LIGHTSHIP 116
(Lightship CHESAPEAKE
Lightship FENWICK
Lightship DELAWARE
WAL 538)
Pier 3, Inner Harbor
Baltimore
Maryland

HAER No. MD-133

PHOTOGRAPHS

PAPER COPIES OF COLOR TRANSPARENCIES

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
U.S. Department of the Interior
1849 C St. NW
Washington, DC 20240

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Jet Lowe, Photographer, 2003

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Jet Lowe, Photographer, 2002.

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HISTORIC AMERICAN ENGINEERING RECORD

LIGHTSHIP 116
(Lightship FENWICK)
(Lightship CHESAPEAKE)
(Lightship DELAWARE)
(WAL 538)

HAER No. MD-133

RIG/TYPE OF CRAFT:	Lightship
TRADE:	Aid to navigation
OFFICIAL NUMBER:	LV 116, WAL 538
PRINCIPAL DIMENSIONS:	Length: 133' Beam: 30' Draft: 13' Displacement: 633 tons
CURRENT LOCATION:	Pier 3, Inner Harbor, Baltimore, Maryland
DATE OF CONSTRUCTION:	1930
BUILDER:	Charleston Drydock and Machine Company, Charleston, South Carolina
PRESENT OWNER:	National Park Service, on loan to Baltimore Maritime Museum
PRESENT USE:	Historic ship exhibit
SIGNIFICANCE:	Lightship 116 is one of the last extant lightships in the United States and has had few modifications during its service. Four generations of lightships were in use in the United States from 1820 to 1983, serving as an essential part of the system of aids to navigation that protected mariners and their ships by marking stations through a combination of light and sound. Lightship 116 is a well-preserved example from the third generation of lightship design and from the vessel class of Lightship 100, whose most significant advance was the installation of a diesel-electric power plant. New technology,

such as the Coast Guard's offshore light towers, eventually rendered lightships obsolete as they were replaced by other forms of navigational aids that did not require a crew. Lightship 116 has been designated a National Historic Landmark.

RESEARCHER: Justine Christianson, HAER Historian, April 2004

PROJECT INFORMATION: This project is part of the Historic American Engineering Record (HAER) Richard O'Connor (Acting Manager), a long-range program to document historically significant engineering and industrial works in the United States. The HAER program is administered by the Historic American Buildings Survey/Historic American Engineering Record Division (HABS/HAER) of the National Park Service, U.S. Department of the Interior, John A. Burns (Acting Manager).

The project was prepared under the direction of HAER Maritime Program Coordinator Todd Croteau. Justine Christianson, HAER Historian, wrote the historical report with edits and additional information provided by Paul Cora, Curator/Historian, Baltimore Maritime Museum. Jet Lowe produced the large-format photography.

Overview of Lightships

Lightships were an essential part of the system of aids to navigation that guided and protected mariners and their ships on coastal waters. Eventually rendered obsolete by technological advances, "lightships served as day beacons, as light platforms by night, as sound signal stations in times of reduced visibility, and around the clock as transmitters of bearing- and distance-finding electronic signals."[1] As opposed to lighthouses, lightships had two advantages: they could be easily moved and could be stationed in both shallow and deep waters.[2] Lightships have a long history of use, spanning from 1820 to 1983.

Beginning in 1820, with the establishment of the first U.S. lightship, oversight of lightships and other forms of navigational aids fell to the Fifth Auditor of the Treasury Department. The Lighthouse Establishment, described by historian Willard Flint as "a loosely structured organization administered at the local level by the Collectors of Customs," actually controlled the system of aids to navigation.[3] Collectors managed the day-to-day operations of the lightships, such as construction, wage payment, and inspections. Flint characterizes this as an inefficient system, headed by an incompetent Fifth Auditor named Stephen Pleasonton. The result, in Flint's words, was a "system of navigational aids which was inadequate to the need, behind the times, and technically inefficient."[4]

Poor technology also hindered the development of the first generation of lightships. By 1842, U.S. lightships were far inferior to those in Europe. The thirty lightships then in use in this country were constructed of wood with rounded hulls that caused the ship to pitch and roll violently in turbulent weather. If the turbulence was particularly bad, the ship could break free from its anchor and be blown off course. If this happened, a station would be left without a lightship as there were no replacement vessels. Other problems included the "multiple-wick sperm oil lamps...that had to be raised and lowered to the deck for servicing," a challenge in stormy weather.[5] After an investigation of lightships ordered by Congress in 1851, the Lighthouse Board was established in 1852. While the Lighthouse Board effected important organizational and technological innovations, it was considered too unwieldy of an organization. By 1910, it had been replaced by the Bureau of Lighthouses, operating within the U.S. Lighthouse Service, which was in the Department of Commerce. From 1939 until 1985 with the

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[1] Willard Flint, "A History of U.S. Lightships," 2. Available at http://www.uscg.mil/hq/g-cp/history/h_lightships.htm, accessed April 3, 2003.

[2] Flint, 2.

[3] Flint, 3.

[4] Flint, 3.

[5] Flint, 3.

decommissioning of the last lightship, lightships and other aids to navigation came under the supervision of the U.S. Coast Guard.

Technological advances mark the development of the form of the lightship. The reorganization of the Lighthouse Service into the Lighthouse Board resulted in a more standardized design and installation of new equipment. In 1891, Gustav Kobbe wrote a description of No. 1 lightship (an example of the first generation), stationed in New South Shoal off Nantucket. The lightship had been stationed at that location since 1856. Built of white and live oak, the ship was 103' long, weighed 275 tons, and had a 24' beam.[6] Kobbe noted that the ship had two hulls with "the space between them being filled through holes at short intervals in the inner side of bulwarks with salt."[7] Plugs "running the length of the vessel forms a series of black dots near the rail" stopped up the holes.[8] There were two lantern masts standing 71' tall with lanterns described as "octagons of glass in copper frames five feet in diameter, four feet nine inches high, with the masts as centers."[9] Eight lamps burned in the 1 ton lantern, providing a bright beacon for ships at sea. Sitting on the deck and surrounding the lantern masts were houses into which the lanterns would be lowered for lighting. Kobbe described the process by which the relit lantern would once again be hoisted aloft: "When the lamps have been lighted and the roofs of the lantern-houses opened,–they work on hinges, and are raised by tackle,–the lanterns are hoisted by means of winches to a point about twenty-five feet from the deck."[10] In addition to lanterns, the lightship also utilized a bell to provide sound warnings. Behind the lantern masts were 42' high sail masts. As Kobbe points out, the lightship was actually ill-equipped for sailing. Since the lightship had "only trysails to the sailmasts, a square sail to the fore lantern mast, a forestaysail, and a jib," the vessel could be blown off station in storms.[11] In order to keep the lightship stationary, therefore, a "mushroom anchor," shaped like the cap of a mushroom and weighing 6,500 pounds, was necessary. The 2" thick anchor chain connected the anchor to the ship. The chain was "shackled to the keelson" and ran "through a deck-pipe to the deck and over the latter forward to a hawse-pipe, through which it runs into the water fully one hundred and five fathoms to the 'mushroom'."[12]

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[6] Gustav Kobbe, "Life on the South Shoal Lightship," *The Century: A Popular Quarterly* 42, no. 4 (August 1891): 540.

[7] Kobbe, "Life," 540.

[8] Kobbe, "Life," 540.

[9] Kobee, "Life," 540.

[10] Kobbe, "Life," 541.

[11] Kobbe, "Life," 542.

[12] Kobbe, "Life," 542.

Problems with the lightship design were remedied in the later generations of lightships. Iron and steel rounded hulls replaced wooden ones. The pitching and rolling of the ship was remedied with bilge keels and steam power allowed electricity to be used onboard.[13] Other improvements included newly designed decks to keep water from collecting and a "dual mast system enabling a light to always be kept lit."[14] One of the most important developments was the use of the diesel engine istead of steam as seen in Lightship 111, built in 1927.[15] The third generation had a much superior design to those previous because of dual equipment like the multiple diesel engine-generator sets that could independently operate and the two mushroom anchors.[16] The final generation of the lightship was the U.S. Coast Guard-built ships, the first of which was constructed in 1946. Eventually, technology rendered the lightships themselves obsolete as Texas Tower light platforms, stationary platforms, and navigational buoys replaced the lightships.

Description

The Charleston Drydock and Machine Company in Charleston, South Carolina built Lightship 116 for $274,434.[17] Launched on October 22, 1929, the ship was finished on August 14, 1930. Its sister vessels were LV 100, 113, 114, 115, and 177. Measuring 133' long, with a

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[13] National Register of Historic Places nomination form, section number 7, page 2, prepared by James Delgado, June 30, 1989. Experiments were conducted on bilge keels, whose purpose was to prevent "assonance between the ship and the wave." See "The Effect of Bilge Keels on the Rolling of Lightships," Part I, George Idle; Part II, G.S. Baker (London: His Majesty's Stationery Office; reprint, *Transactions of the Institution of Naval Architects*, 1912).

[14] National Register form, section number 8, page 3.

[15] The specifications for Lightship 111 noted: "the propelling engine will be of the vertical, eight-cylinder direct-acting, full Diesel, self-reversible type, of Winton manufacture, drving [sic] a left-hand propellor." The diameter of the cylinder would be 12 15/16"; stroke of pistons would be 18 do; shaft horsepower would be 400; revolutions per minute would be 200-250; and weight with thrust would be 90,000 pounds. See Department of Commerce, Lighthouse Service, "Specifications for the Machinery Installation and Completion of the Single-Screw, Steel, Diesel-Engine-Propelled, Second-Class Light Vessel No. 111" (Washington, Government Printing Office, 1923), 50-51.

[16] Information provided by Paul Cora, Curator/Historian, Baltimore Maritime Museum, e-mail communication with author, March 30, 2004.

[17] National Register form, section number 8, page 4. A fact sheet from the Public Information Division, U.S. Coast Guard Headquarters, dated August 30, 1971, gives the cost of construction as $184,324 for the machinery, $554,776 for the hull and installation of machinery, equalling $739,100. A vessel data sheet in the vertical files housed at the USCG TANEY in Baltimore, Maryland, gives the total cost as $741,100.

30' beam and 13' draft, Lightship 116 displaces 630 tons.[18]

While some technological changes have occurred, Lightship 116 itself has undergone very little renovation, in keeping with the general history of lightships. Lightship 116's double riveted, steel hull is painted red, which was the standard Coast Guard color used after 1945. "CHESAPEAKE" is painted in white along the sides.[19] Accomodating sixteen crew, including a cook, five officers, and ten seamen, the main deck contains the living quarters, except those of the Master (located on the upper deck immediately after the pilot house) and the Radio Operator (part of the radio house on the upper deck). The wardroom is located aft, containing a table and chairs and a semi-circular leather transom at the extreme stern of the vessel. The original design for Lightship 116, prepared for the U.S. Lighthouse Service, included staterooms for five officers: Captain or Master, First Officer, Second Officer, First Engineer, and Second Engineer. The staterooms contain beds, lockers and sinks, and features portholes to filter in natural light. The mess deck contains the galley and crew's mess, with tables and benches that have been bolted to the deck running along the exterior bulkhead. Portholes allow natural light into these spaces as well. Doors along the interior bulkhead open onto ladders leading to the lower deck. Crew quarters flank the exterior bulkheads of the lower deck, with a recreation room in the interior. The crew berthing consists of bunks with lockers and shelving. At the bow of the ship is the anchor windlass, run by a 1929 Hyde Windlass Company motor.[20] A sign on the bulkhead notes that the anchor windlass has 1,000' of chain. Both the main and spare mushroom anchors weigh 5,000 pounds. The engine and motor room, along with the workshop areas, are located below the main deck. The ship's four diesel engine-generator sets produce the electric current to drive the ship's 350-hp propulsion motor.[21] The maximum speed of the ship was 10 knots, with an average of 9 knots, although the speed was hardly important given that lightships spent the majority of their time in service anchored to one station.[22] Extensive use of skylights, which could be opened via hand cranks, over the motor room, galley and engine room provide natural light and allow ventilation for those spaces.

Ladders from the main deck lead to the captain's stateroom and pilot house, which are

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[18] Fact Sheet, Public Information Division, U.S. Coast Guard Headquarters, 8/30/1971. A vessel data sheet in the vertical files housed at the USCGC TANEY, in Baltimore, Maryland, gives the length as 133'-3".

[19] According to Paul Cora, Curator/Historian, Baltimore Maritime Museum, "a careful examination of the port and starboard hull plating reveals the welded letter outlines for "Delaware," the ship's station designation from 1965-1970," e-mail communication with author, March 30, 2004.

[20] National Register nomination form, section number 7, page 3.

[21] National Register nomination form, section number 7, page 3.

[22] Willard Flint, *Lightships of the United States Government Reference Notes* (Washington, DC: Coast Guard Historian's Office, 1989), unpaginated.

located at the bow of the ship on the upper deck. The anchor windlass and chain for the mushroom anchor are directly below the fore deck. A bell, marked "USLHS, 1930" sits directly outside the pilot house. The radio room and operators quarters were located on the upper deck in the after deck house. There are two steel masts, located on either end of the ship, that carry the lights. The foremast rises 63'-5" above the keel and the main mast rises 74'-3" above the keel.[23] These "steel tubular lantern masts" provided visual signals to passing ships, and were "each surrounded at the top by a gallery and rail with lens lantern on each mast, the main lantern at the fore."[24] The illuminating apparatus is a duplex 375 mm electric lens lighthead. The fog signal was an electric diaphragm horn using a four-way multiple horn with a hand operated bell.[25] The electric fog horn was replaced in 1935 with a compressed air F2T diaphone horn that was in use for the ship's remainder period service, although it was apparently removed at decommissioning.

The masthead lights had "high visibility" due to the "wattage of 1,500 and 30,000 candle-power." From Fenwick Island Shoals, it was claimed that "her lights will be seen under ordinary atmospheric conditions 14 miles at sea." Other typical aids to navigation on board the lightship included a radio beacon and receiving and sending sets as well as "an air-oscillator serving as a fog siren." Since lightships were semi-permanent fixtures, the ship had over 20,000 gallons of fuel oil for heat and cooking and 10,000 gallons of fresh water. For refrigeration, the ship had a "Frigidair refrigerating system." The only wood used in the construction of the lightship was in the "bunks, mess tables, chairs, and one or two cabinets," which made the ship "practically incombustible" despite the large amount of stored oil.[26]

Operational History of Lightship 116

The lightship's first tour of duty, where she was known as Lightship FENWICK, was at Fenwick Island, Delaware, from August 17, 1930 to 1933.[27] Strategically located, the lightship

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[23] 1964 Ship's Characteristic Card. National Register nomination form, section number 7, page 3 gives the foremast as 52.9' above deck and the main mast as 53.2'.

[24] Fact Sheet, Public Information Division, U.S. Coast Guard Headquarters, 8/30/1971.

[25] See http://www.maritime.org/hnsa-chess.htm, accessed 4/12/02; http://www.uscg.mil/hq/g0cp/history/WEBLIGHTSHIPS/LV116.html, accessed 4/5/02; http://www.uscg.mil/hq/g-cp/history/CHESAPEAKE.html, accessed 4/5/02; and Paul Cora, e-mail communication.

[26] Description from "Finest Afloat: Guardian of Fenwick Island Has Many Distinctive Forms," unknown date and newspaper, and "After Many Years at Sea...Lightship Serves as Museum," *Navy Times* (July 9, 1979), 26.

[27] The station's position was 7.8 miles, 096 degrees from Fenwick Island Light, which was east of Fenwick Island Shoal. Acording to Flint, *Reference Notes* the position of the ship was (N Lat - W Long) 38 27.6 - 74 46.4. The position was moved later, although Flint does not specify when.

marked coast traffic and ships coming south from Delaware Bay with its lights and an air siren. At Fenwick Island, the lightship replaced an already existing lightship, LV-52. The crew of LV-52 was transferred to the new lightship, LV-116. Swen Olsen, one of the transferred crew members, emphatically stated, "the old LV-52 had nothing!" He described the luxuriousness of the new lightship. "First, there were the beautiful accommodations...we got aboard and they said it was like coming into a first class hotel–there were even two big portholes located underneath the bottom bunk. We couldn't wish for anything better. Oh, that was a first class ship. Big great refrigerator and everything."[28] The former lightships had utilized oil, oil-gas, and acetylene illuminants rather than electricity, which was used in LV-116. The new lightship, therefore, marked a technological improvement as well as improved living conditions. A "Fenwick Shoal Lighted Whistle Buoy" replaced the lightship at Fenwick Island, so in 1933 the ship was transferred to the Chesapeake.

From 1933 to 1942, Lightship 116 (now called the Lightship CHESAPEAKE) was stationed 15 miles, 078 degrees from Cape Henry Light.[29] This was an important station as it marked the approach to the Chesapeake Bay as well as to Newport News and Norfolk, Virginia.[30] Technological changes also occurred with the move, as the ship was equipped with a radiobeacon in 1933, and an air diaphone replaced the fog signal in 1935. In 1939, the U.S. Coast Guard took over the Lighthouse Service and oversight of the lightships. Lightship 116 was redesignated WAL-538 (standing for Coast Guard Auxiliary Light Vessel). During World War II, Lightship 116 was sent to Sandwich, Massachusetts, to serve as an examination vessel. Reflecting wartime function, the ship was outfitted with two 20 mm guns. After a three year period of service, Lightship 116 returned to the Chesapeake Bay in 1945 where detection radar was installed. In addition to fulfilling duties as an aid to navigation, crew on the lightship would radio "weather reports to Coast Guard headquarters at Portsmouth, which in turn advises the Norfolk Weather Bureau and airport." Crew also took water samples and tested temperature and the saline content.[31]

For two months a year, a relief lightship, appropriately called RELIEF, took the place of Lightship 116. Measuring 129.8' in length, the RELIEF could simulate a lightship's light, radio signal, and fog horn, which was important because each station was characterized by different signals. This enabled sailors familiar with the individual stations to know their location. Six 2-

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[28] Interview conducted by Frank Hebblethwaite, transcribed by Ms. Seamond M. Roberts, August 19, 1980, p. 60. Available at http://www.uscg.mil/hq/g%2Dcp/history/chesapeake.html.

[29] According to Flint, *Reference Notes*, the lightship was stationed 36 58.7 - 75 42.4 in 63 ft.

[30] National Register nomination, section 8, page 5.

[31] Aubrey Graves, "To Light Up the Dark Hours."

cylinder engines on the RELIEF made the mimicking possible.[32] In 1965, the construction of a light tower situated 14 miles east of Cape Henry, rendered Lightship 116 unnecessary. The tower, known as the "Chesapeake Light Station," was a 75' tall "platform resembling an unfinished oil derrick." It was deemed more useful than the lightship had been, though, because of "its brighter lights and stable foundation" that "marked the bay's entrance more effectively." The other advantage of the station was that the platform was conducive to helicopter landings, enabling resupplying.[33]

From the Chesapeake, WAL-538 went to her last station at Delaware Bay in 1965 where her name was changed to DELAWARE. Located 17 miles, 89 degrees from Fenwick Island Light, the station was necessary to mark the southern approach to Delaware Bay. In 1970, the 104-ton, automated Delaware Light Horn Buoy "D" replaced the lightship. With no other station to mark, the lightship was decommissioned on August 25, 1970. After decommissioning, Lightship 116 was transferred to the National Park Service and used as a museum exhibit and environmental center in Washington, D.C. In 1981, reductions in the National Park Service's regional budget resulted in the transfer of the lightship to the Baltimore Maritime Museum as an exhibit until 2006.[34]

The Dangers of Life Aboard a Lightship

Since lightships were anchored to one spot, they were susceptible to damage from bad weather. Lightship 116 broke away from anchor in 1933, 1936 and 1962. On two of those occasions, in 1936 and 1962, Lightship 116 suffered from the effects of hurricanes. R.A. Dixon, mate, described the hurricane the ship survived in 1936. He recounted that after hearing the hurricane warning on the radio on September 16 and 17, he made sure that everything had been secured: "I put all the gripes [sic] and lashings possible on the boats, I took the forward ventilators off and put the plates down in their places, or other wise they would have been carried away. I had the engineer run all the engines and try out the pumps, took out the rudder pin, and tried the steering gear." The storm began at noon on September 17 and continued until the next day. Dixon could not even tell if it was raining or not because the "sea beat over us so, I could barely see under the green sea as it broke over the pilot house." In order to keep the ship on station, Dixon described how the crew put the spare anchor over and also kept the engines

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[32] Ken Baldwin, "20 Miles at Sea: Rock'n'Roll Yule Likely for CG Lightship Crewmen," *Norfolk Ledger Dispatch* (5 December 1957).

[33] "After Many Years at Sea...Lightship Serves as Museum," *Navy Times* (July 9, 1979), 26.

[34] See http://www.maritime.org/hnsa-chess.htm, accessed 4/12/02, and http://www.uscg.mil/hq/g0cp/history/WEBLIGHTSHIPS/LV116.html, accessed 4/5/02; http://www.uscg.mil/hq/g-cp/history/CHESAPEAKE/html accessed 4/5/02; Paul Hodge and Cynthia Luessenhop, "Park Service Cuts Popular Services in This Region," *The Washington Post*, Thursday, February 5, 1981.

running all day. In addition, the crew had difficulty in getting the spare anchor overboard. Dixon recounted, "recommendation has been made to the Supt. to put ring bolts in the deck and spare anchor so it can be lashed with manila rope, and when getting the anchor overboard this line can be cut and save much trouble."[35]

On March 7, 1962, the ship suffered from the first of two storms that year. The Officer in Charge, W.B. Barrett, recorded the events of the day. At 1725 hours, wrote that the engines had overheated, presumably from running in an effort to keep the ship on station. At 1800 hours, he recorded "continuing efforts to head into sea," and by 1840 hours, there was a "mountainous sea rolling over wheelhouse buckling forward bulkhead" that broke four portlights. As a result, the crew had to call the Coast Guard station at Norfolk for help. The CGC CHEROKEE arrived quickly at 1905 hours with aircraft and checked for damage. Barrett noted that "C G C Cherokee to standby throughout night. Flooded compartments pumped out." Problems continued the next day when at 0035 hours, a crew member noted in the log that a "fire discovered in running light panel" had to be extinguished. The fire damaged the electrical components in the panel, and the ship had to be towed to Norfolk for repairs.[36] In November and December 1962, during another storm, the lightship's "anchor chain (steel links which were 1 5/8 thick) parted twice. The station pitched, rolled and drifted until another 7000-pound mushroom anchor could be put down."[37]

Life on a Lightship

Life on the early lightships is graphically described by Gustav Kobbe, who in 1891 published an article on his experience on No. 1 lightship stationed on New South Shoal off Nantucket. This account provides an interesting comparison with interviews of former shipmates onboard Lightshi 116 many years later. Before visiting the lightship, some "grizzled old salts" warned Kobbe about the tedium of life on a lightship and the dangers. One captain told him, "If it were n't for the disgrace it would bring on my family I'd rather go to State's prison" than serve on a lightship.[38] From such warnings, Kobbe concluded "life on a lightship therefore presented itself to us as a term of solitary confinement with the horror of

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[35] R.A. Dixon to Superintendent of Lighthouses, Norfolk, Virginia, Chesapeake Lightship 116, September 23, 1936.

[36] Logs of Lightship Chesapeake, WLV-538.

[37] Aubrey Graves, "To Light Up the Dark Hours."

[38] Gustav Kobbe, "Life on the South Shoal Lightship," *The Century: A Popular Quarterly* 42, no. 4 (August 1891): 537.

seasickness."[39]

Dining onboard the lightship presented some challenges. Since Lightship No. 1 was constantly rocking, no doubt due to its rounded hull, there were holes in the table into which pegs were fitted around the dishes. Often the plates could not be restrained and would end up dumping into other dishes, resulting in a "conglomeration mysterious enough to puzzle even a person who has solved the most profound of problems of the culinary art."[40] Former shipmates of Lightship 116, however, remembered much better fare than the unappetizing concoctions on the No. 1 lightship. Gus, the cook, prepared hearty meals for the crew. William Rankin remembered having eggs, cereals, and occasionally hot cakes for breakfast, with soup always being served at the main meal. Burfoot Sears recounted, "we had the name of the best fed crew in the lightships." Gus would usually cook too much food, "and there was no way the people were going to eat all the food....and he'd start grumbling...about not eating what he cooked, but he was a good cook and we had plenty of food and we all had to live together you know." He remembered eating steak, beef, pork chops, and drinking copious amounts of coffee. The better food compared to the lightship off Nantucket is undoubtedly due to the better refrigeration systems and also the more frequent contact with other ships who could bring supplies. Sears stated that the cook would give a list of needed provisions to the captain. When a buoy tender came out to the ship, the captain would give the list to the crew. The next ship would then bring out the supplies.[41]

Boredom was something with which crews of lightships had to contend. Kobbe describes the particular sense of desperation and loneliness that seemed to beset the crew of the lightship.

> The emotional stress under which this crew labors can hardly be realized by anyone who has not been through a similar experience. The sailor on an ordinary ship has at least the inspiration of knowing that he is bound for somewhere; that in due time his vessel will be laid on her homeward course....But no matter how the lightship may plunge and roll, no matter how strong the favoring gales may be, she is still anchored two miles southeast of the New South Shoal.[42]

The isolation suffered by those on No. 1 lightship was undoubtedly more severe since they had

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[39] Kobbe, "Life," 538.

[40] The most common dishes were "scouse," a "wonderful commingling of salt beef, potatoes and onions, with varied trimmings," and "duff," a dish "like the dumplings served in Yorkshire pudding with a sauce of melted brown sugar." Kobbe, "Life," 543.

[41] Transcribed interviews.

[42] Kobbe, "Life," 545.

to spend greater periods of time onboard. This was due to the inability of other ships to reach them during the winter months. Those on Lightship 116, on the other hand, had a rotation of two months onboard followed by one month on land. In order to stave off boredom, crewmembers engaged in various diversions. William Rankin would read the scientific magazines that were in the ship's library when he was off duty. Charles Mitchell also spent his downtime reading, mostly magazines from newspapers, which they got from passing tenders. In his interview, he alludes to one crew member named Berry who was "kind of off the hatch a little bit" from the boredom, but he was the only person Mitchell ever heard of going stir crazy. On the former lightship LV-52, which was powered by steam, the crew would sometimes make whiskey with a homemade distillery. Mitchell remembered that during Prohibition, the crew would get supplies from Portsmouth, including a bag of potatoes to make spirits. The crew would also make banana wine, because many fruit ships passed. He recalled in his interview, "they'd just call up on the radio and tell us they were coming by and to be out there with a boat to pick them up and they would throw them overboard." Swen Olsen, a daredevil sort of person, exercised to combat boredom by climbing up and down the mast fifty times a day. At night, he would lift weights and do pull ups for about an hour and an half. His other hobby was catching sharks for their teeth, which he collected, and for their backbones, from which he made canes. He disgustedly stated that he never ate the meat of the shark, but instead fished for more edible fish. Olsen remembered that in Fenwick Island, the fish were so plentiful that he would eat fish every night except Sunday. Burfoot Sears, to entertain himself, would make belts from twine and picture frames from scrap wood. He would also exercise by walking up and down the gangways and would play cards.[43]

The other problem with life onboard the lightship was the constant motion of the ship. As Kobbe discovered when he visited the lightship, even in calm seas, the ship would be still, but "then without warning she will roll so that the water streams in through her scuppers." During rougher periods and in winter, "the violence of the pitching and rolling is such as to try the hardihood of the men to the utmost."[44] Burfoot Sears had grown up in rural North Carolina and had no experience with ships and being out at sea. He recalled how seasick he was at first onboard Lightship 116: "You see, when that ship gets out and anchors on station, it's never still. It continuously rolls, of course, depending on how rough it is, but the ocean can be almost slick calm, but they have them long ground swells, see, and it just rolls slowly, and it not being very big, you know, and if it's real rough, it bounces around like a cork almost."[45] The noise of the foghorn was also a detriment to working aboard a lightship. Joseph T. Beasley stated that shipmates would put cotton in their eyes to drown out the noise, but "even then, none of us gets any sleep." Such was life on a lightship: anchored to one point, surrounded by nothing but water

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[43] Transcribed interviews.

[44] Kobbe, "Life," 545-546.

[45] Transcribed interviews.

and confined to one ship, with little outside contact except from relief ships and passing vessels.

Perhaps the knowledge of scheduled leave sustained the men during their sojourns on the lightships. In order to get home for leave, the men would often raise a flag to signal passing ships and catch a ride back to shore. Those who worked on Lightship 116 during the Great Depression saw their jobs as steady employment in a period when few jobs are available. One journalist found that of eleven crewmen, seven planned on remaining with the lightship because of the schedule: twenty-eight days on the lightship, fourteen days off. Others noted that time actually passed quickly. William Hawkin declared "we can watch free movies," which were brought by relief ships, and television. Another man named George H. Mills Jr. from South Carolina explained that work on a lightship was a "fine opportunity to save money."[46] When lightships were rendered obsolete, the colorful stories of its crew members became as much an artifact as the ships themselves.

Lightship 116 is one of the last extant lightships in the United States and has had few modifications during its service. It remains well-preserved as an exhibit at the Baltimore Maritime Museum and has been designated a National Historic Landmark.

[46] Aubrey Graves, "To Light Up the Dark Hours."

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