaced with an air diaphragm horn. The light was fully automated on November 21, 1961. On September 15, 1976, the Coast Guard found that the original fourth-order Fresnel lens had been stolen. The lower gallery roof was removed some time after automation.⁷ The current optic is a solar-powered 300 mm lens.

9. Major Bibliographical References
Bradner, Lawrence H. The Plum Beach Light: The Birth, Life, and Death of a Lighthouse, 1988.
Clifford, Candace. 1994 Inventory of Historic Light Stations. Department of Interior, National Park Service, History Division, Washington, D.C., 1994.
de Gast, Robert. <i>The Lighthouses of the Chesapeake</i> . The Johns Hopkins University Press, Baltimore and London, 1973.
Holland, F. Ross, Jr. Maryland Lighthouses of the Chesapeake Bay: An Illustrated History. Maryland Historical Trust, Crownsville, Maryland, in press.
Turbyville, Linda. Bay Beacons: Lighthouses of the Chesapeake Bay. Eastwind Publishing, Annapolis, 1995.
U.S. Lighthouse Board. <i>Annual Reports</i> , 1867-1902. Department of Commerce and Labor, 1867-1902.
Previous documentation on file (NPS) preliminary determination of individual listing (36 CFR 67) has been requested previously listed in the National Register
X previously determined eligible by the National Register designated a National Historic Landmark recorded by Historic American Buildings Survey #

recorded by Historic American Engineering Record #

⁶ Lighthouse Board, Annual Reports, 1898, pp. 27, 47, and 106; 1899, p. 102; 1901, p. 107; and 1902, pp. 13 and 125; Linda Turbyville, Bay Beacons: Lighthouses of the Chesapeake Bay (Eastwind Publishing: Annapolis, 1995), pp. 64, 66; and Robert de Gast, The Lighthouses of the Chesapeake, Johns Hopkins University Press, Baltimore, 1993, p. 135.

⁷ Chesapeake Bay Lighthouses, p. 263; and Candace Clifford, 1994 Inventory of Historic Light Stations, National Park Service, History Division, Washington, D.C., 1994, p. 128.

tates Department of the	Interior,	National Park	Service	National	Register of	Historic Pla	ices Regi
Primary Location of X State Historic Pro Other State agency X Federal agency Local governme University Other Name of repository: National Park Service	eservation ecy nt Nationa	on Office	•	•			-
10. Geographical Da	ta						
Acreage of Property:	Less tl	nan one acre					
USGS quadrangle: P	oint No	Point, MD					
UTM References:	Zone 18	Easting 390620	Northing 4234770				
Boundary Descriptio	n:						
The boundary	is cont	erminous wi	th the foundati	ion of the	lighthouse).	
Boundary Justification	n:						
The boundary	comple	etely encomp	passes the light	t station.			

11. Form Prepared By

name/title: Ralph E. Eshelman, Maritime Historian

(Originally prepared for the Maryland Historical Trust as part of a multiple property nomination for Maryland Lighthouses; reformatted in May 1998 by Candace Clifford, NCSHPO consultant to the National Maritime Initiative, as part of a multiple property documentation form for U.S. Coast Guard-owned light stations); edited and revised by Jennifer Perunko, NCSHPO Consultant, National Maritime Initiative, National Park Service, August 2002

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OMB No. 1024-0018

United States Department of the Interior, National Park Service

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organization: Eshelman & Associates

date: February 25, 1996

street & number: 12178 Preston Dr.

city or town: Lusby

state: MD

zip code: 20657

telephone: 410-326-4877

Property Owner

name: U.S. Coast Guard, Fifth District

street & number: 431 Crawfort Street

telephone: (757) 398-6351

city or town: Portsmouth

state: VA

zip code: 23705