

MVI

16 July 1952

(PENNSYLVANIA - a-13 EM)

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

Subj: Marine Board of Investigation; disappearance of SS PENNSYLVANIA  
with crew in approximate position 51°09'N 141°13'W, 9 January  
1952

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, Opinions and Recommendations, has been reviewed and is forwarded herewith.

2. The SS PENNSYLVANIA, a cargo vessel of 7,608 g.t., built in 1944 departed from Seattle, Washington for the Orient at 0800 on 5 January 1952, loaded with 5,863 tons of wheat and barley in bulk, 1,982 additional tons of under deck cargo and 68 tons of deck cargo. On the morning of 9 January 1952, winds of gale force with 35 to 45 foot seas were encountered during which the deck cargo came adrift, numbers 1 and 2 holds flooded, steering gear failed, she became unmanageable in the heavy sea, and a 14 foot hull crack on the port side in way of the engine room developed. As a result of this combination of circumstances, the PENNSYLVANIA, sometime after 2149, 9 January 1952, foundered with the loss of all persons on board consisting of the following crew members:

George Flover, Master  
George T. Elliott, Chief Mate  
Norman F. Anderson, 2nd Mate  
Howard J. Burns, 3rd Mate  
Burrall G. Atwood, Radio Operator  
Frederick W. Krahn, Carpenter  
Lynn W. Poindexter, Bos'n.  
Lawrence H. Jeannin, Dk. Maintenance  
Henry Lens, Dk. Maintenance  
Donald R. Wilkins, Dk. Maintenance  
Eino H. Vainanen, Dk. Maintenance  
Pedro D. R. Magtulis, A. B.  
Akira Iida, A. B.  
Gardar Johannsson, A. B.  
Kurt Getzwiller, A. B.  
Lloyd D. Ignita, A. B.

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Eugene J. Jacobson, O. S. ✓  
Malvin D. Mullins, O. S. ✓  
Einar O. Nordness, O. S. ✓  
Richard R. Reed, Chief Engineer ✓  
Esteban Barralier, 1st Asst. Engineer ✓  
William H. Howe, 2nd Asst. Engineer ✓  
Ray G. Williams, 3rd Asst. Engineer ✓  
Neil M. Klunk, Jr. 3rd Asst. Engineer ✓  
Fritz Alt, 4th Asst. Engineer. ✓ 74  
Walter S. Beyers, Chief Electrician ✓  
Francis E. Sullivan, 2nd Electrician ✓  
Alexander B. Jasso, Oiler ✓  
Elbert Threadgill, Oiler ✓  
Edward D. Crawford, Oiler ✓  
Richard L. Lindsay, Fireman Watertender ✓  
James R. Shepard, Fireman Watertender ✓  
Walter K. Scates, Fireman Watertender ✓  
Felix Garcia, Wiper ✓  
Einar J. Ellsworth, Wiper ✓  
Austin J. Ridge, Wiper ✓  
Murrel H. Givens, Steward ✓  
Thomas Caste, Cook ✓  
Leung Nam, 2nd Cook/ Baker ✓  
Ward M. Tweed, Asst. Cook ✓  
Rufus W. Holmes, Messman ✓  
Horace Lincoln, Jr., Messman ✓  
Victor M. Moreno, Messman ✓  
Augustin J. Martin, Messman ✓  
Ming Yiu, Messman ✓  
Zecarian Buckstein, Messman ✓

3. The Board made the following Findings of Fact:

\*1. The SS PENNSYLVANIA and forty-six crew members disappeared on 9 January 1952, in approximate position, Latitude 51°09' North, Longitude 141°31' West.

\*2. The SS PENNSYLVANIA, bearing Official Number 245327, was a United States inspected steam screw cargo vessel of the VC2-S-AP3 type; home port, Tacoma, Washington; grossing 7608 tons; built of steel in 1944, at Portland, Oregon; owned and operated by States Steamship Company, 1010 Washington Street, Vancouver, Washington; and at the time of the casualty, in command of Captain George P. Plover, 2627 S.E. 105th Avenue, Portland, Oregon.

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"3. Prevailing at the time of the casualty were gale force north-westerly winds and thirty-five to forty-five foot seas.

"4. On the preceding voyage, the PENNSYLVANIA departed Long Beach, California on 1 November 1951 destined for Yokohama, Japan. When some fifteen hundred miles to sea the vessel encountered a severe storm. During the storm, and on 6 November 1951, the PENNSYLVANIA suffered a fracture in the main deck plating forward and to starboard of the house. The vessel returned to Portland, Oregon, where repairs were made to the satisfaction of the United States Coast Guard inspectors. A seasonably certificate was issued by a representative of the American Bureau of Shipping. The vessel then completed voyage number five without further difficulty and returned to Seattle, Washington on 22 December 1951. Shortly after arrival the vessel was drydocked for annual drydocking, at which time the hull was cleaned and painted, sea chests and sea valves were opened up and cleaned and found in good condition, and fair water repaired. No defects were noted and the underwater body was found to be in good condition. On 24 December 1951, the PENNSYLVANIA signed on a crew for voyage number six, thereafter proceeding to Vancouver, British Columbia, where she took on a cargo of wheat and barley in bulk. This cargo was loaded in the lower holds and lower 'tween decks, and consisted of approximately five thousand eight hundred and sixty three long tons. On 2 January 1952, the PENNSYLVANIA returned to Seattle, Washington where she loaded approximately nineteen hundred and eighty-two long tons of U. S. Army cargo in the upper 'tween decks. Thereafter, on 4 January 1952, Army red label cargo was stowed on deck in the way of number two hatch. Dunnage was laid on deck and a crib built of two-inch lumber around this cargo. Over the top was one-inch dunnage. The crib was secured with lashing chains to padeyes on deck. The red label cargo amounted to some forty-four long tons. Stowed in the way of number three hatch on deck were eighteen Army type trailers, weighing approximately ten long tons, secured with several turns of No. 8 or 9 annealed wire. The total long tons of cargo on deck forward of the house amounted to approximately fifty-four. Aft of the house and abreast of number four hatch were stowed two Army dump trucks weighing approximately fourteen long tons and secured with deck chain lashings and wooden blocks. Loading of the cargo was completed early the morning of 5 January 1952. The vessel was on an even keel. The forward draft was twenty-seven feet, seven inches, and the after draft twenty-eight feet. The vessel departed Seattle, Washington, bound for the Orient at about 0800 hours on 5 January 1952. At the time of departure all hatches were covered and were

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being battered down. At about 1300 hours, the vessel was at the pilot station off Port Angeles, Washington, where the pilot departed and the vessel then proceeded out to sea. At 0643, 9 January 1952, a dispatch from the vessel related that a fracture had developed in the vicinity of frames ninety-three and ninety-four on the port side. This dispatch indicated the fracture was fourteen feet in length, running from the sheer strake to the engine room. The approximate position of the vessel at that time was, Latitude 51°09' North, Longitude 141°31' West. A later dispatch indicated that the vessel was turning about and heading for Seattle, Washington.

"5. A series of dispatches followed, stating the conditions of the weather and the vessel. One stated that the vessel was unable to be steered, although attempts were being made to hold on course 110°, and that the vessel was taking water in number one hold and the engine room. Another dispatch advised that the vessel would require assistance if unable to repair steering gear, and that the deck load was adrift and taking tarpaulins off the forward hatches, and personnel were unable to get forward to inspect. A following dispatch requested assistance and stated that the vessel was being steered by hand. A later dispatch indicated that the steering gear had been fixed, that the rudder was too far out of water, and that number two hatch was full of water. This dispatch expressed that the only hope was for the weather to moderate. A later dispatch indicated that personnel were going to abandon the vessel. The last information from the PENNSYLVANIA was received in the form of a dispatch at 2149 hours, 9 January 1952. It advised that the steering gear was fixed but the vessel could not be steered by reason of the rudder being too far out of water, and repeated the text of two former messages and further stated they were leaving now.

"6. The PENNSYLVANIA carried four lifeboats. There is no evidence to indicate that the vessel successfully launched any of the lifeboats. One unidentified overturned lifeboat, however, was sighted by plane in the area of the disaster some time after the casualty. This boat was not picked up by surface craft. Following the casualty, and to this date, nothing has been found relative to personnel or debris from the vessel, although an extensive rescue was conducted promptly and continued until all reasonable hope for survivors was exhausted.

"7. The PENNSYLVANIA was valued at \$1,375,000.00 and her cargo at \$2,000,000.00. A list of the crew members who lost their lives is attached to Exhibit 28.

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4. The Board expressed the following Opinions:

"1. That the SS PENNSYLVANIA was in sound seaworthy condition and that the cargo was stowed in accordance with good practice on departure from Seattle, Washington, on 5 January 1952.

"2. That this casualty was the result of a structural failure due, at least in part, to unusual stresses created by gale force winds and heavy seas.

"3. That the flooding of the forward holds could not have changed the trim of the vessel sufficiently to bring the rudder out of the water.

"4. That the efficiency of the rudder was impaired and the response of the vessel to the rudder was reduced by the head down condition of the vessel.

"5. That the forward hatch covers were torn off by shifting cargo and heavy seas breaking over the forward deck.

"6. That due to existing conditions of wind, sea, hull fracture and flooding, the vessel sunk before the lifeboats could be launched and the vessel was never successfully abandoned.

"7. That Coast Guard personnel or any representative or employee of any other government agency in no way caused or contributed to the cause of the casualty.

"8. That there is no indication of misconduct, negligence or willful violation of the law on the part of personnel attached to the SS PENNSYLVANIA."

5. The Board made the following Recommendations:

"1. Since so little is known of the origin and extent of this structural failure the Board is unable to submit recommendations for prevention of future casualties of this nature. The Board recommends that no further action be taken and that this case be closed."

REMARKS

6. Opinion 2 of the Board that the PENNSYLVANIA foundered as a result of a structural failure is not concurred with. The evidence in the record indicates that the structural failure consisting of a 14 foot hull crack on the port side in way of the engine room was one element in the cause of

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her foundering. It would appear that the heavy weather encountered with consequent coming adrift of the deck cargo, flooding of numbers 1 and 2 holds, steering gear failure, and inability to manage the vessel in the heavy sea contributed to a greater extent to the foundering of the PENNSYLVANIA than did the structural failure.

7. In connection with structural failures, the susceptibility of welded ships to extensive fractures has been known and a serious problem since early in World War II, when our shipyards turned to welding as the only means of fulfilling the task set before them of rapidly building enough ships to support the war effort which ultimately produced victory.

8. This matter has been the subject of intensive study since that time. As the knowledge of the problem increased, corrective means have been applied to the construction of new ships, and steps have been taken on existing ships to improve their resistance to this type of casualty. The steps taken on existing ships have included the alteration of certain details of the structure, such as hatch corners, bilge keels, and the fitting of riveted crack arresters, designed to limit the spread of a fracture after its inception.

9. A great deal has been learned since 1943 when the SCHENECTADY broke in two. The knowledge gained by experience, testing, and technical study, is being applied to the design and construction of new ships, and the record of ships built since 1945 has been excellent. With respect to the ships now existing which were built during the war, the record is not as good, since some of the improvements developed, as for example, improved steel specifications cannot be applied to an existing ship. For these ships the Coast Guard proposes to continue its program of careful analysis of any defects which develop, coupled with prompt action when the need for it is apparent. This, together with research programs to determine the fundamental causes of fractures of ships, should enable us to achieve the standards of safety desired on American ships.

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

/s/P.A. OVENDEN  
P. A. OVENDEN

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(PENNSYLVANIA - a-13 B1)

FIRST ENDORSEMENT to MVI memorandum of 16 July 1952

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24 July 1952

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To: Commandant

Subj: Marine Board of Investigation; disappearance of SS PENNSYLVANIA  
with crew in approximate position 51°09'N 141°13'W, 9 January  
1952

Forwarded, recommending approval.

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

APPROVED: JULY 30 1952

/s/ MERLIN O'NEILL  
MERLIN O'NEILL  
Vice Adm., U. S. Coast Guard  
Commandant