

ORIGINAL

MARINE CASUALTY REPORT

F/V FENWICK ISLAND
CAPSIZING IN ATLANTIC OCEAN
DECEMBER 7, 1968

U.S. COAST GUARD
MARINE BOARD of INVESTIGATION REPORT
and COMMANDANT'S ACTION

ACTION BY
NATIONAL TRANSPORTATION SAFETY BOARD

DEPARTMENT OF TRANSPORTATION
WASHINGTON D.C. 20591

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F/V FENWICK ISLAND
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NATIONAL TRANSPORTATION SAFETY BOARD
DEPARTMENT OF TRANSPORTATION
WASHINGTON, D.C. 20591

MV FENWICK ISLAND
FOUNDERING IN ATLANTIC OCEAN
December 7, 1968

ACTION BY NATIONAL TRANSPORTATION SAFETY BOARD

This casualty was investigated by a U. S. Coast Guard Marine Board of Investigation convened at Portsmouth, Virginia, on December 17, 1968. The National Transportation Safety Board has reviewed the investigative record and has considered those facts which are pertinent to the Board's statutory responsibility to make a determination of cause or probable cause.

ANALYSIS

The MV FENWICK ISLAND, 199 gross tons and 130 feet in length, was constructed of steel and designed for menhaden fishing. The vessel was built in 1956. Lifesaving equipment consisted of life preservers and ring buoys. Two seine boats were installed aboard for use at sea.

The FENWICK ISLAND had one main fish hold. The hold was divided into two sections by a non-watertight centerline partition of wooden construction, 4 inches thick, supported by steel braces. The hatch coaming was 3 feet high. The hatch was provided with wooden hatch covers which were stowed on top of the after house. It was not the practice to cover the fish hold on the FENWICK ISLAND, and at the time of the casualty it was not covered.

The hold was fitted with eight trimming ports, 18 inches in diameter, four on each side, on the main deck outboard of the main hatch. Flush-fit covers were provided for the trimming ports. They were designed with two dogs on the underside which were moved radially into locking position by downward travel of a vertical shaft

through the center of the cover. The covers were removed on deck by pulling a ring attached to the end of the shaft. The hold was fitted with drainage flumes which connected to a common sump at the after end. One pump, located in the engine room, was used solely for dewatering the fish hold. However, there was also a general service pump and a bilge and ballast pump which could take suction on the fish hold through manifold connections.

The vessel had a superstructure forward of the fish hold and another aft. The wheelhouse, the rooms of the Captain and Mates, the crew's quarters, and the galley were located forward. The engine room and the engineers' quarters were located aft. The waist of the vessel was not visible from the wheelhouse.

On December 7, 1968, the FENWICK ISLAND, with a crew of 14, was operating in the menhaden fishing grounds southwest of Cape Hatteras Light. The weather was good, with light airs and calm seas. The 1100 marine weather forecast for the area, which was received by the Master, predicted variable northeast to east winds 5 to 15 knots in the afternoon, changing to northwest to north 10 to 20 knots that night. The Master did not tune in to receive any further marine forecasts.

The 1700 forecast placed small craft warnings in effect and predicted variable winds 10 to 20 knots, becoming north to northwest and increasing to 20 to 30 knots later that night.

At about 1500, with a near capacity load of fish on board, the vessel got underway on a southwest course to return to Beaufort, North Carolina. The level of fish in the hatch was a few inches below the top of the coaming.

At about 1730, light wind from the southwest developed and increased to about 25 knots, with building seas. The vessel was slowed to half speed, and about 2100 rounded Cape Lookout buoy R4 and came to a course of 320 degrees true for Beaufort Inlet. Shortly thereafter, the wind veered rapidly to the northwest and increased to 60 to 70 knots. Seas increased to about 20 feet, with a confused state of wind-driven seas from the northwest and heavy swells from the southwest. Speed was further reduced and the vessel proceeded on, rolling heavily, and with seas occasionally breaking on deck. At about 2230, the vessel suddenly assumed a severe starboard list. One

crewmember, running out on deck, noted that one of the starboard trimming port covers was missing. Another crewmember found a cover missing from the port side and noted that the level of fish under the port was 5 or 6 feet below deck level. Boarding seas coming over the starboard side were seen entering the fish hold hatch and washing fish out of the hold.

As is the normal practice, the engineer had been operating the fish hold pump intermittently for a few minutes each hour during the return trip to keep the drain sump empty. After the vessel assumed the starboard list, he went on deck to check the overboard discharge and observed that the pump was discharging a good stream of water. In response to a request from the Master via the Mate to see if he could do anything to correct the list, the engineer started the ballast pump and began filling the after port ballast tank. The Master contacted his company office by radio and advised that the vessel had a bad list and requested help. He then decided to release the starboard seine boat in an attempt to correct the list. As the boat was released, the vessel righted herself, but then assumed an even greater list to port. At the time the vessel started listing to port, the port ballast tank was about half full. The engineer realigned the pump and began transferring the water to a starboard ballast tank. The crew then began attempts to release the port boat, but the vessel continued to list to port until it was on its beam ends.

All hands had donned life preservers when sinking had appeared imminent and several of them clung to the vessel for a short time until they were swept away by the sea. The vessel capsized and then sank at about 2300.

The Master of the fishing vessel W. T. JAMES, JR., which was in the vicinity, overheard radio traffic indicating the distress and proceeded to the scene. By using a searchlight, the overturned vessel was found and shortly thereafter the Master and six crewmembers of the FENWICK ISLAND were found and taken aboard the W. T. JAMES, JR. A Coast Guard cutter arrived on the scene at 0039 on December 8, 1968, and continued the search for survivors. About 10 hours later, the last of the bodies of the seven deceased crewmembers was recovered.

In analyzing the events, it appears that the vessel was experiencing heavy weather for about one and one-half hours prior to developing the starboard list. Sometime during that period, one or

more of the trimming port covers became displaced and this permitted the ingress of water to the fish hold. The fact that the level of fish was observed 5 to 6 feet below the displaced cover on the portside indicates the existence of void areas which would permit a shift of cargo. The sudden development of the starboard list also indicates a cargo shift. It would appear that a quantity of water entering the starboard side of the fish hold would reduce the surface adhesion in the pile of fish in that area, with a resulting shift of bulk to a void or less densely packed area. The deep starboard list then permitted boarding seas to enter the hold through the open hatch. The release of the starboard boat and the ballasting of the port tank, together with the increased volume of water in the hold, caused a second shift of cargo and an even greater list to port. As the flooding progressed, stability continued to deteriorate and the vessel capsized and sank.

PROBABLE CAUSE

The National Transportation Safety Board finds that the probable cause of this casualty was the failure of the Master to have the main hatch covered when the vessel encountered heavy weather. A contributing cause was the failure to install and maintain the trimming hatch covers in a secure manner. Also contributing to the loss of the vessel were the steps taken by the crew to offset the starboard list.

Contributing to the effects of this casualty was the lack of primary life saving equipment which would be readily available and would provide exposure protection. Also, waterproof battery-powered lights attached to the lifepreservers might have enabled rescue forces to detect the individuals in the water early enough to reduce the loss of life.

RECOMMENDATIONS

The Safety Board concurs with the Commandant relative to the recommendations of the Marine Board. In addition, the Board

makes the following recommendations and reiterates a recommendation made by the Board in its action on the Marine Board report of the loss of the PANOCEANIC FAITH relative to lights for life preservers:


1. The Coast Guard, in its study of fishing vessel safety, consider the need for legislative authority to require sufficient inflatable liferaft capacity to accommodate all persons on board fishing vessels in ocean and coastwise service.
2. The Coast Guard consider amending the applicable regulations to require that each life preserver be equipped with a waterproof battery-powered light.

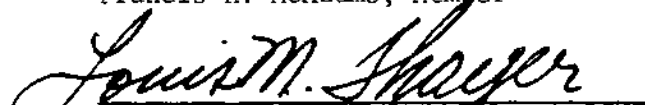
BY THE NATIONAL TRANSPORTATION SAFETY BOARD:


Adopted this 31st day of December, 1969:


John H. Reed, Chairman


Oscar M. Laurel, Member


Francis H. McAdams, Member


Louis M. Thayer, Member


Isabel A. Burgess, Member

not participating



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

Address reply to:
COMMANDANT (MVI-3)
U.S. COAST GUARD
WASHINGTON, D.C.
20591

5943/FENWICK ISLAND
A-5 Bd
26 SEP 1968

Commandant's Action

on

The Marine Board of Investigation convened to inquire into the circumstances surrounding the sinking of the fishing vessel FENWICK ISLAND in the Atlantic Ocean off Cape Lookout, North Carolina, on 7 December 1968, with loss of life

1. The record of the Marine Board of Investigation convened to investigate subject casualty has been reviewed and the record, including the Findings of Fact, Conclusions and Recommendations, is approved subject to the following comments and the final determination of the cause by the National Transportation Safety Board.

SYNOPSIS OF FINDINGS OF MARINE BOARD OF INVESTIGATION

1. On or about 2300 on the night of 7 December 1968, the fishing vessel FENWICK ISLAND sank in the Atlantic Ocean off Cape Lookout, North Carolina, after capsizing in heavy seas. Seven lives were lost due to exposure. The vessel has not been recovered.

2. As the 130 ft. steel hull fishing vessel FENWICK ISLAND was returning to the port of Beaufort, North Carolina, laden with a cargo of menhaden fish, she encountered unexpected heavy weather and took on water in her main fish hold. There were eight trimming ports eighteen inches in diameter on the main deck. The cover was not in place on one of these ports. The water initially entered the hold through this port and later through the main hatch itself which was not covered. Although the hatch cover was available on board, this type of vessel normally engaged in fishing only in good weather and it was the general practice for such vessels to operate in the area with the main hatch open.

3. As water entered the hold the vessel assumed a starboard list and steps were taken to start dewatering the main hold and filling the port ballast tanks. This ballast on the port side and the reduction of weight on the starboard side affected by the release of the starboard seine boat caused the vessel to right herself but she then assumed an even greater list to port. The vessel capsized and lay on her port side one half to three quarters of an hour before sinking.

4. All crewmembers were wearing life preservers at the time of the casualty. The seven survivors were rescued within one hour after the vessel sank by another fishing vessel in the area. The bodies of the other seven crewmembers have been recovered.

ACTION CONCERNING THE RECOMMENDATIONS

1. A study of the type recommended by the Marine Board of Investigation to determine if there are feasible means by which safety hazards peculiar to fishing vessels may be eliminated or reduced has been initiated by the Coast Guard.

2. The report of the Marine Board of Investigation will be disseminated and published in the "Proceedings of the Merchant Marine Council" upon the final determination of the cause of the casualty by the National Transportation Safety Board.



W. J. SMITH
Admiral, U. S. Coast Guard
Commandant



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

Address reply to:

. 5943.180-68

JUL 16 1969

From: Marine Board of Investigation
To: Commandant (MVI)

Subj: F/V FENWICK ISLAND; capsizing in the Atlantic Ocean off Cape Lookout, N.C., on 7 December 1968, with loss of life

FINDINGS OF FACT

1. On the night of 7 December 1968, the fishing vessel FENWICK ISLAND encountered high winds and heavy seas while returning to the port of Beaufort, North Carolina. The vessel, laden with fish, took a severe starboard list when water from seas breaking on deck entered the main fish hold. Upon the release of the starboard purse seine boat, while ballasting to correct the starboard list, the vessel assumed an extreme port list, capsized, and sank in 47 feet of water off Cape Lookout, North Carolina at Lat. 34 degrees, 27' N, Long. 76 degrees, 30' W. USC&GS Chart No. 1233 encompasses the area. Seven of the fourteen crew members were rescued within an hour of the casualty. The remaining seven perished with all deaths being attributed to exposure. One body was picked up with the survivors and the other six recovered the following day.
2. The F/V FENWICK ISLAND, official number 271387, designed for menhaden fishing was built at Port Arthur, Texas, in 1956. She was of welded steel construction, 130.4 feet long, a breadth of 23.1 feet, a depth of 8.4 feet, 199 gross tons, 135 net tons, with diesel propulsion of 800 horsepower. Her home port was Wilmington, Delaware. She was owned by Fenwick Island, Inc. of Lewes, Delaware. The F/V FENWICK ISLAND was an uninspected vessel. The vessel was equipped with radio telephone and citizen's band radio. Her master at the time of the casualty was Charles L. Forrest, age 37, of Susan, Virginia. He was holder of a license as Mate of Uninspected Motor Fishing Vessels of not more than 500 gross tons. The license held by the master was a prerequisite, established by the owner, for employment aboard the vessel.
3. Significant compartmentation, conditions and characteristics of the FENWICK ISLAND were as follows (forward to aft):
 - a. Water ballast tank - stem to watertight bulkhead at frame 8. Estimated capacity - 2400 gallons. Empty during casualty.
 - b. Crew's berthing - watertight bulkheads at frames 8 and 23.
 - c. Water ballast tank - frames 8 to 13, beneath crew's berthing compartment. Estimated capacity - 2400 gallons. Empty during casualty.

d. Potable water tank - frames 15 to 21, beneath crew's berthing compartment. Estimated capacity - 3500 gallons. About 75 percent full during casualty.

e. Void spaces (2) - one at each extremity of potable water tank. Empty during casualty.

f. Main fish hold - watertight bulkheads at frames 23 to 51. Capacity about 170 tons (500,000 menhaden fish). Filled to near capacity at time of casualty. The main hold was separated by one longitudinal partition of wooden construction, 4 inches thick, and supported by pipe stanchions and braces. The partition extended along the center line the entire length of the hold, from the bottom to the under side of the main deck transverse members. The partition was basically solid but not constructed to be watertight. The main hatch was 15 feet, fore and aft, by 11 feet across. The hatch coaming was 3 feet in height. The hold was fitted with 8 trimming ports approximately 18 inches in diameter, 4 on each side, on the main deck outboard of the main hatch. The trimming ports were designed with two dogs each on the under side, which were moved radially into locking position by downward travel of a vertical shaft. The covers were removed by pulling a ring attached to the vertical shaft. Drainage flumes, one on each side of the hold partition, extended along the bottom of the hold from aft to about 75 percent of the compartment length. The flumes were 21 inches wide, 8 inches deep, and connected by a 10 inch pipe to a common sump at the after end.

g. Engineroom - watertight bulkhead at frames 51 and 66. Located in forward end of engineroom were three pumps capable of taking suction from the fish hold drainage sump. One pump, starboard side, was solely for dewatering the fish hold. A bilge and ballast pump and a fire and bilge pump were located on the port side. Pumping capacity is unknown but they were referred to as "3 inch pumps."

h. Port and starboard fuel tanks - frames 66 to 72. Capacity 2500 gallons each. Each tank was about 2/3 full at time of the casualty. Valves in a 2 inch diameter engine supply pipe interconnecting the two tanks were kept in an open position so that fuel was expended uniformly from each tank.

i. Port and starboard ballast tanks - watertight bulkheads at frames 72 and 77. Capacity 2200 gallons each. Tanks were carried empty until partial ballasting prior to the vessel's capsizing.

j. After peak - frame 77 to stern. Compartment served as engineer's storeroom.

k. A seine boat was carried on each side of the main deck, aft. The weight of each boat fully equipped was estimated to be between 6 and 8 tons.

4. The following persons lost their lives as a result of the casualty:

a. Bobby L. Diggs, fisherman, age 23, of Port Haywood, Virginia. Next of kin is listed as his wife, Mamie Thomas Diggs, of the same address.

b. Harold Diggs, fisherman, age 50, of Susan, Virginia. Next of kin is listed as his wife, Mary O. Diggs, of the same address.

c. Harold H. Johnson, fisherman, age 41, of Susan, Virginia. Next of kin is listed as his wife, Vivian B. Johnson, of the same address.

d. Sylvia A. Pollard, fisherman, age 51, of Route 3, Gloucester, Virginia. Next of kin is listed as his father, Richard Pollard, of the same address.

e. Lynwood L. Smith, fisherman, age 27, of Beaverville, Virginia. Next of kin is listed as his father, Barry Smith, of the same address.

f. Robert E. Thomas, fisherman, age 32, of Mathews, Virginia. Next of kin is listed as his wife, Gladys Thomas, of the same address.

g. William R. Thomas, Jr., Mate, age 36, of Susan, Virginia. Next of kin is listed as his wife, Shirley Thomas, of the same address.

The death certificates issued for the above persons indicate that the immediate cause of death in each case was exposure to elements while immersed in ocean water.

5. Weather conditions at the time of the casualty were: winds NW 60 knots, seas 15 to 20 feet, air temperature 40° F, water temperature 63° F, visibility 3 miles. The 1100 marine weather forecast for 7 December 1968, Hatteras to Savannah, received by the master of the FENWICK ISLAND from the marine operator, predicted variable mostly northeast to east winds in the afternoon 5 to 15 knots gradually becoming northwest to north 10 to 20 knots that night. The 1700 forecast, which placed small craft warnings in effect, predicted variable winds 10 to 20 knots becoming north to northwest and increasing to 20 to 30 knots later that night. At about 1800 a vessel in the vicinity of the FENWICK ISLAND heard a weather report on a commercial radio station in Morehead City, North Carolina, advising of a front moving in that would cause winds to shift to the northwest at 25 knots.

6. At or about 0200 on 7 December 1968, the FENWICK ISLAND departed Beaufort Inlet enroute the menhaden fishing grounds in the area of Cape Hatteras, North Carolina. At 0830 the vessel's purse boats were launched and routine fishing activity commenced. Throughout the day favorable weather and sea conditions prevailed and at 1430 the vessel's main fish hold was bulk loaded to near capacity, within 2 to 3 inches from the top of the hatch coaming. In addition, approximately 20,000 fish were carried in bulk on deck in the waist of the ship - for a total of about 520,000 fish on board.

7. At approximately 1800, while on a course of about 215 degrees true, southwest winds of 10 to 15 knots and swells of 5 to 8 feet were encountered. Cape Lookout buoy R 4, LL #176 was rounded at 2100 and the vessel's course changed to 320 degrees true. The southwest wind which had gradually increased to 25 knots rapidly changed to northwest and increased to 60 knots or more. The seas became higher and swells of 12 to 15 feet from the southwest soon were mixed with seas of 15 to 20 feet from the northwest. The FENWICK ISLAND began rolling heavily with seas occasionally breaking on deck which washed the fish on deck overboard. The vessel had been running in heavy winds and seas for almost two hours at reduced speed when she suddenly assumed a starboard list estimated at about 22 degrees, with the water's edge reaching the main deck at midship. One of the crew members who failed to survive the casualty reported to the master that one of the starboard trimming port covers was missing. Another crew member later found a trimming port cover missing on the port side. The master made radio contact with his office, which in turn relayed information to the Coast Guard for assistance.

8. The master, in an attempt to correct the starboard list, went aft to release the starboard seine boat. As the boat was successfully disengaged and set adrift, the FENWICK ISLAND righted herself but then assumed an even greater list to port. The water's edge now reached the bulwark cap midship and seas were breaking into the main hatch. The port seine boat was partially released by disengaging the after fall, but the vessel's list to port increased until she finally capsized. The vessel remained on her port side for 1/2 to 3/4 of an hour before sinking at about 2300, 1.3 miles distance, bearing 285 degrees true from Cape Lookout Buoy R 4.

9. During the FENWICK ISLAND's return trip the Chief Engineer had intermittently operated the fish hold pump to keep the drainage sump empty. At the time of the vessel's starboard list the pump was in operation and observed to be pumping a good stream of water overboard. In an additional effort to correct for the starboard list, the bilge and ballast pump was started to fill the after port ballast tank. It was estimated that the port ballast tank was approximately 50 percent full when the vessel assumed the port list. The pump was then realigned and water was being transferred from the port ballast tank to the starboard ballast tank when the Chief Engineer went topside and prepared to abandon ship.

10. After rounding Cape Lookout and encountering the strong wind and heavy seas, the FENWICK ISLAND's main engine was reduced to half ahead. Later it was reduced to the slowest speed attainable. There was a loss of rudder response while on manual steering during the starboard list. Rudder response did not improve and the vessel gradually swung to starboard until reaching a southeast heading, which she maintained until capsizing. The vessel's lights remained in operation until she laid over on her port side.

11. As capsizing of the FENWICK ISLAND appeared imminent, all hands put on life preservers. Several of the crewmembers clung to the capsized vessel for a short period of time but were swept away by the sea. The vessel was not equipped with lifeboats or any other lifesaving devices other than the life preservers and ring buoys.

12. On 7 December 1968 the F/V W. T. JAMES, JR., O.N. 297989, enroute Beaufort Inlet, North Carolina, was in the same general area as the FENWICK ISLAND. Her master, Ernest T. Delano, had overheard radio traffic indicating that the FENWICK ISLAND was experiencing difficulty. He had been observing the lights of a vessel, which later proved to be the FENWICK ISLAND, about 2-1/2 miles southwest of his position. At about 2300 the lights disappeared. The darkened vessel was kept on radar as Captain Delano maneuvered his vessel through the heavy seas to investigate and render assistance if needed. At about 3/4 mile distance, the radar target was lost. The FENWICK ISLAND was then sighted in an overturned position, but soon disappeared beneath the surface of the water. Shortly thereafter, the master and six crew members of the FENWICK ISLAND were found and taken aboard the W. T. JAMES, JR. One body was also recovered. The USCGC CHILULA (WMEC 153) arrived on the scene at 0039 on 8 December 1968, and continued the search for survivors. About ten hours later the Coast Guard cutter had recovered the last body of the six missing fishermen.

13. The master of the FENWICK ISLAND received no special instructions for operation of his vessel nor any information pertaining to stability characteristics of the ship in different service conditions. On the final voyage the trimming ports were not utilized at any point in loading of fish into the main hold. The main hatch was left uncovered for the return trip to port. This was determined to be a normal operating procedure as the vessel did not normally go to sea in heavy weather. No attempt was made at any time during the casualty to place the hatch boards in position.

14. There was no stability data available on the FENWICK ISLAND as the vessel had not been subjected to an inclining experiment. Testimony indicated, however, that the vessel had operated through the years without incident to cause suspicion of insufficient stability. On especially productive days in the past the main hold had been completely filled and as many as 300,000 fish carried on deck in the waist of the vessel for a total of 800,000 fish. On such occasions the fish were loaded on deck in bulk to the height of the bulwark and confined to the waist of the vessel by use of retaining boards. After the vessel assumed a port list, it was noted that the level of fish was lower in the hatch coaming. It was not determined whether this was due to settling of the cargo or to the washing of the fish overboard by the seas breaking over the deck.

15. The FENWICK ISLAND was located and her position buoyed by the U. S. Coast Guard. Salvage plans have been abandoned.

CONCLUSIONS

1. That the cause of the casualty to the extent determinable was the entrance of sea water into the main fish hold. The initial entrance of water was through the starboard trimming hatch after its cover was displaced. Water in large amounts subsequently entered the hold through the open fish hold hatch from seas breaking on deck. The wind on the port side of the vessel, the gravitation of fuel between the inter-connected tanks, and shifting of cargo after the entrance of water contributed to the list. Other contributing factors were the release of the starboard seine boat and ballasting of the port ballast tank in an effort to correct the starboard list. This caused a second shift of water and cargo and an even greater list to port. Seas reaching the main hatch increased the flooding until all stability was lost. The weather and sea conditions encountered by the FENWICK ISLAND were unusual and are considered a major factor in the casualty not only to their effect on the vessel, but also to the restrictions placed on the crew in attempting to save their vessel.
2. That there is no evidence of misconduct, negligence, inattention to duty or incompetence warranting further actions under the revocation and suspension provisions against licenses held by the master or other members of the crew. Operating the vessel at sea with the main hatch uncovered was established to be common practice on vessels of this type and did not constitute a threat to safety in good weather, however, there was poor judgement on the part of the master when he took no action toward covering the main hatch after the vessel encountered unexpected heavy weather.
3. That there is no evidence that any law or regulation relating to vessels has been violated.
4. That there is no evidence that any personnel of the Coast Guard or any other Government agency contributed to the casualty.
5. That there is no evidence that any aids to navigation nor any uncharted or incorrectly charted area or objects were involved.
6. That the casualty may have been prevented by:
 - a. Maintenance and installation of the trimming hatch covers in such a manner as to prevent their becoming accidentally displaced. Means of securing the covers by chains, lanyards, or mechanical devices so they would remain within reach for replacement in the event they did come off might also be effective.
 - b. Closing the open main cargo hatch during heavy weather.
 - c. The use of all available pumps in dewatering the main hold. With the exception of the dewatering action using only one pump, steps taken by the crew in attempting to return the vessel to an even keel were ultimately damaging to the vessel's stability. Closure of valves in the lines inter-connecting the fuel tanks may also have prevented a small part of the list.

7. That the effects of the casualty may have been minimized if the vessel had been equipped with an approved inflatable liferaft for use as primary lifesaving equipment.

RECOMMENDATIONS

1. That a study be conducted concerning safety hazards peculiar to fishing vessels to determine if there are feasible means by which such hazards may be eliminated or reduced. In the interim, it is recommended that the fishing industry be alerted to the dangers connected with the operation of vessels such as the FENWICK ISLAND and the methods by which such hazards may be eliminated by wide dissemination of this report and publication in periodicals such as the Proceedings of the Merchant Marine Council.

M E Meekins

M. E. MEEKINS
Commander, U. S. Coast Guard
Chairman

F E Stewart

F. E. STEWART
Commander, U. S. Coast Guard
Member

J P Dawley

J. P. DAWLEY
Commander, U. S. Coast Guard
Member

G M Simpson

G. M. SIMPSON
Lieutenant Commander, U. S. Coast Guard
Member and Recorder

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M E Meekins

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