MVI
22 January 1954
(HAWAIIAN PILOT -
JACOB LUCKENBACH - C-12

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

Subj: Marine Board of Investigation; collision between freight vessels SS HAWAIIAN PILOT and SS JACOB LUCKENBACH, 7 miles WSW San Francisco Light Vessel, 14 July 1953

1. Prior to daybreak on 14 July 1953 the SS HAWAIIAN PILOT, 8445 g.t., was approaching San Francisco en route from Honolulu, and the SS JACOB LUCKENBACH, 7869 g.t., was leaving that port for Korea. The weather was foggy, light airs, and gentle swells. When approximately between S.E. Farallon and San Francisco Lights, the HAWAIIAN PILOT, proceeding at 17 knots, sighted the JACOB LUCKENBACH on her radar bearing to port, distance 11.8 miles, and the JACOB LUCKENBACH, proceeding at 12 knots, sighted the HAWAIIAN PILOT on her radar bearing to starboard, distance 7.9 miles. The master of the HAWAIIAN PILOT assumed that the JACOB LUCKENBACH was the San Francisco Light Vessel. While approaching on opposite bows the HAWAIIAN PILOT altered course slightly to starboard and the JACOB LUCKENBACH altered course slightly to port. When the vessels heard each other's fog signals and sighted each other, they found themselves in a crossing situation with collision inevitable. To avoid collision, both vessels made course alterations. The HAWAIIAN PILOT put her engine full astern but the JACOB LUCKENBACH did not reduce speed until after the collision. Both vessels collided at about 0438 in a position approximately 238° T, 7.1 miles from San Francisco Light Vessel. The HAWAIIAN PILOT suffered bow damage. The JACOB LUCKENBACH was holed and due to progressive flooding through tonnage openings in the bulkheads between the weather and freeboard decks, the JACOB LUCKENBACH sank approximately 30 minutes after the collision. No persons lost their lives and only two persons were slightly injured on the JACOB LUCKENBACH.

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

REMARKS

3. Conclusions, paragraphs 20, 21 and 26(a) in the Board's report in effect state the masters of both vessels were negligent for not plotting a series of two or more bearings and ranges to determine the course and

speed of the other. These Conclusions are concurred with to the extent that the masters did not make effective use of their radar in determining risk of collision. The risk of collision, however, may well have been determined by methods and means other than by plotting.

4. In connection with the navigation of ships equipped with radar, the following statement of the International Conference on Safety of Life at Sea, 1948, is fully concurred with:

> "The Conference, while recognising that the recent advances in radar and electronic navigational aids are of great service to shipping, is of the opinion that the possession of any such device in no way relieves the master of a ship from his obligation strictly to observe the requirements laid down in the International Regulations for Preventing Collisions at Sea, and in particular, the obligations contained in Articles 15 and 16 of those Regulations."

5. Finding of Fact, paragraph 17, and Conclusions, paragraphs 24 and 26 (d) in the Board's report in effect state that the 'tween deck or freeboard deck hatches were required to be fully secured. The Board's report does not cite any legal authority for such requirement nor does it cite any source from which such requirement emanates. In this connection the International Load Line Convention of 1930, the Load Line Acts of the United States, and regulations thereunder contain no specific requirements relative to the use of hatch covers and tarpaulins. Rule XVIII of the International Load Line Convention of 1930 and Sec. 43.10-55(a) of the U. S. Load Line Regulations require that suitable covers, tarpaulins, and battening arrangements be provided. The responsibility is in the master for the determination whether such appliances shall or shall not be used and the extent of such use for the seaworthiness of the vessel. It should be observed that the above-cited load line requirements, including requirements with respect to closure of hatches, are intended to provide for an adequate standard of freeboard, watertight integrity, and strength from the standpoint of hazards of weather and not as a protection from the results of collision, explosion, grounding, or other casualty.

6. Conclusion, paragraph 27, of the Board states that the subject casualty should offer interesting material for study of the desirability of full scantling type vessels with respect to the additional margin of safety provided by watertight bulkheads extending to the weather-deck over the shelter-deck type freight vessels. In this connection it is evident that the loss of the JACOB LUCKENBACH may be attributed to present admeasurement regulations which provide a premium for the destruction of bulkhead integrity with the result that bulkheads which would otherwise normally be made essentially watertight are fitted with tonnage openings. These admeasurement regulations,

which are administered by the Bureau of Customs, are in turn based upon imperfect but very well established internationally accepted admeasurement principles. Amendment of the U. S. Regulations without a corresponding change by the other principal maritime countries could result in a considerable economic disadvantage to American shipping. Because of this fact and because of the economic complications which arise when considering established maritime trade generally, progress towards a solution has been slow. The importance of this problem was stressed in a statement by the Assistant Secretary of the Treasury at the annual meeting of the Society of Naval Architects and Marine Engineers in 1952. The Coast Guard, along with the Bureau of Customs and Maritime Administration, is presently represented on a committee studying the problem of admeasurement.

7. Recommendation, paragraph 28, recommends that consideration be given to the promulgation of a regulation governing the requirements for the construction and installation of shaft alley watertight doors on freight vessels similar to those now applicable to passenger vessels. A review of Regulation 12 of the International Conference on Safety of Life at Sea, 1948, governing watertight doors on passenger vessels, indicates clearly that the type of shaft alley watertight door installation on the JACOB LUCKENBACH was in all respects the same as that required on passenger vessels on the basis of similar number of openings in watertight bulkheads. Vessels similar to the JACOB LUCKENBACH engaged in the carriage of a moderate number of passengers would not be required by any of the provisions of the International Conference on Safety of Life at Sea, 1948, or any U. S. statute or regulations thereunder, to be fitted with a power operated shaft alley watertight door.

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

[redacted]

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FIRST ENDORSEMENT ON MVI memorandum of 22 January 1954 — M
12 February 1954

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

Forwarded, recommending approval

[redacted]

APPROVED: 15 FEB 1954

[redacted]

A. C. RICHMOND
Rear Admiral, U. S. Coast Guard
Acting Commandant

REPORT OF A

MARINE BOARD OF INVESTIGATION

convened at

Appraisers' Building
Twelfth Coast Guard District
630 Sansome Street
San Francisco, California

on

16 July, 1953

To inquire into the collision between the SS JACOB LUCKENBACH and the SS HAWAIIAN PILOT, which occurred on 14 July 1953 approximately five miles WSW of the San Francisco Lightship.

Findings of Fact

1. On 14 July 1953 at 0438 PDST, the SS HAWAIIAN PILOT and the SS JACOB LUCKENBACH collided in 450 feet of water at a position bearing [illegible]° true 7.1 miles from the San Francisco Light Vessel. The JACOB LUCKENBACH sank and the HAWAIIAN PILOT suffered bow damage. There were no injuries or loss of life.

2. The vessels involved were:

a. The HAWAIIAN PILOT, Official No. 252413, a shelter-deck type C-3, ocean-freight vessel built of steel in 1944 at Pascagoula, Mississippi, with home port now San Francisco. She is of 8,445 gross tons, 468.5 feet registered length, and powered by a geared reduction steam turbine of 8,500 horsepower on a single screw. The vessel was last inspected and certificated at San Francisco on 28 August 1953 as an ocean-freight vessel authorized to carry 12 persons in addition to the crew. The vessel is owned and operated by the Matson Navigation Company, 215 Market Street, San Francisco, California.

b. The JACOB LUCKENBACH, Official No. 246389, was also a shelter-deck type C-3, ocean-freight vessel built of steel in 1944 at Pascagoula, Mississippi, with home port New York, New York. She was of 7,869 gross tons, 468.5 feet registered length, and powered by a geared reduction steam turbine of 8,500 horsepower on a single screw. The vessel was last inspected in Long Beach, California, on 6 January 1953, certificated as an ocean-freight vessel, and authorized to carry 12 persons in addition to the crew. The vessel was owned by the Luckenbach Steamship Company, Inc., 120 Wall Street, New York City, but operated under a bareboat charter by Pacific Far East Lines, Inc., 315 California Street, San Francisco, California.

3. The weather at the time of the collision was foggy, with light airs, calm sea and gentle swell. It was shortly before daybreak and still dark at the time of collision with visibility less than one mile.

4. The HAWAIIAN PILOT was bound for San Francisco Bay from Honolulu, T.H., carrying 9 persons in addition to the crew and approximately 9,000 tons of bulk sugar, molasses, pineapple and plunder. The departure draft from Honolulu was 25'04" Fwd., 30'06" Aft., 27'11"M. The ETA at San Francisco Lightship was 0500, 14 July 1953. The Master was on the bridge and had been up all night without sleep. The vessel's engine room had been on verbal "Stand-by" since the previous afternoon. The Second Mate relieved the Third Mate about 0400, on 14 July. An ordinary

seaman relieved the wheel and an able seaman relieved the lookout about 0400.

5. The HAWAIIAN PILOT was abeam of Southeast Farallon Light 2.4 miles off at 0407 on course 074°T., speed approximately 17 knots. Steering was by telemotor using the gyro repeater. The error in the gyro compass was negligible. The Master was guarding the Raytheon radar, which was operating in good order and set on the 20-mile scale. Visibility was about 4 miles and fog signals were not considered necessary at this time. At 0410, the course was changed to 073°T to head the vessel approximately one mile south of the San Francisco Lightship. The Farallon Light, the San Francisco Lightship and other aids to navigation were on fog schedule.

6. The times of course changes of the HAWAIIAN PILOT between 0410 and 0436 were taken from the course recorder chart. Allowances are made for a three minute time lag by the recorder clock from ship's time.

7. Shortly after passing the Farallons, the Master observed a pip bearing 069°T, range 11.8 miles, which the Master assumed to be the lightship. When the range reduced to about 8 miles, the radar was changed to the 8-mile scale. There were no other pips on the radar in the area ahead and no effort was made to develop a plot of this pip, which subsequently proved to be the JACOB LUCKENBACH. After observing the pip on the radar for a short time, at approximately 0418, the course was changed by the Master to 075°T. The vessel remained on this course at a speed of 17 knots until the lookout reported a fog whistle bearing about two points on the port bow. The course was changed to 080°T at this time (0434) and an answering fog signal was sounded by the HAWAIIAN PILOT. The speed was not changed. Shortly thereafter, the two white running lights of the JACOB LUCKENBACH became visible, bearing about 4 points on the port bow, and the Master ordered "Right rudder", then "Hard right". The vessels at this time were less than one mile apart. The course of 080°T had been maintained for approximately one and one-half minutes, or less, before "Right rudder" was ordered. The green side light of the JACOB LUCKENBACH was observed and its second fog whistle heard. At 0436, the Master of the HAWAIIAN PILOT ordered "Hard left rudder" and "Engine full astern", and three short blasts were sounded. The collision occurred at 0438 with the bow of the HAWAIIAN PILOT penetrating the hull of the JACOB LUCKENBACH on the starboard side between frames #175 and #180 at about right angles.

8. For purposes of this investigation, the variation in the time of collision as recorded by both ships will be corrected by deducting two minutes from all times used and logged by the JACOB LUCKENBACH.

9. The JACOB LUCKENBACH was outbound from San Francisco Bay to Pusan, Korea, with 9856 tons of military cargo, 355 tons of which were "on deck stowage". Included in the cargo were 4,108 packages of military mail and 167 sacks of civilian mail stowed in #1 UTD. The draft was 26'05" Fwd., 32'03" Aft., 29'04" M.

10. The JACOB LUCKENBACH took departure from the San Francisco Lightship bearing 350°T, 0.5 miles off, at 0358, 14 July 1953, and set course on 240°T., steering by telemotor from the gyro repeater. The error in the gyro compass was negligible. Speed was full ahead at 12 knots on one boiler. The Master and Second Mate were on the bridge with able bodied seamen on the wheel and lookout. The Raytheon radar was guarded by the Second Mate, in addition to his regular duties, and was operating in good order. Fog signals were being sounded by the automatic timer control at intervals of about one and one-half or two minutes. Engine telegraphs were on "Stand-by". The visibility varied from zero to one-quarter mile after leaving the light vessel. The radar was set on the 20-mile scale. Although the port boiler was not on the line, it was not considered material under the circumstances surrounding this collision, other than full power was not available.

11. At an undetermined time, a pip on the radar, which later proved to be the HAWAIIAN PILOT, was first observed bearing 250°T, range 7.9 miles, and the scale of the radar scope was expanded to eight miles. At 0430, the course was changed left to 225°T with the range of the pip at this time 2.8 miles. At 0435, the fog whistle of the HAWAIIAN PILOT was heard by the Master, Second Mate and lookout of the JACOB LUCKENBACH, bearing about two points on the starboard bow. The course was changed left to 220°T. The speed was not changed. At about the same time, the white lights of the HAWAIIAN PILOT were observed bearing on the starboard bow. The Master of the JACOB LUCKENBACH believed the vessels would pass clear. At this time, the Master looked away from the HAWAIIAN PILOT momentarily. On returning his eyes to her, he observed the outline of the bow of the HAWAIIAN PILOT and collision appeared unavoidable. Neither side light of the HAWAIIAN PILOT was observed. The Master ordered "Hard left rudder". At 0438, the JACOB LUCKENBACH was struck on the starboard quarter. The engine was then stopped. This was the first engine maneuver since "Full ahead" and "Stand-by" were ordered at the lightship. The fog whistle remained on automatic control.

12. The general alarm was sounded on the JACOB LUCKENBACH and the engine room notified the bridge that they were flooding through the shaft alley. The Master ordered the crew to "Abandon-ship" stations. The Second Ass't and oiler on watch started to close the shaft alley door from the lower level; but, they were forced to abandon their attempts due to the rising water. The watertight door control at the station above the bulkhead deck in the fidley was manned. The door was closed in about ten minutes by using relays of men on the reach rod control to the door. The fireman had been ordered to cut his fires. He succeeded in cutting out two fires; the inflow of water extinguished the others.

13. When the shaft alley watertight door was eventually closed, the water level in the engine room stabilized at about two feet below the throttle platform. The vessel lost electrical power about two minutes after the collision. An unsuccessful attempt was made to start the Diesel emergency generator and the battery was exhausted in the process. After the initial flooding of the engine room was checked, the waterline of the vessel was stabilized with the weather deck at the No. 5 hatch below the surface.

14. The crew abandoned ship in good order in their own lifeboats. The Chief Mate and Carpenter remained behind to see the lifeboats properly launched. They were subsequently picked out of the water by a lifeboat from the HAWAIIAN PILOT after swimming about fifty feet.

15. After the collision, the HAWAIIAN PILOT immediately lowered a lifeboat to be of assistance as found necessary, and stood by in the vicinity of the JACOB LUCKENBACH. A few minutes later, the other lifeboat from the HAWAIIAN PILOT was put into the water. All crew members of the JACOB LUCKENBACH were taken aboard the HAWAIIAN PILOT. The HAWAIIAN PILOT was deeply holed in the bow above and below the waterline; but, the collision bulkhead held.

16. In the process of sinking, the JACOB LUCKENBACH, almost immediately after the collision, settled by the stern with the water level on the weather deck up to the forward part of No. 5 hatch. It held this position for some time and indicated that the vessel might remain afloat. However, progressive settling of the vessel by stages occurred, thus: A position with the water level across the weather deck reaching the forward part of No. 4 hatch was held for about 4 or 5 minutes; a position with the water level reaching the after part of the cabin deck held for a short time only; subsequently, a position, with the vessel in a vertical position, with the water level at the bridge held for 3 or 4 minutes; further settling placed the water level up to No. 2 hatch for

approximately 2 minutes before ultimately sinking below the surface of the water. The JACOB LUCKENBACH disappeared beneath the surface upright and stern first about 30 minutes after the collision.

17. With both vessels having been altered to shelter deck construction, the respective freeboard deck hatches were required to be battened down. However, neither vessel had any of these hatches properly secured and testimony indicated that it was not a practice or custom of either vessel to do so. The shelter-deck bulkhead tonnage openings on each vessel had non-watertight channel irons in place across the openings.

18. Damage to the HAWAIIAN PILOT was estimated to be $50,000.00. The loss of the JACOB LUCKENBACH and the loss of her cargo represent an estimated aggregate loss of $2,500,000.00.

Conclusions

19. This collision represents another casualty resulting from a wanton disregard, or otherwise ignoring, the applicable rules to prevent such collisions, established by International Convention, and enacted into law by the Congress of the United States in 1890, and substituting therefor a false sense of security based upon the use of radar. It is commonly known that radar alone will not prevent collision, or relieve a vessel of the responsibility of compliance with these rules, which have withstood the test of time with few modifications.

20. In this case, both vessels, operating under fog and low visibility conditions, saw each other on their radarscopes while they were miles apart. Both vessels had ample opportunity to plot a series of two or more bearings and ranges to determine the course and speed of the other. Neither vessel did this. Had the Master of the HAWAIIAN PILOT taken this precaution, he would have known that the object he mistakenly assumed to be the San Francisco Lightship on the radarscope was, in reality, the JACOB LUCKENBACH; and, collision, no doubt, would have been avoided. As it was, he thought the JACOB LUCKENBACH was the San Francisco Lightship and he ordered course changes which actually resulted in the collision of the two vessels.

21. The failure of the Masters of both vessels to develop a radar plot of each other is considered negligence. Had the Master of the HAWAIIAN PILOT taken a simple note of the time and the rate of change of range, he should have known that the pip he was observing could not be the anchored lightship.

22. The vessels collided along the edge of a dense fog bank. Both vessels were considered to be navigating at excessive speed under the prevailing conditions. The most flagrant disregard of the mandatory rules occurred when these vessels heard the fog whistles of each other and neither stopped their engines nor proceeded with caution.

23. The Board is aware of the following:

(a) No fog signals were sounded by the HAWAIIAN PILOT prior to hearing the fog signal of the JACOB LUCKENBACH.

(b) No whistle signals indicating course changes after the vessels were in sight of one another were sounded.

Omission (a) above, resulted from the decision of the watch officer that the atmospheric conditions were such that the sounding of such signals was unnecessary. Omission (b) above, while perhaps a statutory fault on the part of both vessels, was considered not to have had causal connection with the ultimate result since the two vessels were in the agony of collision when they sighted each other.

24. The Masters of both vessels are considered negligent for having their respective ships at sea without the freeboard deck hatches battened down as required. In the case of the JACOB LUCKENBACH, the Board considered that this failure did contribute to the sinking of that vessel. There was some discrepancy of testimony in this regard and the Board cannot state the vessel would have remained afloat had these hatches been battened down. The manner of its sinking indicated that progressive flooding occurred, and, that the failure to have the hatches properly secured hastened the sinking.

25. The equipment of each vessel operated satisfactorily with the exception of the emergency generator Diesel engine on the JACOB LUCKENBACH, for which failure there was no explanation, and the difficulty experienced in closing the shaft alley watertight door on that vessel. The crew members of both vessels reacted to all orders and their abandon ship stations promptly and efficiently.

26. The Masters of both vessels were served with a charge of negligence, alleging the following specifications:

(a) Navigating at excessive speed in conditions of fog and low visibility.

(b) Failure to stop vessel's engine when fog signals were heard forward of the beam.

(c) Failure to plot a series of two or more ranges and bearings of the pips observed on the radarscopes.

(d) Operating at sea without all cargo hatches properly battened down and secured.

In addition to these specifications common to both Masters, the Master of the HAWAIIAN PILOT will further be charged with operating his vessel in low visibility without an able seaman at the wheel. Hearings will be held at the earliest opportunity.

27. This case should offer interesting material for study of the desirability of full scantling type vessels with regard to the additional margin of safety provided by watertight bulkheads extending to the weather-deck, over the shelter-deck type freight vessels. The Board has learned that it has not been the custom or practice to batten down with tarpaulins and wedges the hatches on the freeboard decks of any shelter-deck type vessel operating out of this port. The Board has also heard that many of these types of vessels are now properly securing the freeboard deck hatches before leaving port, while other similar type vessels continue to ignore this requirement.

Recommendations

28. It is recommended that Headquarters consider promulgating regulations governing the requirements for the construction and installation of shaft alley watertight doors on freight vessels similar to those now applicable to passenger vessels. No further action appears advisable and it is recommended this case be closed.

[redacted]
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Commander, U. S. Coast Guard
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H. C. [redacted]
Commander, U. S. Coast Guard
Member

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