

MVI

11 December 1952

(ANGOLINA - BARBARA LYKES)

F.L. HAYES - a-3 20

From: Chief, Merchant Vessel Inspection Division  
To: Commandant  
Via: Chief, Office of Merchant Marine Safety

Subj: Marine Board of Investigation; collision involving ANGOLINA,  
SS BARBARA LYKES and F.L. HAYES, 2000 feet west of Summit Bridge,  
Chesapeake and Delaware Canal, 15 May 1952, with loss of life

1. Pursuant to the provisions of Title 46 C.F.R. Part 136, the record of the Marine Board convened to investigate subject casualty, together with its Findings of Fact, Conclusions and Recommendations, has been reviewed and is forwarded herewith.

2. Shortly before midnight, 14 May 1952, the SS BARBARA LYKES, a cargo vessel of 6,108 g.t., partially loaded, was proceeding easterly in the C & D Canal with a fair tide, and the MV F.L. HAYES, a tanker of 1,103, g.t., fully loaded with gasoline, was proceeding westerly in said Canal against the current. The F. L. HAYES after passing through the Pennsylvania Railroad Bridge pulled over to the north bank on her own right-hand side and grounded for the purpose of permitting the oncoming BARBARA LYKES, proceeding on a fair tide, to safely pass. In approaching the F.L. HAYES, the BARBARA LYKES became unmanageable and while passing, lightly touched the F.L. HAYES, following which the tanker exploded and the gasoline spilled on the water in the vicinity of the collision and became ignited. The SS ANGOLINA, a dry cargo vessel of 7,176 g.t., loaded with general cargo, was proceeding easterly close astern of the BARBARA LYKES and after the collision she passed the tanker and through the flames in the Canal. After passing through the flames the fires on board were successfully extinguished. The weather was fine and clear with an easterly tide running at a velocity of about two to three knots. As a result of this casualty, the estimated loss to the F.L. HAYES was \$1,000,000 and to her cargo \$66,000, to the SS ANGOLINA \$22,250, and to the BARBARA LYKES none. The Canal was closed to navigation and the following four crew members on board the F.L. HAYES lost their lives:

George Carter, 2nd Mate  
Richard Oakes, 1st Assistant Engineer  
Whelan C. Ellis, 2nd Assistant Engineer  
Ole A. Lands, Deck Hand

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3. The Board made the following Findings of Fact:

"1. The tanker P.L. HAYES and the freighter BARBARA LYLES were involved in a collision in the Chesapeake & Delaware Canal, at a point just east of Canal Light #30, at about 0013EDST on 15 May, 1952. As a result of the collision, the HAYES' side was punctured, permitting high test gasoline in her cargo to spill into the canal, a circumstance which resulted in fire and explosion about three or four minutes later. Shortly after the HAYES exploded, the SS ANGELINA passed through the area of burning gasoline and she sustained fire damage to her rigging and gear above decks. Four crew members of the HAYES are missing and presumed dead, and those who survived sustained injury of varying extent, none seriously. Two crew members of the ANGELINA also sustained injury while fighting fire, but neither of these cases were serious. None of the crew of the BARBARA LYLES were hurt and the damage to her hull consisted of a slight scoring of her hull plating in the way of the port bow.

"2. The missing and presumed dead from the HAYES:

[REDACTED], 2nd Mate  
[REDACTED], 1st Asst. Engineer  
[REDACTED], 2nd Asst. Engineer  
[REDACTED], Deck Hand

"3. After the HAYES, a burning wreck, had been abandoned by her crew, she drifted with the tide in the canal, finally grounding on the south bank about 1/2 mile west of the Pennsylvania Railroad Bridge, her bow on the bank and her after part submerged. She burned for about three weeks and is presumed a total loss.

"4. The M/V P. L. HAYES, official No. 249281, is a diesel driven tank-type vessel of 1,103 gross tons, 1,200 h.p., 240.8' long, built of steel at Brooklyn, N.Y. in 1946. She is certificated for the coastwise trade and is owned and operated by the Tank Barge Hygrade Company, Inc., of 500 5th Avenue, New York City. At the time of the disaster she was under the command of [REDACTED] Master's License No. [REDACTED] of [REDACTED], who was acting under the authority of his Coast Guard license as master and pilot. Captain [REDACTED] validated Merchant Mariner's Document was lost in the fire and he did not remember the number.

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"5. The BARBARA LYKES, Official No. 245964, is a dry cargo vessel of the C-2 type, 6,108 gross tons, 438.9' long, 6,000 h.p., turbine-driven, built at Oakland, California in 1944. She is owned and operated by Lykes Brothers, S.S. Co., of Whitney Bank Building, New Orleans, La. At the time of the collision she was under the command of [REDACTED] of [REDACTED] New Orleans, La. Captain [REDACTED] holds a master's license No. [REDACTED] and a validated Merchant Mariner's Document, No. [REDACTED]. The BARBARA LYKES was being piloted through the canal by [REDACTED] of the Delaware Bay and River Pilots Association, who was acting under the authority of his Coast Guard license No. [REDACTED]. Captain [REDACTED] holds a validated Merchant Mariner's Document No. [REDACTED].

"6. The ANGELINA, Official No. 244334, is a dry-cargo vessel of the liberty type, 7,176 gross tons, 422.8' long, 2,500 h.p., triple-expansion steam engine, and was built at Baltimore, Md., in 1944. She is owned and operated by the A.H. Bull Co., of 115 Broad Street, New York, N.Y., and at the time of the fire was under the command of [REDACTED] of [REDACTED]. Captain [REDACTED] holds Master's License No. [REDACTED] and C.D.B. No. [REDACTED]. The ANGELINA was being piloted by [REDACTED] of [REDACTED], acting under the authority of his Coast Guard license.

"7. The HAYES was equipped with radar, as was the ANGELINA, but neither was in use. The BARBARA LYKES was not equipped with radar.

"8. The weather before and during the collision was fine and clear with a light southwest breeze. The sea was smooth and the canal was lighted. An easterly tide was running with a velocity of about two to three knots.

"9. The BARBARA LYKES sailed from Baltimore, Md., on the evening of 14 May, 1952 bound for New York via the C&D Canal. All her navigating gear was tested satisfactorily before leaving and functioned perfectly while enroute. She was partially loaded with general cargo to a draft of 23.09 forward, 24.01 aft, and proceeded uneventfully to the western approaches of the canal where pilot Marshall boarded her before midnight. She was one of several eastbound vessels proceeding one after the other at about a mile interval, and she passed the Summit Bridge at 0001 WEST.

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As she cleared the bridge at slow speed a westbound vessel was sighted at the Pennsylvania Railroad Bridge showing a green side light and a range light. The oncoming vessel was then observed showing both side lights as she cleared the bridge and she was then momentarily lost from sight due to the formation of the canal. The engines of the LYKES were put at half speed as she passed the obstruction buoy which marks the constriction of the canal just east of Summit Bridge, and a one blast passing signal was blown to the approaching vessel. No answer was heard to the signal which was repeated twice again as the oncoming vessel was again sighted showing a red side light on the LYKES' port bow.

"10. As the vessels closed, the pilot of the LYKES slowed his vessel and noticed that she had smacked the bank and was slowly sheering to the left. It also appeared to the LYKES' witnesses that the approaching vessel, afterward learned to be the HAYES, was close to the north bank, and that her stern seemed to project into the channel. As the LYKES broke her sheer and the vessel began answering her right rudder, she struck the HAYES on the port after section a light bump that was barely noticeable to those on board. The LYKES proceeded on her way towards the Pennsylvania Railroad Bridge, and when close to it an explosion was heard from the HAYES, by then some distance astern. A blaze of fire immediately followed, apparently covering the entire surface of the canal. Witnesses from the LYKES also testified that they heard a one blast passing signal from the eastbound vessel immediately astern of them, the ANGELINA, followed by a four blast danger signal from the HAYES just before the explosion. The LYKES then proceeded through the canal and anchored off the eastern entrance.

"11. The ANGELINA sailed from Baltimore, Md., on the evening of May 14th, with Captain Willis on board as pilot. Her navigating gear had been tested satisfactorily before sailing and she was loaded with general cargo, to a draft of 14' .04" forward, 20' .04" aft. She proceeded uneventfully to the western approach to the C&D Canal and she passed through the Summit Bridge at 0007. The HAYES was sighted by the ANGELINA shortly after she passed through the Pennsylvania Railroad Bridge, and when the vessels were in plain sight of each other it was noticed that the HAYES was very close to the north bank, as if she had pulled over to permit the eastbound vessels to pass. A one blast signal was blown by the ANGELINA as the vessels closed, and a danger signal of four

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blasts was heard in answer. Another one blast signal was sounded by the ANGELINA, and by this time the two vessels were close aboard. As the ANGELINA undertook to pass the HAYES, an explosion occurred which covered the entire surface of the canal with a sheet of flame, enveloping the ANGELINA from stem to stern. The pilot ordered a full astern bell, which was promptly countermanded by the master, who ordered full ahead. The ANGELINA drew out of the fire area and successfully extinguished the fires aboard her. She proceeded through the canal, thence to Philadelphia.

"12. The M/V F.L. HAYES entered the eastern entrance of the canal and proceeded through the Pennsylvania Railroad Bridge at 0004 hours. Radioed orders had been given her to keep clear of the eastward traffic, and these orders were acknowledge over the voice radio by her master. An approaching vessel, identified as the LYKS, was sighted as she passed through the Summit Bridge, but she was then lost sight of due to the banks of the canal. As the LYKS passed through the Summit Bridge, a one blast signal was heard from her and promptly answered by the HAYES. The master was not sure whether he heard a second one blast signal from the LYKS, but he again blew a one blast signal. After the HAYES was clear of the Pennsylvania Railroad Bridge she pulled over close to the north bank on her own right-hand side, and it was noticed that the approaching LYKS, by then in plain sight, was sheering towards the HAYES. According to the master of the HAYES, his vessel was actually aground on the north bank when the LYKS struck the HAYES a glancing blow on the port wing of the bridge, carrying away the side light. He was not sure of other damage, and sent the second mate to the main deck to inspect for hull damage. His engines were stopped at the time, and all way off the ship.

"13. As the men were inspecting the damage, an explosion occurred aft, at or in the galley section, and flames immediately enveloped the stern of the HAYES. The general alarm was sounded and various members of the crew jumped overboard to avoid being burned to death. Five went over the bow and the cook jumped over the stern, all making their way to the canal bank. They had just climbed the bank when more explosions followed, with debris raining down. Later the survivors were transported to Wilmington, Delaware Hospital for treatment. Four men were found to be missing and their bodies have not yet been recovered.

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"14. The LYKES continued to burn and explode; burning gasoline continued to cover the canal. However, probably lightened somewhat by the consumption of her cargo she drifted away from the north bank, and with the changing tide came to rest on the south bank, where she burned for over three weeks."

4. The Board made the following Conclusions:

"1. It is considered that the principal cause of this disaster lay not with the ships involved, but with canal itself. The passing situation involving the BARBARA LYKES and the HAYES was agreed upon and undertaken in accordance with the applicable rules, including the local regulations of the Army Engineers for the C&D Canal, which give the right of way to the vessel proceeding with the current. Each master did his utmost to navigate on his own right-hand side of the channel, even to the extent of grounding their respective vessels, but in spite of these efforts, the bank contours in the section between the Summit and Pennsylvania Railroad Bridges are such that even these extreme measures only led to collision.

"2. The limited area between the bridges is further restricted by the narrowing of the canal east of Summit Bridge, where a constant eddy current prevails due to the geologic instability of the underlying strata. Actually, about 170 feet of navigable width is available to vessels, and further, it is necessary to favor the north bank when passing through, a circumstance which leaves an eastbound vessel with the necessity of a rapid adjustment of position in order to line up for the Pennsylvania Railroad Bridge. Permitting vessels to meet under such limited conditions is considered a direct invitation to collisions such as occurred between the LYKES and HAYES. In addition to the hazards of navigation considered above, the board also considered the influence of a two to three knot current, sweeping erratically around the bends and shoals, rendering the use of anchors futile, since such action would almost certainly lead to a grounding with the added possibilities of hull damage and blocking of the waterway.

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"3. It was considered that the collision ruptured the No. 7 port large tank containing gasoline, on the HUY S, and that the consequent discharge of the extremely volatile substance over the surface of the water, provided the explosive atmosphere which the fire in the galley stove of the HUY S ignited. Red-colored gasoline was observed pouring from the rent in her hull, but there was no sign of fire when the damage was being observed by her crew members. It was also testified that all her tank tops and allage holes were secured before leaving Eagle Point. The deck hand of the watch before midnight customarily made coffee on the galley stove for the incoming watch, and he testified that he left the fire burning to keep the coffee hot, thus providing the ignition when the concentration of vapor reached explosive proportions.

"4. When the general alarm bell was heard by the cook, he immediately rushed to the galley and attempted to carry out his assigned duties of extinguishing the galley fire. As he turned the valve for the oil supply, the explosion occurred which knocked him under the galley table. He then ran out on deck and observed flames as far forward as the bridge, and finding himself cut off from the crew forward, jumped over the side aft and swam ashore. Under the conditions then prevailing, it is considered that the position of the HUY S alongside the bank, and the flow of the current which carried the gasoline away from her were factors which permitted the escape of those who survived.

"5. The Board took notice of the rules and regulations promulgated by the Army engineers for the navigation of the C&D Canal, under the authority of 23 U.S.C.1, in particular, those provisions which bore on the navigation of the LKES and HUY S. Paragraphs 1 and 1 of 207-100 of the regulations provide that all vessels proceeding with the current shall have the right of way over those proceeding against the current, and that navigation in and through the waterway shall be governed by a system of lights. In the case of the LKES, a permission to proceed had been granted and she was entitled to the right of way over the HUY S. In the case of the HUY S, she too had permission to proceed and did her utmost to give way to the LKES. It is considered that each vessel fully complied with the rules pertaining.

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"6. The Board also took notice of the superb seamanship, supported by excellent judgment, demonstrated by Captain Lanier of the ANGELINA. Had he attempted to take the way off his vessel when the danger signal was blown by the HAYES, the ANGELINA would in all likelihood have grounded near her, with a loss of life and property that would have made the disaster many times greater. When suddenly and without warning enveloped in smoke and flames, from stem to stern, waterline to truck, and a natural impulse to back away, exemplified by the pilot's orders for full astern, Captain Lanier resolved the situation in the only practical manner, thereby saving his vessel. The conduct of the crew of the ANGELINA was comparable to that of her master. Each went to his emergency station without a thought of personal danger and successfully extinguished the fire which threatened the lives of all."

5. The Board made the following recommendations:

"1. In view of the above conclusions, it is considered that no fault attaches to the licensed or certificated personnel on either the BARBARA LYKS or F.L. HAYES, and therefore no action under R.S. 4450 is recommended.

"2. It is recommended that Captain [REDACTED] and the crew of the ANGELINA be cited for meritorious service and officially commended for their excellent performance of duty.

"3. It is recommended that representation be made to the Secretary of the Army with a view of surveying the presently existing conditions in the canal. The report on pilotage in the United States prepared by the Commandant for the Secretary of the Navy in November, 1942, Page 21, paragraph 3, which characterizes the canal as 'probably offering more hazard to the navigation of seagoing vessels than any other in the United States', is considered to be a statement of fact now as it was then. It is further recommended that the above course of action include a recommendation looking toward a restriction of two-way traffic in those sections of the canal where the channel is restricted, and further, that vessels with explosive or inflammable cargoes be permitted to transit the canal only when it is clear of vessels proceeding in the opposite direction."



Chief, GI Division to  
Commandant

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STARKS

6. The statement of the Board, Conclusion paragraph 2 - "Permitting vessels to meet under such limited conditions is considered a direct invitation to collisions such as occurred between the LYK S and HAYS" is not sustainable by virtue of the many successful passages in the C & D Canal over the years and is therefore disapproved.

7. The statement of the Board, recommendation paragraph 2 with respect to the excellent performance of duty by Captain [redacted] and the crew of the ANG LINA in saving their vessel and themselves following the explosion and fire of the F. L. HYS is concurred with. Since the record does not contain any specific acts of heroism above and beyond the call of duty specific commendations do not appear warranted.

8. The Board's statement, Recommendation paragraph 3 - "The report on pilotage in the United States prepared by the Commandant for the Secretary of the Navy in November 1942, page 21, paragraph 3, which characterizes the Canal as 'probably offering more hazard to the navigation of seagoing vessels than any other in the United States'" would appear to be somewhat out of context. This paragraph in the interest of keeping the Canal open during wartime conditions tended to indicate that the navigation of the Chesapeake and Delaware Canal under certain conditions and circumstances was hazardous and that the navigation of vessels through the Canal should be entrusted only to expert ship handlers or pilots who were thoroughly experienced in the navigation of vessels through the Canal and whose work was to be restricted exclusively to the interests of the safety of shipping in the Canal.

9. The Board's Recommendation, Paragraph 3, that vessels with explosive or inflammable cargoes be permitted to transit the Canal only when it is clear of vessels passing in the opposite direction is not clear. This Recommendation does not define the term "vessels with explosive or inflammable cargoes", which under broad interpretation may include every vessel regardless of size, type, or service and is therefore incapable of exact determination.

Chief, MVI Division to  
Commandant

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10. The use of the Chesapeake and Delaware Canal for navigation purposes is under the control of the Department of the Army pursuant to the provisions of 33 U.S.C. 1. In view of this statutory authority and responsibility, a copy of the Coast Guard's record of investigation together with the report of the Marine Board of Investigation with the Commandant's action with respect thereto will, upon approval, be forwarded to the Secretary of the Department of the Army for information and ready reference.

11. Subject to the foregoing remarks, it is recommended that the Findings of Fact, Conclusions and Recommendations of the Marine Board of Investigation be approved.

/s/P. A. OVANDEN  
P. A. OVANDEN

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FIRST ENDORSEMENT to MVI memorandum of 11 December 1952

M  
18 December 1952

From: Chief, Office of Merchant Marine Safety  
To: Commandant

Forwarded, recommending approval.

/s/H.C. SHEPHEARD  
H.C. SHEPHEARD

APPROVED: Dec 22 1952

/s/MERLIN O'NEILL  
MERLIN O'NEILL

Vice Admiral, U.S. Coast Guard  
Commandant