

UNITED STATES COAST GUARD

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



MVI
26 JUL 1957
(PELAGIA - a-3 Bd)

Commandant's Action

on

Marine Board of Investigation; foundering of
SS PELAGIA, off Coast of Northern Norway,
15 September 1956, 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, Opinions, and Recommendations, has been reviewed.
2. The SS PELAGIA, a Liberty type freighter of 7,238 g. t., built in 1943, was loaded to capacity with iron ore at Narvik, Norway. The ore was untrimmed and peaked in the center of each hold. With good weather, the PELAGIA departed from Narvik, Norway, for Baltimore, Maryland, at about 1300 GMT, 14 September 1956. After departure the weather progressively worsened and by 0500 GMT next morning the wind was force 9, WSW, with heavy seas from the same direction. At about 0510 GMT, a heavy sea struck the vessel, dislodging Nos. 1, 3 and 4 lifeboats from their cradles and damaging the tarpaulins on No. 1 hatch. The lifeboats were lashed to prevent further damage but the heavy seas prevented the repair or replacement of the damaged tarpaulins. Apparently, because of the fear that the untrimmed and peaked iron ore cargo would shift during any course change, no maneuvers were undertaken which would enable the damage at No. 1 hatch to be corrected. The vessel continued heading into the sea at a speed presumably calculated to maintain steerageway. The whole gale force winds with heavy seas continued and by 1248 GMT, with No. 1 hold flooded and No. 2 hold flooding, an SOS was sent and received, but because of uncertainty of position and rough weather, search and rescue operations were most seriously hampered. At about 1300 GMT the general alarm was sounded and the crew, wearing life jackets, mustered at their lifeboat stations. Upon orders, No. 2 lifeboat was lowered with six persons embarked. This lifeboat remained alongside until the painter parted at about 1321 GMT. At this time the PELAGIA was upright but down by the head with seas breaking over Nos. 1 and 2 hatches and as far aft as No. 3 hatch. She was headed into the sea with propeller still turning, presumably to maintain steerageway. At about 1420 GMT the PELAGIA sent her last radio message reading "now sinking." The PELAGIA sank at about 1430 GMT, 15 September 1956 in approximate position 67°-15' N, 11°-35' E, with the loss of all persons then on board. As a result of this casualty, the PELAGIA was lost, and of her total crew of 37 persons, 31 perished with the vessel, one died of exposure in the No. 2 lifeboat, and 5 unlicensed crew members in such lifeboat survived.

MVI

26 July 1957

(PELAGIA -a-3 Bd)

REMARKS

3. Paragraph 3 of the board's opinions states in effect that the sinking of the PELAGIA was the result of natural causes and must be considered due to the perils of the sea. Undoubtedly, the perils of the sea, i. e., the whole gale winds and heavy seas caused the foundering of the PELAGIA. It can be inferred from the record, however, that the failure to properly trim the iron ore cargo prior to departure from Narvik could have also been a contributing factor in the cause for the foundering.

4. The review of marine casualties involving improper stowage of ore cargoes on board merchant vessels has indicated the need for establishment of minimum standards for the proper stowage of bulk ore and similar cargoes when carried on general cargo vessels. In the absence of regulations in this field and following preliminary studies, proposals for the establishment of minimum standards for the proper stowage of bulk ore and similar cargoes when carried on general cargo vessels were considered by the Merchant Marine Council of the U. S. Coast Guard at a public hearing held on 24 April 1956. Considerable controversy arose at this hearing and the item was withdrawn for further studies. This subject was given further study and again presented for consideration at a public hearing held on 7 May 1957 by the Merchant Marine Council. The proposal considered provided that when bulk cargo such as ore or concentrates, phosphate rock, etc. are carried on general cargo vessels, such cargoes shall be well trimmed out to the wings and in a fore and aft direction. After discussion and in view of the differences of opinion indicated, it was decided to appoint a panel of industry representatives to sit with the Coast Guard to analyze all the various phases of the carriage of ore and ore concentrates, with the end view of developing a specific "Code of Good Practice" for the carriage of the several types of such cargo. Further public hearings will be held on the subject when the panel makes its recommendations to the Commandant.

5. The board's recommendation with respect to steel pontoon hatch covers for cargo vessels carrying bulk cargoes and the carriage of auxiliary lifesaving equipment of the inflatable rubber boat type will be referred to the Merchant Marine Council for further consideration.

MVI
26 July 1957
(PELAGIA - a-3 Bd)

6. The Findings of Fact and Opinions of the Board convened to investigate subject casualty are approved, subject to the above remarks and the further remark that in view of the lack of material witnesses and other evidence covering a considerable period of time prior to the foundering of the PELAGIA, the Opinions of the Board should not necessarily be taken to exclude other reasonable hypotheses with respect to the cause and responsibility for the foundering.

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

REPORT

OF A

MARINE BOARD OF INVESTIGATION

convened at the

Marine Inspection Office, United States Coast Guard

Third Coast Guard District

New York, N. Y.

on

25 September, 22, 26 October and 13 November 1956

By Order of

Commandant, U. S. Coast Guard

To Inquire Into and Investigate the Circumstances Surrounding the
Foundering of the SS PELAGIA, off the Coast of Northern Norway,
15 September 1956, with loss of life.

The Board arrived at the following Findings, Opinions, and Recommendations:

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

FINDINGS OF FACT:

2. The SS PELAGIA, Official No. 244270, ex-SS SEAWORLD, was owned by Eastern Seaways Corp., 44 Whitehall Street, New York, N. Y., and operated by Mar-Trade Corp., 44 Whitehall Street, New York, N. Y.

3. The SS PELAGIA, O. N. 244270, was a steel-hulled American freight vessel of the "Liberty" type, built in 1943 at Baltimore, Md. Permanent register, number 273, was issued on 20 March 1953, at New York.

4. The SS PELAGIA, O. N. 244270, was admeasured at 7,238 gross tons, 4,437 net tons. Her dimensions were 422.8 ft. length, 57.0 ft. breadth, 34.8 ft. depth.

5. The Master, at the time of the casualty was John M. Matandos, Lic. No. 190157, Z-518190. The articles of agreement give his next of kin as wife: Catherine, 7341 Oak Hill, Houston, Texas.

6. On 7 July 1956, the vessel completed her last annual inspection at Baltimore, Md., and was issued Certificate of Inspection and Safety Equipment Certificate on 13 July 1956.

7. On 7 July 1956, Special Survey #3, was completed by the American Bureau of Shipping. No material repairs remained outstanding, but it was required that chipping and cleaning of rust from hatch coamings be done at a future date.

8. After completing annual inspection, the vessel made one (1) round trip from Norfolk, Va., to France, returning to Norfolk, Va. While she was at Norfolk, Va., on 17 August 1956, minor welding repairs to close leaks in crew rooms were performed by Horne Brothers, Inc., Newport News, Va., and cranks for #4 lifeboat davit were repaired and fitted.

9. The SS PELAGIA departed Norfolk, Va., on or about 17 August 1956, en route to Antwerp, Belgium. No untoward incidents occurred throughout this voyage, and the vessel arrived at her destination on 4 September 1956.

10. Subsequent to the discharge of the coal cargo at Antwerp, the vessel was examined by the Officer-in-Charge, Merchant Marine Detail, Antwerp, Belgium, who required, and saw completed, the following repairs, required due to damage from unloading buckets:

a. Six bulkhead stiffeners were faired in place in #5 hold and five (5) manholes in #1, 3 and 4 holds.

b. Minor repairs to ladders, ceilings and wooden bilge covers.

11. After completing the above repairs, the SS PELAGIA departed Antwerp en route to Narvik, Norway, to load iron ore destined for Baltimore, Md. No untoward incidents occurred on this leg of her journey, and she arrived in Narvik at 1520, 12 September 1956.

12. On 14 September 1956, loading of iron ore was completed. The ore, consigned to Bethlehem Steel Company, Philadelphia and Bethlehem, Pa., was loaded as follows:

#1 hold - 1150 tons
#2 hold - 3270 tons
#3 hold - 2120 tons
#4 hold - 1960 tons
#5 hold - 1790 tons

13. The ore was not trimmed or shifted by hand in any way. It was peaked in the center of each hold by movement of the loading chute at the end of the conveyor belt.

14. After loading, the vessel's hatches were secured with hatch boards and tarpaulins. The Norwegian citizen, Arnt Olsen, in charge of securing the vessel, found the hatch coverings satisfactory.

15. On 14 September 1956, the SS PELAGIA departed Narvik at or about 1300 hours GMT. Her draft on departure was 21.7 ft. forward, 29.3 ft. aft, 25.5 ft. mean. The applicable load line was Summer, 9 ft. 8-3/4 in. from main deck at side. The fresh water allowance was 7-1/4 in. Resultant draft at Narvik was 2 in. less than allowable.

16. The weather, at the time of departure, was good, wind moderate S. E., and the sea was calm.

17. During the night, however, the weather became worse. At 0550 hours, GMT, 15 September 1956, Harstad (Norway) Radio transmitted the weather forecast to the PELAGIA, at which time, the weather in the areas had deteriorated, with wind force 9, WSW, and heavy WSW seas.

18. At or about 0610, ship's time, 0510 GMT, a very heavy sea struck the SS PELAGIA, which had been steering a course of approximately 260° T, awakening many of the crew members. This sea demolished the wooden and canvas dodger of the flying bridge.

19. At or about 0530 GMT, the Chief Officer called all hands on deck and had them begin removing a tarpaulin from #4 hatch, intending to place it on #1 hatch. Before this was done, the deck force received orders to re-secure the #4 hatch again, due to heavy seas forward.

20. When the working party had re-secured #4 hatch, they were sent up to the boat deck, starboard side, where #1 and #3 lifeboats were found to have been pushed back off their cradles by the force of the sea. Both boats were jammed into their after davits.

21. After lashing #1 and #3 lifeboats, the working party went to #4 boat which had been lifted partially from its cradle. This boat was lashed in place to prevent its swinging. External evidence of damage to the boat's hull, involving dents, but no punctures was observed by Lawrence Theodore Rediess, A. B., Z-611734-D1.

22. At or about 0600 GMT, the tarpaulins, three (3) in number, on #1 hatch were observed to be torn away, and approximately four (4) hatch boards were missing. The tarpaulins and hatch boards were not replaced by the ship's crew, due to heavy seas breaking over the fore part of the vessel.

23. At or about 1130 GMT, the vessel's Steward, Demetrios M. Hadjicostas, Z-379822-D1, encountered the Chief Officer near the former's room and learned that the vessel was being held, on course, into the seas.

24. At 1245 GMT, an SOS message from the SS PELAGIA was received by Norwegian radio stations at Rørvik, Tromsø, and Harstad, giving a position of 66° 30' N, 10° 30' E.

25. At 1248 GMT, Rørvik radio received the following message:

"SOS full of water cannot keep out water need
immediately assistance psn nw 6715N 0835E at
1100 gmt since steering course 260 QRA Pelagia
from Narvik bound Baltimore."

26. At or about 1300 GMT, on 15 September 1956, the general alarm was sounded, and the crew, in lifejackets, mustered at their lifeboat stations. The Steward observed #1 hatch and saw black water coming over the coaming being regurgitated from #1 hold.

27. Under direction of the vessel's Boatswain, #2 lifeboat was uncovered and swung out. No. 4 lifeboat was partly uncovered when orders from a person unknown stopped the operation.

28. The Boatswain directed the following personnel to enter #2 lifeboat:

Lawrence Theodore Rediess, Z-611734-D1, A. B.
James Arnold, Z-113695-D3, O. S.
Andreas Alexandron Orphanos, Z-60353, Fireman
Demetrios M. Hadjicostas, Z-379822-D1, Steward
Pedro P. Rodriguez, Z-806048, 2nd Cook & Baker
Juan B. D. Y. Lopez, Z-270862-D5, Messman

29. At 1305 GMT, Tromsø advised Rescue Operations Center, Bodø, Norway, by telephone, of the SOS, and the Rescue Operations Center alerted aircraft and surface vessels.

30. Shortly after the six (6) seamen had entered #2 lifeboat, the boat was lowered to the water, riding on a sea painter attached by the Chief Officer to the forward deckhouse stanchion, port side.

31. The lifeboat rode on the sea painter until approximately 1321 GMT, when the sea painter broke, and the boat drifted aft. All but two (2) oars had been broken when used to fend the boat off from the ship.

32. The boat cleared the SS PELAGIA's screw, which was still turning, making from 40 to 50 r.p.m. Men on deck told the men in the boat that land was reported some five (5) miles away.

33. At the time the lifeboat went adrift, the SS PELAGIA was upright but down by the head with seas breaking over #1 and #2 hatches and as far aft as #3 hatch.

34. No panic or apparent distress was displayed by the personnel remaining aboard the SS PELAGIA.

35. At 1313 GMT, Rørvik radio received a corrected position from SS PELAGIA of 67° 15'N, 11° 35'E, course 260°T. At 1321 GMT, the station received a message indicating the lifeboat adrift. No further contact was made by this station with the vessel.

36. At or about 1420 GMT, Bodø Rescue Operations Center received a message from the SS PELAGIA reading "now sinking," the signal thereafter fading. M/B KELKHEIM reported intercepting the message of sinking at or about 1435.

37. During the night of 15-16 September 1956, the lifeboat remained adrift. Lawrence Theodore Rediess, sighting the lights of various vessels, attempted to signal these ships with the lifeboat flare pistol. Some five (5) flares, although propelled by the cartridge charge, failed to ignite, after the first seven (7) flares fired properly and the parachute flares ignited properly.

38. Rediess, after exhausting the parachute flare signals, attempted to use the hand-held flares. He believed it necessary to ignite these flares with matches and endeavored to use the matches stowed in the boat. These, together with the flashlight, were found to be wet at the time the container holding them was opened, the container itself showing signs of prior interior wetting.

39. At dawn on 16 September 1956, when the men in the lifeboat resumed activity, it was discovered that the messman, Lopez, had died. The temperature of the sea water had remained at 8°C. The boat had been making water over the gunwales and through an apparent leak whose location remained undiscovered by the seamen. The sail, which had been used by the seamen as a cover during the night, was hoisted, upside down, during the early daylight hours.

40. At or about 0730 GMT, 16 September 1956, the lifeboat was sighted by a Catalina aircraft of the Norwegian Air Force. The aircraft signalled the German M/V KELKHEIM and the British trawler NORTHERN DUKE which were both proceeding towards the area in which the boat lay. Both vessels headed toward the lifeboat.

41. At or about 0750 GMT, the M/V KELKHEIM sighted the lifeboat and maneuvered to fire lines with her rocket equipment.

42. The NORTHERN DUKE maneuvered across the M/V KELKHEIM's bow, came alongside the lifeboat, and took the five (5) survivors aboard.

43. The NORTHERN DUKE then took the lifeboat, with Lopez' body aboard, with her net handling gear, and proceeded to Harstad, Norway.

44. At the time the NORTHERN DUKE rescued the men in the lifeboat, the wind was force 7, WNS, the sea WNW, moderating.

45. The entire sequence, from the time of the NORTHERN DUKE's crossing the KELKHEIM's bow, until the lifeboat was brought aboard the trawler, consumed ten minutes.

46. At or about 1830 GMT, 15 September 1956, the M/V KELKHEIM, despite heavy seas and a force 9-10 wind, had reached the reported location of the casualty but found nothing.

47. On intercepting traffic during the night regarding sightings of lights or signals, the M/V KELKHEIM headed southward at varying speeds.

48. At or about 0430 GMT, 16 September 1956, M/V KELKHEIM sighted and recovered two (2) hatch boards, one (1) ladder, and one (1) life ring buoy marked "SS PELAGIA - NEW YORK." At the same time, the vessel received a report of the sighting of oil slicks about five (5) miles WSW of her 0430 position.

49. The Master of the KELKHEIM, assuming that a lifeboat would move rapidly before the wind, headed ESE for about two and a half ($2\frac{1}{2}$) hours without sighting anything. He then turned his vessel on a NW heading.

50. At or about 0745 GMT, M/V KELKHEIM sighted and retrieved a dented lifeboat air tank marked "PELAGIA." While engaged in picking up this tank, the KELKHEIM was signalled by the Catalina aircraft and proceeded towards the lifeboat's indicated position.

51. The NORTHERN DUKE arrived at Harstad, Norway, on 17 September 1956; the survivors were sent for physical examination.

52. The body of Lopez was shipped from Harstad on 21 September 1956 to Bergen, Norway, from whence it was sent to Playa de Fajardo, Puerto Rico, for interment.

53. On 17 September 1956, the Norwegian destroyer, TRONDHEIM, picked up the body of a seaman wearing a lifejacket marked "PELAGIA," in position $66^{\circ} 54' N$, $11^{\circ} 10' E$. The body was subsequently identified, by fingerprints, as that of Robert M. Parsons, Z-115067-D1, A. B. aboard the SS PELAGIA.

54. The lifeboat was put ashore by the NORTHERN DUKE at Harstad, Norway, and kept under police custody.

55. In addition to the Master, John M. Matandos, Lic. No. 190157, Z-518190, the following persons were aboard the SS PELAGIA on her departure from Narvik, Norway:

Victor H. Ross, Chief Mate, Z-117761-D1
Albert B. Toler, 2nd Mate, Z-81777-D1
Fred A. Phillips, 3rd Mate, Z-315709-D1
Douglas G. King, Radio Officer, Bk-283687
Antonio N. Albuquerque, Bos'n., Z-390777
Frank A. Fender, Deck Maint., Z-427618
Lawrence T. Rediess, A. B., Z-611734-D1
Robert M. Parsons, A. B., Z-115067-D1
Wayne H. Tokoi, A. B., Z-511249-D4
Albert L. Bartos, Jr., A. B., Z-141186-D1
Ture V. Janzon, A. B., Z-342877
Voldeman M. Tolli, A. B., Z-819190
Russell V. Redd, O. S., Z-969610
James A. Robinson, O. S., Z-822158-D1
James Arnold, O. S., Z-113695-D3
William J. Cook, Chief Engr., Z-415244
Richard J. Bishop, 1st Asst., Z-272804

Adrian A. Vellekoop, 2nd Asst., Z-92110
Philip H. Cole, 3rd Asst., Z-145506
Antonio Pedreira, Deck Engr., Z-54534
William B. Hill, Oiler, Z-114369
Johannes J. Buitendorp, Oiler, Z-1001011
Robert J. Broomall, Oiler, Z-169939-D1
Joao B. Dos Santos, F. W. T., Z-418779
Andreas A. Orphanos, F. W. T., Z-60353
Ray Judy, F. W. T., Z-21716
August Fefe, Wiper, Z-240150
Leroy F. Kuechle, Wiper, Z-1058751
Demetrios M. Hadjicostas, Steward, Z-379822-D1
Manzella Edwards, Chief Cook, Z-504028
Pedro P. Rodriguez, 2nd Cook & B., Z-806048
John B. Wallace, Asst. Cook, Z-551528
Juan B. D. Y. Lopez, Messman, Z-270862-D5
Arthur L. Dixon, Messman, Z-849960
Foo Low, Messman, Z-480491
Lamont L. Henderson, Utility, Z-274237-D2

56. The following crew members were rescued by the NORTHERN DUKE:

Lawrence T. Rediess, Z-611734-D1
James Arnold, Z-113695-D3
Andrias A. Orphanos, Z-60353
Demetrios M. Hadjicostas, Z-379822-D1
Pedro P. Rodriguez, Z-806048

57. The following two (2) crew members were found dead and their bodies positively identified:

Juan Bautista De Santiago Y. Lopez, Z-270862-D5
Robert M. Parsons, Z-115067-D1

58. The Board finds the Master of the SS PELAGIA, John M. Matandos, and the remainder of the vessel's crew as listed in paragraph 55 above, a total of thirty (30) persons to be missing without trace beyond that of wreckage found subsequent to 15 September 1956.

59. The Master of the trawler NORTHERN DUKE at the time of the rescue was Captain J. W. Green.

60. The Master of the M/V KELKHEIM at the time of the rescue was Captain Kurt Krieger.

61. No evidence exists to show any disposition of tarpaulins from the SS PELAGIA at Antwerp, Belgium. Evidence does show that used line and some barrels were sold and declared to Customs officials at Antwerp, Belgium.

62. Life preservers marked SS PELAGIA were forwarded to and examined by the Board. These life preservers were found by the Board to have been torn in manners indicating a severe impact, such as that resulting from a man's jumping from a height into the water, or in a fashion indicating a severe scraping against a rough object, such as that resulting from a man's sliding along a deck or a ship's side. The fabric proper was found resistant to pull testing applied in the manner of field examination of life preservers.

OPINIONS

1. Based upon the above findings of fact, is the opinion of the Board that the SS PELAGIA, Official Number 244270, sank, at or about 1430 GMT, 15 September 1956, in position, approximately, 67° 15' N, 11° 35' E, with a resultant loss of thirty-one (31) lives aboard the vessel, including the Master, who went down with his ship.
2. That Juan Bautista de Santiago Y. Lopez died sometime during the night of 15-16 September 1956, due to exposure, while adrift in the SS PELAGIA's #2 lifeboat.
3. That the sinking of the SS PELAGIA was the direct result of the full flooding of #1 hold and partial flooding of #2 hold and 'tween decks after the hatch coverings were torn and demolished by very heavy seas and gale/to/ hurricane force winds, and that the flooding was the result of natural causes and must be considered due to perils of the sea.
4. That the equipment of the SS PELAGIA was satisfactory for the normal circumstances of her route and trade, but the conditions prevailing at the time of the casualty were extraordinary.
5. That extraordinary conditions may prevail too frequently for fully laden bulk cargo carriers in the high latitudes of the North Atlantic Ocean.
6. That, in all probability, more of the crew of the SS PELAGIA would have survived had an auxiliary form of lifesaving apparatus, such as rubber boats, been available for use after the lifeboats had been damaged.

7. That the SS PELAGIA's loading was such as to inhibit the Master from risking a turn in the heavy seas prevailing at the time of the casualty, for fear of broaching and subsequently capsizing, and that the action of the Master in heading into the seas was the only alternative left him when the weather increased in severity.
8. That the Masters of the trawler NORTHERN DUKE and of the M/V KELKHEIM showed great skill and seamanship in their actions leading to the finding and rescue of the persons in the PELAGIA's drifting lifeboat.
9. That the Norwegian Rescue Operations Center personnel, the Norwegian Air Force, and the Norwegian Navy, showed determination and persistence in the pressing of the search for the SS PELAGIA and her survivors.
10. That the following persons, found missing, are dead as a result of the casualty to the SS PELAGIA:

John M. Matandos, Master
Victor H. Ross, Chief Mate
Albert B. Toler, 2nd Mate
Fred A. Phillips, 3rd Mate
Douglas G. King, Radio Officer
Antonio N. Albuquerque, Bos'n.
Frank A. Fender, Deck Maint.
Wayne H. Tokoi, A. B.
Albert L. Bartos, Jr., A. B.
Ture V. Janzon, A. B.
Voldeman M. Tolli, A. B.
Russell V. Redd, O. S.
James A. Robinson, O. S.
William J. Cook, Ch. Engr.
Richard J. Bishop, 1st Asst.
Adrian A. Vellekoop, 2nd Asst.
Philip H. Cole, 3rd Asst.
Antonio Pedreira, Deck Engr.
William B. Hill, Oiler
Johannas J. Buitendorp, Oiler
Robert J. Broomall, Oiler
Joao B. Dos Santos, F. W. T.
Ray Judy, F. W. T.
August Fefe, Wiper
Leroy F. Kuechle, Wiper
Manzella Edwards, Chief Cook
Arthur L. Dixon, Messman
Foo Low, Messman
Lamont L. Henderson, Utility

11. That the cooperation extended by all interested agencies of the Norwegian Government to the Senior Coast Guard and Merchant Marine Detail Officer, Europe, contributed materially to the completeness of this investigation and is deserving of formal appreciation.

RECOMMENDATIONS

1. After consideration of the elements involved in this casualty, the Board recommends that consideration be given to amending the regulations regarding equipment of cargo vessels to include the following:

a. A regulation which would require the use of steel pontoon hatch covers or other more suitable type of hatch closings for the forward main deck hatches on fully laden flush deck type of cargo vessels when operating in the high latitudes of the North Atlantic Ocean carrying bulk cargoes.

b. A regulation which would provide for the carriage on merchant vessels of auxiliary lifesaving equipment of the inflatable rubber boat type which could be stowed in parts of the vessel not vulnerable to the action of the sea, but readily available and usable in time of peril.

2. It is recommended that the equipment of the SS PELAGIA, transmitted to the Board by the Senior Coast Guard and Merchant Marine Detail Officer, Europe, be forwarded to Headquarters, and that this investigation be closed by the forwarding of this report, together with exhibits and enclosures, to Headquarters.

(signed) Arthur W. Johnsen
ARTHUR W. JOHNSEN
Commander, U. S. Coast Guard, Chairman

(signed) Gerard J. Perron
GERARD J. PERRON
Lieutenant, U. S. Coast Guard, Member

(signed) Samuel M. Moore, III
SAMUEL M. MOORE, III
Lieutenant, U. S. Coast Guard, Member
and Recorder