

ADDRESS REPLY TO:
COMMANDANT
U. S. COAST GUARD
HEADQUARTERS
WASHINGTON 25, D. C.



MVI
(ELNA II - USNS MISSION
SAN FRANCISCO a-3 Bd)

Commandant's Action

13 NOV 1957

on

Marine Board of Investigation; collision of ELNA II (Liberian)
and USNS MISSION SAN FRANCISCO on the Delaware River, on 7 March
1957, with loss of life

1. 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.

2. Late in the evening on 6 March 1957 the civilian manned U. S. Naval Tanker, MISSION SAN FRANCISCO of 10,388 g. t., without cargo, was upbound in the Delaware River, and the ELNA II, a freighter of 3,149 g. t., under Liberian registry, also without cargo, was downbound in the same river. The weather was drizzling, visibility good, wind N. E. force 1, and flood tide. In approaching the intersection of Bulkhead Bar Range, the speed of the MISSION SAN FRANCISCO was approximately 17.5 knots and that of the ELNA II 9.5 knots, and each vessel had the other in sight. Both vessels failed to timely ascertain the position, course, speed, and intention of the other. Such failure, under the conditions of the restricted waters navigated, negotiation of a dangerous intersection in the channel and the speed of approach caused collision to soon become imminent, whereupon both vessels took collision-avoiding action by changing course to the westward. This action was inadequate and the vessels collided at 0036, 7 March 1957, and as a result severe explosions occurred on board the MISSION SAN FRANCISCO and fire involved both vessels. The MISSION SAN FRANCISCO sank with the loss of life of 10 crew members, including all deck watch officers and the pilot. There was no loss of life on the ELNA II.

REMARKS

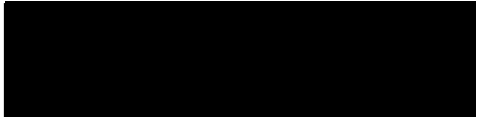
3. The area where and the conditions under which the MISSION SAN FRANCISCO and the ELNA II were being navigated, such as restricted waters, bend in the channel, negotiation of the turn, speed of approach, change of relative position and direction, etc. necessitated the highest degree of prudence and circumspection in the navigation of both vessels. The record of investigation of subject casualty discloses quite clearly that neither the MISSION SAN FRANCISCO nor the ELNA II was certain of its position in the channel and that both vessels were uncertain of the position, speed, course, or intention of the other. This uncertainty, under the conditions and circumstances then existing, resulted in the collision. This uncertainty would not have existed had both vessels been navigated in conformance with the collision regulations applicable under the circumstances.

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SAN FRANCISCO a-3 Bd)

4. A copy of this Action and the Board's Report shall be forwarded to the American Pilots' Association for appropriate use in assessing the performance of duty of the pilot on board the ELNA II while acting under the authority of his State Pilot's License.

5. Subject to the foregoing Remarks, the Findings of Fact and Conclusions of the Marine Board of Investigation convened to investigate subject casualty are approved.



A. C. RICHMOND
Vice Admiral, U. S. Coast Guard
Commandant

REPORT OF
MARINE BOARD OF INVESTIGATION

Convened on 11 March 1957, Custom House, 2nd and
Chestnut Streets, Philadelphia, Pa.

To inquire into the circumstances surrounding the collision
of the ELNA II (Liberian) and the USNS MISSION SAN FRANCISCO,
on 7 March 1957, Delaware River, with loss of life.

The Marine Board of Investigation, after a careful scrutiny of all the testimony and evidence adduced, finds as follows:

FINDINGS OF FACT

1. At or about 0036 EST on 7 March 1957 a collision occurred in the Delaware River approximately at the intersection of the Bulkhead Bar Range and the Deepwater Point Range in the western half of the channel between the upbound USNS MISSION SAN FRANCISCO, a tanker of 10,388 GT, and the downbound Liberian SS ELNA II, a dry cargo vessel of 3,149 GT. Both ships caught fire; explosions occurred aboard the MISSION SAN FRANCISCO, two of her crew are known dead, eight others including the pilot are missing and presumed dead, and ten other members of her crew claim to have been injured. Both vessels are a total loss.
2. The weather at the time was drizzling, visibility good, wind N. E. force 1, flood tide.
3. The USNS MISSION SAN FRANCISCO is an undocumented tanker owned by the United States (Military Sea Transport Service), built in 1945, length 504 feet, gross tonnage 10,388, net tonnage 7,296, single screw, steam turbine-electric propulsion, 9,000 HP. [REDACTED] was manned by a civilian crew under command of [REDACTED] license [REDACTED] and operated by the Mathiasen Tankers Industries, Inc., Philadelphia, Pa. in the transportation of military fuels. A valid certificate of inspection dated 7 December 1956 authorized carrying cargoes of grades "A" and "E."
4. The Liberian SS ELNA II, home port Monrovia, built of steel at Vancouver, B. C. in 1919, length 320 feet, breadth 44.2 feet, depth 22.9 feet, gross tonnage 3,149.57, net tonnage 1919, single screw, 1700 HP, was owned and operated by [REDACTED] Tiederman and Company of Monrovia, Liberia, under command of [REDACTED] of Toronto, Canada. None of her officers held valid licenses issued by the Republic of Liberia. A Liberian Certificate of Registry #20-52 was issued to the vessel at New York 10 July 1952, and she was issued a Bureau Veritas Classification certificate at New York 18 August 1954.
5. The USNS MISSION SAN FRANCISCO, after discharging a cargo of aircraft turbine and jet engine fuel (grade "JP-4") departed Newark, N. J. at 1115 EST on 6 March 1957 with a crew totaling 44 plus a coastwise pilot, Ralph Smith, bound for Paulsboro, N. J. where she was scheduled to arrive at 0300 on 7 March. At 2115 EST on 6 March the vessel passed Overfalls Light Vessel, speed ahead full. At 2355 speed was reduced to 80 RPMs. At 0007 on 7 March speed was further reduced to 70 RPMs. At 0024 speed of 80 RPMs was resumed and continued unchanged until the collision. The speed, computed on distance of 58.0 miles from Overfalls, L.V. to point of collision traversed in 3 hours 22 minutes, is 17.2 knots.

6. At 0024 the bow lookout, [REDACTED] rang one bell to notify the bridge of his having sighted a downbound vessel on the starboard side which was then an estimated distance of 1 mile. There was no acknowledgment from the bridge of this one-bell signal. When the distance between the vessels was about 500 yards Martel again rang a one-bell signal. He heard at this time a "weak" one-blast signal from the downbound vessel, but no signal by the MISSION SAN FRANCISCO was heard in reply.

7. As the Master, Pilot, Mate on watch, Quartermaster, and all other persons known to have been on or about the bridge are dead or missing, the maneuvers ordered will never be known. The MISSION SAN FRANCISCO appears to have slightly altered course to her right as though commencing the turn and then suddenly shifted rudder to about 33 degrees left. This is evidenced by her rudder angle indicator recovered after the casualty and the testimony of disinterested witnesses as to the movements of her range lights. The starboard bow of the vessel, in way of her name, was struck by the stem of the downbound ELNA II. The impact caused the ELNA II to ricochet and, in ricocheting, the starboard side of the ELNA II scraped down the starboard side of the MISSION SAN FRANCISCO, creating sparks. Within a matter of seconds a tremendous explosion occurred on the MISSION SAN FRANCISCO, followed shortly by another explosion on the same vessel. After the second explosion the navigating bridge of the vessel disappeared below the surface of the river.

8. The ELNA II, after discharging her cargo of wood pulp at Wilmington, Delaware, sailed for Baltimore, Md. at approximately 2330 EST on 6 March. Her drafts were 7'6" forward, 13'0" aft. After clearing the mouth of Christina River at about 2353, the local pilot departed and the conn was taken by the Delaware Bay and River Pilot, [REDACTED]. The Chief Mate, [REDACTED] was on the forecastle head. Proceeding at full speed, approximately 9-1/2 knots over the ground, the ship passed down Cherry Island Range and onto Deepwater Range and was about abeam of Buoy 5D when Pilot [REDACTED] first sighted the range lights of the MISSION SAN FRANCISCO upbound on New Castle Range. Shortly thereafter, when about 3/4 mile further downriver, the ELNA II, being then in the inside westerly quarter of the channel, sounded a one-blast signal to the MISSION SAN FRANCISCO which appeared to have entered upon the Bulkhead Bar Range. As there was no response from the upbound tanker, the ELNA II again sounded a one-blast signal and the rudder was ordered "right easy." By this time the vessels were closing rapidly in the area of Buoy 1D and, hearing no response to his signal, with the situation developing critically, Pilot [REDACTED] at 0035 ordered the engines full astern. The tanker, which appeared to have been swinging slowly to her right, came left, heading across the path of the ELNA II whose stem at 0036 EST struck the tanker on her starboard bow in way of the name "USNS MISSION SAN FRANCISCO."

9. The first explosion rendered Pilot [REDACTED] and Captain [REDACTED] unconscious, and fire broke out on both vessels. When Pilot [REDACTED] regained his senses, he found the wheelhouse of the ELNA II a shambles, with the steering wheel useless. There was a rupture in the forecastle head of the ELNA II and a fire forward. The MISSION SAN FRANCISCO, in the meantime, had gone upriver past the ELNA II. When Pilot [REDACTED] learned the engines of the ELNA II were workable he maneuvered the vessel out of the channel on to the jetty in the vicinity of Buoy B.

10. The ELNA II was not equipped with a course recorder and no entries were made in the vessel's deck log to indicate courses steered.

11. Although [REDACTED] Chief Mate of the ELNA II, was on the forecastle head of his vessel from the time of departure, he made no report to the bridge of any sort.

12. The ELNA II had two anchors ready for immediate use, but no attempt was made to let go either anchor before the collision.

13. No danger signal was sounded by the ELNA II, nor was a three-blast signal sounded to indicate that the engines of the ELNA II were going "full astern."

14. At no time prior to the collision was the red or port running light on the MISSION SAN FRANCISCO observed by either the crew of the ELNA II or any impartial witnesses.

15. The MISSION SAN FRANCISCO was equipped with a gyro course recorder. This recorder was manufactured by the Sperry Gyroscope Company, Brooklyn, N. Y., No. 65091, Model TS, Serial No. 2302. This course recorder was recovered by divers employed by Merritt, Chapman and Scott on 11 April 1957 and immediately turned over to a special agent of the F. B. I., who transported same to the F. B. I. Laboratories in Washington, D. C. On 1 June 1957 it became available for examination by the Board.

16. On 3 June 1957 a member of this Board examined the recorder in Washington, D. C. and found, upon this examination, that the movement of the pens on the course recorder tape was illegible and that the instrument was rendered inoperative as a result of the casualty.

17. The rudder angle indicator of the MISSION SAN FRANCISCO, New Jersey Model No. R3CRA1, was manufactured by the Pilot Marine Corporation of Cliffside Park, New Jersey and was also examined by a member of this Board in Washington, D. C. This examination disclosed that, aside from the severance of the electrical connection, the indicator bore no signs of damage other than that caused by submersion. The indicator disclosed an angle of 33 degrees left-rudder.

18. The steering repeater of the MISSION SAN FRANCISCO was also examined by a member of this Board in Washington, D. C. This repeater showed no signs of mechanical damage and was at rest on a heading of 20-1/2 degrees.

19. The MISSION SAN FRANCISCO was not gas-free at the time of the casualty, nor had her tanks been Butterworthed. At the time of the casualty certain of the tank top openings of the vessel were open.

20. None of the deck or engine officers of the ELNA II were the holders of valid licenses issued by the Republic of Liberia.

21. There were no defects in the lifesaving or firefighting gear of the SS MISSION SAN FRANCISCO.

22. There was considerable confusion aboard the ELNA II after the casualty, both with respect to fighting the fire and the launching of lifeboats.

23. [REDACTED] Chief Pumpman, SS MISSION SAN FRANCISCO, immediately after the series of explosions which occurred on his vessel made his way forward to where a group of survivors were abandoning the vessel via lifeboat. While awaiting his turn to get in the lifeboat, Mr. [REDACTED] thought of the engine room personnel who were below on duty and who were possibly unaware of their immediate danger resulting from the hazardous condition of the MISSION SAN FRANCISCO. Mr. [REDACTED] left his position of comparative safety and at the risk of his life went below to the engine room and successfully warned the licensed and unlicensed personnel of the condition of the vessel above decks and the necessity for immediately leaving the vessel to avoid imminent danger. Mr. [REDACTED] heroic action in all probability contributed to the successful escape from the engine room of the licensed and unlicensed personnel who were on duty at the time of the casualty.

Known Dead (2)

24. a. George General, 2nd Mate, [REDACTED] License No. [REDACTED] Next of Kin: Wife: [REDACTED] Body recovered March 14, 1957.

b. Charles L. Bolling, Q. M., [REDACTED] Next of Kin: Mother: [REDACTED] Body recovered April 1, 1957.

Persons Missing and Presumed Dead (8)

25. a. [REDACTED] Master, [REDACTED] License No. [REDACTED] Next of Kin: Wife: [REDACTED]

b. [REDACTED], Chief Mate, [REDACTED], License No. [REDACTED] Next of Kin: Wife: [REDACTED]

c. [REDACTED] 3rd Mate, [REDACTED], License No. [REDACTED] Next of
Kin: Wife: [REDACTED]

d. [REDACTED] Radio Operator, [REDACTED] License No. [REDACTED]
[REDACTED] Next of Kin: Brother: [REDACTED]

e. [REDACTED] Purser, [REDACTED] License No. [REDACTED] Next of
Kin: Mother: [REDACTED]

f. [REDACTED] Boatswain. Next of Kin: Wife: [REDACTED]

g. [REDACTED] Steward, [REDACTED] Next of Kin: Brother: [REDACTED]

h. [REDACTED] Coastwise Pilot. Next of Kin: Wife: [REDACTED]

Persons Injured (12)

26. a. [REDACTED] Pilot, ELNA II

b. [REDACTED] Steward, ELNA II

c. [REDACTED] A. B., MISSION SAN FRANCISCO

d. [REDACTED] O. S., " " "

e. [REDACTED] O. S., " " "

f. [REDACTED] Engr. " " "

g. [REDACTED] 2nd Pumpman " " "

h. [REDACTED] Oiler " " "

i. [REDACTED] Wiper " " "

j. [REDACTED] Wiper " " "

k. [REDACTED] 2nd Cook " "

l. [REDACTED] Crew Messman " "

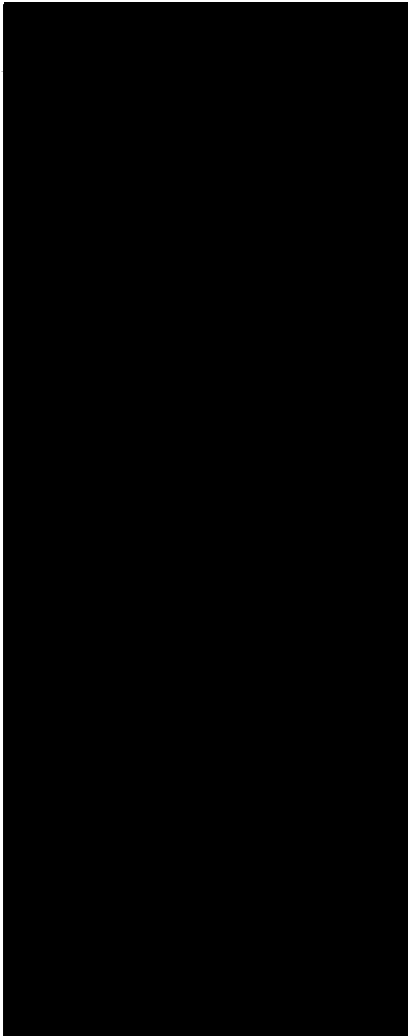
Vessel and Cargo Damage

27. a. MISSION SAN FRANCISCO: Vessel Damage \$3,000,000
 Cargo Damage None

b. ELNA II: Vessel Damage \$ 500,000
 Cargo Damage None

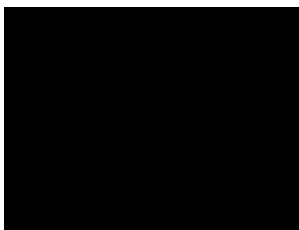
Persons Interviewed and Statements Taken

28. USNS MISSION SAN FRANCISCO



Oiler
 Deck Maintenance
 Quartermaster
 A. B. - Deck Maintenance
 Fireman-Watertender
 A. B.
 Chief Cook
 Quartermaster
 Wiper
 O. S.
 A. B.
 Chief Pumpman
 Bedroom Utility
 Wiper
 Steward Utility
 Deck Maintenance
 O. S.
 Junior Engineer
 2nd Cook
 Oiler
 First Assistant Engineer
 Second Assistant Engineer
 Jr. Third Assistant Engineer
 Fireman-Watertender
 Messman
 Oiler
 O. S.
 Oiler
 Third Assistant Engineer
 O. S. (Bow Lookout)
 A. B.

SS ELNA II



Pilot
Master
Chief Officer
Third Assistant Engineer
O. S. (Helmsman)
Boatswain

TOMISHIMA MARU



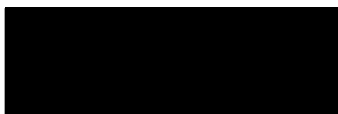
Pilot

Tug KRAFTHAULER



Captain
Mate

M/V BLACK EAGLE



Pilot
M & R Dept., Mathiasen Tankers Industries, Inc.
, Operations, Mgr., " " " "

CONCLUSIONS

1. The upbound MISSION SAN FRANCISCO failed to make the tight timely turn from New Castle Range Channel on to Bulkhead Bar Range channel required of vessels navigating this portion of the Delaware. This failure resulted in the MISSION SAN FRANCISCO "overshooting" the turn and arriving in a position well to the west of the center line of the channel and in the immediate path of the downbound ELNA II. Her apparent "hard left" order when in extremis threw her further in the path of the ELNA II and made collision inevitable.

2. At no time prior to the casualty did the MISSION SAN FRANCISCO acknowledge the whistle signal of the ELNA II, nor did it blow any other whistle signals.

3. The person conning the MISSION SAN FRANCISCO was unaware of the down-bound ELNA II until immediately prior to the collision when the vessels were in extremis.

4. There is sufficient room for meeting vessels to pass at any point in this bend of the channel and the Pilot of the ELNA II reasonably could have anticipated the upbound vessel to stay within the eastern half of the channel.

5. The initial and subsequent explosions after the collision were caused by the ignition of hydro-carbon vapors which were within explosive limits in the cargo tanks of the MISSION SAN FRANCISCO.

6. Prima facie the navigation of the MISSION SAN FRANCISCO immediately prior to the collision is subject to severe criticism. However, in view of the fact that none of the persons responsible for said navigation survived the casualty and, as a result, their individual testimony was not available to the Board, no determination can be made as to which individual or individuals, if any, were culpable under either 18 USC 1115 or 46 USC 239.

7. The failure of Pilot [REDACTED] to sound a "danger signal" when he was in doubt of the intention of the MISSION SAN FRANCISCO established a violation of Rule III, 33 USC 203. This failure of Pilot [REDACTED] also contributed to the casualty, for if the "danger signal" had been blown after Pilot [REDACTED] failed to receive a reply to his original one-blast signal, there is reason to believe that this "danger signal" would have alerted the watch-standing personnel of the MISSION SAN FRANCISCO in time to take the necessary steps to avoid or minimize the casualty.

8. The record reflects that the Pilot of the ELNA II failed to order his anchors dropped; failed to order the engines of the ELNA II stopped; failed to blow the required signal to indicate the engines of the ELNA II were going astern; and failed to steer earlier to the right. However, in view of all the circumstances and the suddenness with which the ultimate situation developed, the Board concludes that none of these failures contributed materially to the casualty. The Board concludes further that these failures of Pilot Rice do not establish culpable negligence cognizable under 18 USC 1115.

9. Pilot [REDACTED] at the time of the casualty, was serving on board the ELNA II under authority of his state license and therefore no administrative remedial action under 46 USC 239 is indicated.

10. The failure of the MISSION SAN FRANCISCO to respond to the one-blast signal of the ELNA II established a violation of Rule I, 33 USC 203, which violation contributed to the casualty.

11. The action of [REDACTED] in warning the engine room personnel of imminent peril, at the risk of his life, was instrumental in saving the lives of the aforesaid engine room personnel.

12. The casualty, herein reviewed, would have been of less serious proportions if the MISSION SAN FRANCISCO at the time of the collision had been gas-free.

RECOMMENDATIONS

1. That the Commandant, in cooperation with the API, again review the extant tanker regulations with a view to determining whether such regulations require amendment on the specific subject of gas-freeing tank vessels.

2. That the Commandant, in cooperation with interested segments of the Maritime Industry, give consideration to whether an amendment to the inland pilot rules, requiring the exhibition when underway of an identifying day and night signal by tank vessels or other vessels engaged in the transportation of hazardous cargo, would be advantageous to safety of life at sea.

3. That consideration be given to the feasibility of requiring the installation of bridge to bridge telephone communication facilities for use by vessels navigating in the navigable waters of the United States, so that better information could be obtained in ample time as to a vessel's intended course, position and speed.

4. That the Commandant give consideration to the imposition of the statutory penalty, provided in 33 USC 158, upon Pilot Rice for the violation of Article III, 33 USC 203.

5. That since Pilot [REDACTED] is missing and presumed dead, and the owner of the MISSION SAN FRANCISCO is the United States of America, no action be taken with respect to the violation of Rule I, 33 USC 203.

6. That official recognition be taken of the heroic action of Chief Pumpman [REDACTED].

7. That consideration be given to possible national legislation directed to insuring that foreign vessels navigating on the navigable waters of the United States be under the control of officers who have proved their competence.

(Signed) [REDACTED]
GAINES A. TYLER
Captain, U. S. C. G.
Chairman

(Signed) [REDACTED]
Roderick Y. Edwards
Commander, U. S. C. G.
Member

(Signed) [REDACTED]
Frederick R. Arzo
Commander, U. S. C. G.
Member and Recorder