# National Transportation Safety Board

*Washington, D. C. 20594*

**Safety Recommendation** Log M-346

**Date:** October 19, 1988

**In reply refer to:** M-88-52 through -57

Admiral Paul A. Yost, Jr.
Commandant
U.S. Coast Guard
Washington, D.C. 20593

About 2100 on November 5, 1987, the 115-foot-long U.S. fishing vessel UYAK II capsized and sank in the Gulf of Alaska near Kodiak Island, about 60 nautical miles south of Kodiak, Alaska. The vessel's captain and one deckhand were rescued from one of the UYAK II's two liferafts by another fishing vessel. Despite an extensive search by U.S. Coast Guard aircraft and commercial fishing vessels, the UYAK II's other four crewmembers were not found and are presumed dead.[1]

The UYAK II capsized while its crew was attempting to correct a 3° to 4° starboard list of unknown origin. The relief captain did not determine the cause of the list. Postaccident calculations performed by the Safety Board showed that with about 5 feet of water in the lazarette, the UYAK II probably would have had a negative GM and a portion of the vessel's after deck would have been under water.

During the investigation, the Safety Board learned that a former chief engineer had disconnected the high-water alarm for the lazarette in March 1987 because he "was bothered by the noise." Consequently, the chief engineer had to remember to have the lazarette checked periodically for water and then dewater the lazarette. If the alarm had been operative at the time of the accident, the chief engineer might have been alerted of the presence of water in the lazarette at the time of the starboard list and might have dewatered the lazarette. If the UYAK II had been equipped with an automatic dewatering system, the lazarette would have been kept dry despite water leaking through the small opening. Keeping the lazarette pumped dry would have increased the vessel's stability and would have decreased the amount of water on deck due to waves.

[1]For more detailed information, read Marine Accident Report--*Capsizing and Sinking of the U.S. Fishing Vessel UYAK II in the Gulf of Alaska near Kodiak Island, Alaska, November 6, 1987* (NTSB/MAR-88/08).

In its safety study of uninspected commercial fishing vessel safety,[2] the Safety Board found that many fishing vessel captains, managers of fleets, marine surveyors, and naval architects agreed that bilge alarms with some type of audible and visible notification should be a minimum regulatory requirement for fishing vessels and that fishing vessel associations have encouraged the installation of such equipment. In addition, the Safety Board found that there is a need for regular maintenance and periodic inspection and tests of this critical safety device and that dewatering systems should automatically activate. As a result of its safety study, the Safety Board issued 16 safety recommendations to the Coast Guard, including M-87-54 and -64.

M-87-54

Seek legislative authority to require basic lifesaving equipment for uninspected commercial fishing vessels including but not limited to:

- o Flooding detection alarms and automatic dewatering systems.

The Coast Guard responded on March 11, 1988, that it partially concurred with Safety Recommendation M-87-54. The Coast Guard stated that, "Fishing vessel safety legislation has been introduced in Congress over the past few years . . . containing requirements ranging from mandatory carriage of basic safety equipment to full Coast Guard inspection. . . ." On June 7, 1988, the Safety Board classified Safety Recommendation M-87-54 as "Open--Acceptable Action." The Safety Board believes that the lack of an operating high-water alarm and automatic dewatering system for the UYAK II's lazarette again shows the need for these systems on commercial fishing vessels and reiterates Safety Recommendation M-87-54.

M-87-64

Seek legislative authority to require that all uninspected commercial fishing vessels be certified and periodically inspected by the Coast Guard or its recognized representative to ensure that the vessels meet all applicable Federal safety standards.

On March 11, 1988, the Coast Guard replied that it did not concur with this recommendation and that "The Coast Guard believes that the combined use of voluntary construction standards and voluntary personnel training will most effectively reduce fishing vessel casualties." On June 7, 1988, the Safety Board classified Safety Recommendation M-87-64 as "Open--Unacceptable Action."

On August 11, 1988, the U.S. Congress passed the Commercial Fishing Industry Vessel Safety Act of 1988. The act requires that the Secretary of Transportation conduct a study of the safety problems on fishing industry vessels and make recommendations to Congress by January 1, 1990, on whether a vessel inspection program should be implemented for fishing vessels. The Safety Board believes that the disconnecting of the UYAK II's lazarette high-water alarm by the

[2]For more detailed information, read Safety Study, *Uninspected Commercial Fishing Vessel Safety*, issued September 1, 1987 (NTSB/SS-87/02)

previous chief engineer again illustrates the need for regular maintenance and periodic inspection of flooding detection alarms and reiterates Safety Recommendation M-87-64

The relief captain stated that after he shouted to the deckhands to "close the hatches, get off the deck," the vessel took "a heavy roll to port and started to founder, and I ran for the radio." However, the relief captain never told the crew that an emergency existed or to prepare to abandon the UYAK II. After the accident, the relief captain stated that the probable reason that the deckhands on the after main deck did not prepare for abandoning the UYAK II by getting their exposure suits was that "they either froze or panicked . . . ." Although the UYAK II lacked a general alarm and the loudspeaker system had been disconnected, the relief captain had only to shout a few words to the crew on deck to alert them to the vessel's dangerous condition and to prepare to abandon the vessel before running to the radio. However, the relief captain had no way of communicating the dangerous situation to the chief engineer in the engineroom except by sending someone to the engineroom while the vessel was capsizing. After the assistant engineer retrieved his exposure suit from the crew's quarters, he saw the other three deckhands still standing on the after main deck without their exposure suits. The assistant engineer could have shouted to the deckhands to get their exposure suits, but he later stated that he assumed that they were aware of the dangerous condition of the vessel. Thus, both the relief captain and the assistant engineer believed that the three deckhands on the after main deck had sufficient warning of the impending capsizing, but it appears that up to the time the assistant engineer saw them still standing on the after main deck, the three deckhands were not preparing to abandon the vessel. Apparently, the relief captain failed to communicate the seriousness of the situation to them. The Safety Board believes that the failure of the relief captain to give specific direction to the three deckhands on the after main deck to prepare to abandon the vessel was due to a lack of any survival training. Neither the relief captain nor the regularly assigned captain had conducted any on-board survival training. Since the relief captain had no formal survival training, he probably was not qualified to provide such training to the crew.

In 1985, the Coast Guard established a voluntary safety program aimed at promoting voluntary vessel and crew safety in the U.S. fishing industry. Despite the Coast Guard efforts which included the publication of Coast Guard voluntary vessel and crew operating standards in 1985, the publication of the North Pacific Fishing Vessel Owners' Association (NPFVOA) *Vessel Safety Manual* in 1986, and the establishment of industry-sponsored safety courses, the owner of the UYAK II had no safety training programs for its fishing vessel crews. The regularly assigned captain of the UYAK II stated that he had not conducted any on-board safety training of the crew during the time that he was aboard. The relief captain of the UYAK II had no formal training in vessel safety and had not conducted any safety training for the crew. He stated that he was not aware of any companies that required safety training and that although safety training programs have become available, the average fisherman does not have the opportunity to attend safety courses. Since the normal measure of a captain's worth is his or her ability to locate and catch fish for the owner, there is little, if any, incentive for a fishing vessel captain to take time off from fishing and pay for safety training. Similarly, there is little or no incentive for fishing vessel crewmembers to seek safety training. The Safety Board has addressed the need for the licensing of commercial fishing vessel captains and the training of fishing vessel captains and crewmembers in a number of

accident reports[3] and in its 1987 commercial fishing vessel safety study. In its 1985 report on the AMAZING GRACE accident, the Safety Board recommended that the Coast Guard:

> M-85-68
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> Seek legislative authority to require the licensing of captains of commercial fishing vessels, including a requirement that they demonstrate minimum qualifications in vessel safety including rules of the road, vessel stability, firefighting, watertight integrity, and the use of lifesaving equipment.

Safety Recommendation M-85-68 also was reiterated in the Safety Board's reports on the NORDFJORD, the LARK, the SANTO ROSARIO, and the AMERICUS/ALTAIR accidents, and in the Safety Board's fishing vessel safety study.

In its response of January 8, 1986, the Coast Guard replied that "this recommendation is not concurred with." The Coast Guard has emphasized a voluntary approach, based on a set of voluntary guidelines and a training program developed by the NPFVOA. Based on the Coast Guard's response, the Safety Board on April 3, 1986, classified the recommendation as "Open--Unacceptable Action," and asked the Coast Guard to reconsider its position because such voluntary programs have not been successful in the past. The Board believes that mandatory licensing would be more effective. On October 15, 1986, the Coast Guard replied that it still did not concur with this recommendation, and stated that "our voluntary approach to fishing vessel safety and training is a viable alternative to seeking legislative authority to require the licensing of captains of commercial fishing vessels. On October 9, 1987, the Safety Board again requested the Coast Guard to reconsider Safety Recommendation M-85-68 based on the information contained in the Safety Board's fishing vessel safety study. On March 11, 1988, the Coast Guard replied:

> This recommendation is not concurred with.
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> The Coast Guard feels [that its] voluntary program has the potential for significantly improving safety in the commercial fishing industry. It is not a panacea, but before taking the more radical step of requiring these masters to be licensed, the voluntary program should be given a chance to demonstrate how effective it can be. Since implementing this program, fishing vessel casualty

[3]For more detailed information, read Marine Accident Reports--*Loss of the U.S. Fishing Vessel AMAZING GRACE about 80 Nautical Miles East of Cape Henlopen, Delaware, about November 14, 1984* (NTSB/MAR-85/07); *Capsizing of the U.S. Fishing Vessel AMERICUS and Disappearance of the U.S. Fishing Vessel ALTAIR, Bering Sea, North of Dutch Harbor, Alaska, February 14, 1983* (NTSB/MAR-86/01); *Sinking of the U.S. Fishing Vessel SANTO ROSARIO, about 35 Nautical Miles East of New Smyrna Beach, Florida, July 23, 1984* (NTSB/MAR-85/06); *Capsizing and Sinking of the U.S. Fishing Vessel LARK, Atlantic Ocean Near Nantucket Island, Massachusetts, October 9, 1987* (NTSB/MAR-88/05); and *Disappearance of the U.S. Fishing Vessel NORDFJORD in the Gulf of Alaska, September 19, 1987* (NTSB/MAR-88/07).

> rates for 1986 and 1987 have decreased. In our view, part of this improvement may be attributed to the voluntary program.
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> Another factor to be considered is the cost to the Federal government necessary to accomplish this goal. For the 30,165 fishing vessels over 5 net tons and the approximately 100,000 persons in the fishing industry, it is estimated that 75,000 new licenses would be issued. At 4.5 hours per license and 1500 hours per licensing official available annually, this would require 225 staff years of additional effort by the Coast Guard. Using an average salary of $40,000 per official, this represents a cost of $9 million. In addition, the renewal of those licenses would require an additional 100 staff years over each five year period, or an additional $800,000 annually. It is unlikely that additional resources of this magnitude will be forthcoming, especially when the gain in overall safety is questionable. Accordingly, the Coast Guard does not intend to seek any other legislative authority concerning this issue, nor are there plans to further pursue the matter should H.R. 1841/S. 849 fail. We therefore request that this recommendation be classified as closed.

On June 7, 1988, the Safety Board classified Safety Recommendation M-85-68 as "Open--Unacceptable Action." The Safety Board believes that the apparent lack of any formal safety training for the captain and crew of the UYAK II and the lack of any safety training program by the owner of the UYAK II for the crews of its fishing vessels is additional evidence of the limitations of the Coast Guard's voluntary program and the need for licensing fishing vessel captains. A mandatory program would require captains to obtain minimum safety training and would require owners to hire only licensed captains. Coast Guard statistics show that between 1981 and 1984, 75 fishermen's lives and about 250 commercial fishing vessels a year were lost annually. The 1987 Safety Board commercial fishing vessel safety study showed that between January 1978 and April 1987, the Safety Board investigated 207 major marine fishing vessel accidents with a total estimated property loss of over $165 million. There were 147 deaths as a result of these accidents. Thus, the accident rates for the 112-month period were 1.8 vessel accidents per month, $1.4 million property loss per month, and 1.3 deaths per month. From May 1987 until July 1988, the Safety Board investigated an additional 27 major marine fishing vessel accidents. The accident rates for this 15-month period were 1.8 vessel accidents per month, $1.4 million property loss per month, and 1.9 deaths per month. Despite the Coast Guard statement that fishing vessel casualty rates for 1986 and 1987 have decreased, Safety Board accident investigations indicate that the major marine fishing vessel accident and property loss rates have not decreased over the period from January 1978 until July 1988, and the death rate has increased in recent months. On August 11, 1988, the U.S. Congress passed the Commercial Fishing Industry Vessel Safety Act of 1988. The act requires the Secretary of the department in which the Coast Guard is operating to prepare and submit to Congress within 2 years a plan for the licensing of operators of documented fishing vessels.

The Safety Board believes that the Coast Guard's estimated cost of a licensing program for fishing vessel captains is reasonable in light of the large property lost to fishing vessels each year. The annual property loss of fishing vessels is about $200 million per year plus an additional $30 million per year in lives lost based on a value of $400,000 per person. The Safety Board suggests that the direct cost to the Coast Guard could be recovered if the Coast Guard charged a license fee. Based on the

Coast Guard's cost estimates, the 5-year license fee would be less than $175 per license. Therefore, the Safety Board again reiterates Safety Recommendation M-85-68.

As a result of its fishing vessel safety study, the Safety Board issued Safety Recommendations M-87-51 and -52 regarding the training of commercial fishing vessel crewmembers.

> M-87-51
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> Establish minimum safety training standards for all commercial fishermen, commensurate with their responsibilities, for all types of uninspected commercial fishing vessels.
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> M-87-52
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> Seek legislative authority to require uninspected commercial fishing vessel captains/owners to provide safety training to all crewmembers.

On March 11, 1988, the Coast Guard replied:

> [Recommendation M-87-51] is partially concurred with. The establishment and use of industry training courses as discussed in Voluntary Standards for U.S. Uninspected Commercial Fishing Vessels (NVIC 5-86) and the use of the Vessel Safety Manual will accomplish this goal. The Vessel Safety Manual, which was written by and for fishermen, establishes recommended training standards or emergency procedures; for fire prevention, detection and extinguishment; and for other safety practices aboard fishing vessels. Accordingly, no further Coast Guard action on this recommendation is anticipated, and we therefore request it be classified as closed.
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> [Recommendation M-87-52] is partially concurred with. The Coast Guard feels it is important to raise the overall level of safety on commercial fishing vessels. However, we believe the establishment and use of industry training courses as discussed in Voluntary Standards for U.S. Uninspected Commercial Fishing Vessels (NVIC 5-86) and the use of the Vessel Safety Manual will accomplish this goal. The Vessel Safety Manual is specifically designed for crewmembers and establishes recommended training standards for emergency procedures; fire prevention, detection and extinguishment; and safety aboard fishing vessels. The North Pacific Fishing Vessel Owners' Association (NPFVOA) now has its Safety & Survival at Sea videotapes available to the public. They are based on the NPFVOA Crew Training Program and complement the Vessel Safety Manual by bringing this important part of safety to the vessel and its crew. Only after these voluntary programs have been given a chance to work can we determine if we need legislative authority to provide an adequate level of safety training on commercial fishing vessels.

On June 7, 1988, the Safety Board classified Safety Recommendations M-87-51 and -52 as "Open--Unacceptable Action." These recommendations were reiterated in the Safety Board's report on the disappearance of the NORDFJORD.

As part of the Safety Board's 1987 fishing vessel safety study, persons who worked on the *Safety Notes for the Alaskan Fisherman* and the *Atlantic Fisherman's Handbook* were interviewed. The interviewees stated that both documents were developed and published to address the large number of fishing vessel losses during the 1973 to 1974 fishing season. They commented that a continuing, mandatory training program would provide a better way to improve safety than would a voluntary program and that voluntary efforts are good but do not have the staying power to focus on an issue. They believed that courses offered through the NPFVOA training program and the *Vessel Safety Manual* are helpful, but that the training program and safety manual would have very little impact over the long term because of their cost and because most owners, operators, captains, and crewmembers would not or could not attend the courses due to the inconvenience (in addition to the cost). The Safety Board agrees with the interviewees' assessment that a mandatory safety training program is necessary for all commercial fishing vessel crewmembers and that the Coast Guard's voluntary program is not sufficient to reduce the continued high loss rate of fishing vessels. Neither the captain nor crew of the UYAK II had any safety training, and there was no indication from the owner that he would require safety training for the crews of his vessels despite the Coast Guard's voluntary program. Therefore, the Safety Board reiterates Safety Recommendations M-87-51 and -52.

Since the three deckhands were not sighted or heard from by the relief captain and the assistant engineer after the UYAK II capsized and since no bodies were recovered after the accident, the Safety Board is unable to determine what happened to the three deckhands. However, the Safety Board believes that had the relief captain when he first sensed that the UYAK II was in danger of sinking or the assistant engineer after he retrieved his exposure suit, alerted the three deckhands to the vessel's danger and directed them to don their exposure suits, the three deckhands might have survived this accident. If the UYAK II had been equipped with a general alarm, the relief captain probably could have sounded an alarm to abandon the vessel while broadcasting the distress message without leaving his position. Although U.S. Coast Guard Navigation and Vessel Inspection Circular (NVIC) 5-86, *Voluntary Standards for U.S. Uninspected Commercial Fishing Vessels*, addresses emergency signals, the publication does not address the need for a general alarm on fishing vessels. The Safety Board believes that the Coast Guard should amend NVIC 5-86 to include a recommendation for a general alarm on fishing vessels.

The chief engineer was last seen running toward the pumps in the engineroom in response to the assistant engineer's request that the after fish tanks be dewatered. Although the chief engineer was not seen or heard from again and his body was not recovered, it is likely that the chief engineer was trapped in the engineroom while he attempted to line up the valves to dewater the after fish tanks. Even though the assistant engineer had warned the chief engineer to get out of the engineroom after pumping out the fish tanks, the UYAK II probably capsized too quickly for the chief engineer to escape from the engineroom, go to his quarters, and retrieve and don his exposure suit. Like the three deckhands, without his exposure suit he would have been expected to survive only 1 to 3 hours in the 43° F water. It is possible that the chief engineer might have been saved if the UYAK II had been equipped with a

general alarm which rang in the engineroom or some means of communication between the wheelhouse and the engineroom. While the relief captain was broadcasting the distress message, he had no way to warn the chief engineer of the dangerous condition except to send the assistant engineer back into the engineroom while the vessel was capsizing. The Safety Board believes that some communication system between the wheelhouse and the engineroom and crew accommodations of fishing vessels is a necessary safety feature. Therefore, the Safety Board believes that the Coast Guard should amend NVIC 5-86 to include a recommendation for a communications system between a fishing vessel's wheelhouse and engineroom and crew accommodations.

In addition to the Coast Guard required lifejackets, the UYAK II was equipped with two liferafts, seven exposure suits, and two emergency position indicating radiobeacons (EPIRB). However, because the crew's exposure suits and lifejackets were stowed in the crew's quarters, the crewmembers on deck had to enter the deckhouse to retrieve their exposure suits and lifejackets when the UYAK II capsized. It is possible that they died trying to retrieve their exposure suits. If the exposure suits had been stowed near the watertight door leading from the crew accommodations to the after main deck, the suits would have been available whether the crew were in their quarters, working on deck, or in the engineroom. Consequently, even though the UYAK II was adequately equipped with lifejackets and exposure suits, their stowage location made them inaccessible in an emergency. Coast Guard NVIC 5-86 states that exposure suits should be stored in a very accessible, dry place, such as the wheelhouse. The Coast Guard recommendation could be interpreted as meaning the crewmembers' quarters.

The Safety Board first addressed the need for the stowage of life preservers close to the exterior of uninspected vessels in its report on the capsizing and sinking of the U.S. sailing vessel PRIDE OF BALTIMORE on May 14, 1986.[4] On February 18, 1987, the Safety Board recommended that the Coast Guard:

> M-87-4
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> Require stowage of life preservers close to or at emergency stations, if designated, or close to the exterior of each uninspected vessel to facilitate immediate access in the event of a sudden, catastrophic event.

On May 29, 1987, the Coast Guard replied:

> The Coast Guard does not concur with this recommendation. Stowage of life preservers on deck is not recommended as a universal requirement. On smaller vessels, such stowage could lead to the loss of the life preservers overboard if a large wave washes over the deck. The regulations (46 CFR 25.25-9(a)) already require that the life preservers be readily accessible. A more specific regulation would be difficult to develop since uninspected vessels are of many different types. The Coast Guard recommends wearing appropriate personal flotation

[4]For more detailed information, read Marine Accident Report--*Capsizing and Sinking of the U.S. Sailing Vessel PRIDE OF BALTIMORE in the Atlantic Ocean, May 14, 1986* (NTSB/MAR-87/01).

> devices (PFD) when working on deck, especially in bad weather or at night. There are a variety of PFDs available specifically intended for use while working that provide flotation, yet allow the freedom of movement necessary to complete most tasks.
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> Information on life preserver stowage requirements and the different types of PFDs available was disseminated under Navigation and Vessel Inspection Circular (NVIC) 5-86 on "Voluntary Standards for U.S. Uninspected Commercial Fishing Vessels." Although intended primarily for fishing vessels, this NVIC includes recommendations that are applicable to many types of uninspected vessels. Similar information would be included in any future Coast Guard recommendations or voluntary standards for other uninspected vessels.

On August 3, 1987, the Safety Board stated:

> The Safety Board is disappointed that the Coast Guard does not agree on the need for implementing the requirements of this safety recommendation. This accident is a good example of what can happen when there is not enough time to retrieve life preservers that are stowed in a location which the Coast Guard apparently considers to be "readily accessible"; in this case, below deck in the crew's quarters. The stowage of life preservers in more accessible locations aboard other types of vessels, e.g., passenger vessels, has been the subject of previously issued safety recommendations. The Coast Guard has consistently opposed the Board on this issue; therefore, Safety Recommendation M-87-4 has been classified as "Closed--Unacceptable Action." However, we strongly urge the Coast Guard to reconsider its position on this issue.

The Safety Board continues to believe that life preservers and exposure suits should be stowed outside crew quarters and closer to or at emergency stations, if designated, or close to the exterior of each vessel near normal working areas on uninspected vessels. Therefore, the Safety Board believes that the Coast Guard should amend its safety regulations for uninspected vessels to require that life preservers and exposure suits not be located in crew quarters but at exits near normal work areas. In the interim, the Coast Guard should amend NVIC 5-86 and the NPFVOA should amend the *Vessel Safety Manual* to recommend that life preservers and exposure suits be located at exits near normal work areas.

When the relief captain's distress call was received by the Coast Guard Radio Station in Kodiak at 2053, the relief captain was able to give the position of the UYAK II. However, he failed to give the number of crewmembers aboard. Since the UYAK II capsized shortly after the distress message was broadcast, there was no further opportunity to provide this critical information. Consequently, the Coast Guard and the vessels in the area did not know the number of crewmembers whose lives were at risk aboard the UYAK II. Because the relief captain had made changes to the crew complement and had not notified Cal-Alaska, the owner of the UYAK I, of the changes, the company did not have current information as to the number or the identity of all the crewmembers on board when the UYAK II capsized and sank. Although the UYAK I was fishing in the area, the captain of the UYAK I did not

know the number or the identities of the crewmembers on board the UYAK II. It was only after the two survivors had been rescued that it became known that four additional crewmembers were aboard the UYAK II at the time of the accident.

The Safety Board first addressed the need for the preparation of crew lists by the captains of commercial fishing vessels and the deposit of such lists at a suitable location ashore as a result of its investigation of the disappearance of the fishing vessel AMAZING GRACE about 80 miles east of Cape Henlopen, Delaware about November 14, 1984.[5] On July 9, 1985, the Safety Board recommended that the Coast Guard:

> M-85-69
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> Promote the preparation of crew lists by the captains of commercial fishing vessels and the deposit of such lists at a suitable location ashore before departure.

The Coast Guard responded on January 8, 1986, that it concurred with the recommendation, and advised that:

> The [fishing vessel] task force will promote the preparation of a crew list in the contingency plan being developed. This plan, which will be incorporated in both the safety guide and the NVICs being produced by the task force, will also include instructions to deposit the crew list at a suitable location ashore before each departure from port.

On September 3, 1987, the Safety Board classified this recommendation as "Closed--Acceptable Action."

Coast Guard NVIC 5-86 dated May 1986 recommends that "A float plan, similar to one recommended in the NPFVOA/USCG *Vessel Safety Manual*, should be completed and left ashore prior to departure." The suggested float plan published in the manual would have provided critical information concerning the crewmembers on board the UYAK II at the time of the accident. However, the relief captain did not file such a plan before the vessel left Kodiak and he did not leave "an accurate list of everyone aboard . . . with the vessel's owner or some other responsible person ashore" . . . as suggested in the manual. Consequently, had there been no survivors to confirm the number of crewmembers on board the UYAK II at the time of the accident, the Coast Guard and other vessels involved in the rescue operations would not have known how many persons they were searching for or whether all persons on board had been recovered. In this instance, the lack of a float plan or crew list created additional problems in identifying and locating the next of kin of missing crewmembers.

The Safety Board notes that although its safety recommendation concerning the depositing ashore of crew lists by fishing vessel captains has received favorable action by the Coast Guard and fishing vessel associations, the actions being taken are piecemeal, and not all fishing vessel captains are depositing such lists ashore before departing on voyages. Further, not all captains are aware of this voluntary requirement, nor do they seem to be aware of the importance of depositing such lists

[5]Marine Accident Report--NTSB/MAR-85/07.

ashore. The UYAK II accident again illustrates the problem. To ensure that this matter obtains the attention it needs, the Safety Board believes that the Coast Guard regulations that apply to uninspected commercial fishing vessels (46 CFR Part 25) should be amended to require that the captains of all commercial fishing vessels maintain a current crew list on board and that a copy of the crew list, containing adequate individual information applicable to search and rescue operations, be deposited ashore before leaving port.

During its investigation of the disappearance of the 127-foot-long U.S. fishing vessel NORDFJORD[6] on September 19, 1987, the Safety Board learned that the captain of the vessel broadcasted a distress message consisting of repeated "Maydays" and the name of the vessel at 0201. The distress message did not state the position of the NORDFJORD or any details concerning the nature of the distress. About 0430, the Coast Guard learned from the owner that the NORDFJORD was on a voyage from Seattle, Washington, to Unimak Pass, Alaska, and was somewhere in the middle of the Gulf of Alaska at the time of the distress message. Despite an 8-day search covering over 176,000 square miles and costing an estimated $500,000 by Coast Guard and Canadian Coast Guard aircraft, neither the vessel nor any debris that could be identified as coming from the NORDFJORD was found. Neither the captain nor any of the four crewmembers were ever seen or heard from again.

The single distress call from the NORDFJORD presented both location and identification problems for the Coast Guard. The Coast Guard North Pacific Search and Rescue Coordination Center (NPSC) did not know the position of the vessel, and it did not have any information regarding the owner or operator of the NORDFJORD. In addition, the NPSC did not know the nature of the NORDFJORD's distress or the serious nature of the problem. Since the distress message contained no information on the location of the NORDFJORD and the Coast Guard Radio Station at Kodiak routinely receives radio signals from all over the world, the NPSC did not even know if the vessel was within its area of operation and began a communications search for persons who might have had information regarding the location of the vessel. Since there was no known EPIRB signal from the vessel, the Safety Board was not able to accurately determine where the NORDFJORD sank.

Federal Communications Commission (FCC) regulations (47 CFR 80.316), Coast Guard NVIC 5-86, and the NPFVOA *Vessel Safety Manual* recommend the following standard distress message for mobile marine radio stations:

(1) the distress signal MAYDAY;
(2) the name of the mobile station in distress;
(3) particulars of the position;
(4) the nature of the distress;
(5) the kind of assistance desired; and
(6) any other information which might facilitate rescue; for example, the length, color, and type of vessel, number of persons on board.

The FCC does not require that operators of marine radio stations on vessels less than 300 gross tons, which includes most commercial fishing vessels, have any training in the proper operation of marine radio stations or the emergency radio procedures to

[6]Marine Accident Report--NTSB/MAR-88/07.

be followed. The FCC requires that the operators of these radio stations certify that they are familiar with applicable treaties, laws, rules, and regulations.

The Safety Board first addressed the need for proper distress message protocol as a result of its investigation of a fire aboard the 42-foot-long passenger vessel FANTASY ISLANDER in Charlotte Harbor, Florida on September 8, 1984.[7] Instead of broadcasting a distress message, the vessel's mate transmitted a general message to the marina where the vessel normally docked concerning the plight of the FANTASY ISLANDER and requested assistance. Because the mate did not broadcast a proper Mayday on VHF channel 16, which immediately would have alerted the Coast Guard and vessels within receiving range to the FANTASY ISLANDER's distress, the urgency of the transmission was not evident.

On September 18, 1985, the Safety Board recommended that the Coast Guard:

> M-85-89
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> Require that small passenger vessels install a placard near the radio transmitter containing vessel information to be used when initiating a distress broadcast. Verify during inspections of radio equipment that the placard is in place and currently updated, and that vessel operators are familiar with radio distress procedures to be used in an emergency.

On January 30, 1986, the Coast Guard replied:

> The Coast Guard will propose a requirement for an instruction placard as part of the regulatory project to revise 46 CFR Subchapter T [the Coast Guard regulations for small passenger vessels].

On May 13, 1986, the Safety Board classified Safety Recommendation M-85-98 as "Open--Acceptable Action" pending publication of the revised regulations. Since the Coast Guard has taken no action to implement Safety Recommendation M-85-89 and the Safety Board has no indication from the Coast Guard that any progress has been made on this recommendation, the Safety Board has classified Safety Recommendation M-85-89 as "Open--Unacceptable Action."

The Safety Board believes that a placard containing vessel information and listing the protocol to follow when transmitting a distress message should be installed near the radio transmitter on all commercial fishing vessels operating offshore. In an emergency, persons under stress may not remember critical information. The placard would aid fishermen in including all critical information in a distress broadcast and would result in quicker and more appropriate response by search and rescue authorities. The cost to owners providing placards on the estimated 33,000 commercial fishing vessels probably would be less than the $500,000 cost of the search for the NORDFJORD.

[7]For more detailed information, read Marine Accident Report--*Loss by Fire of the U.S. Passenger Vessel M/V FANTASY ISLANDER in Charlotte Harbor, Florida, September 8, 1984* (NTSB/MAR-85/09).

Therefore, as a result of its investigation, the National Transportation Safety Board recommends that the U.S. Coast Guard:

Amend Coast Guard Navigation and Vessel Inspection Circular 5-86 for U.S. uninspected commercial fishing vessels to recommend that general alarm systems be installed on commercial fishing vessels. (Class II, Priority Action) (M-88-52)

Amend Coast Guard Navigation and Vessel Inspection Circular 5-86 for U.S. uninspected commercial fishing vessels to recommend that a communications system be installed between the wheelhouse and the engineroom and crew accommodations on commercial fishing vessels. (Class II, Priority Action) (M-88-53)

Require stowage of life preservers and exposure suits close to or at emergency stations, if designated, or close to the exterior of each uninspected vessel to facilitate immediate access in the event of a sudden, catastrophic event. (Class II, Priority Action) (M-88-54)

Amend Coast Guard Navigation and Vessel Inspection Circular 5-86 for U.S. uninspected commercial fishing vessels to recommend that life preservers and exposure suits not be stowed in crew quarters but closer to or at emergency stations, if designated, or close to the exterior of each vessel near normal working areas. (Class II, Priority Action) (M-88-55)

Require that commercial fishing vessels maintain a current list of persons on board and that a copy of the list, containing adequate individual information applicable to search and rescue operations, be deposited ashore before the vessel departs on any voyage into waters covered under the Convention on the International Regulations for Preventing Collisions at Sea, 1972. (Class II, Priority Action) (M-88-56)

Require that operators of commercial fishing vessels operating offshore install near the radio transmitter a placard containing vessel information to be used when initiating a distress broadcast. (Class II, Priority Action) (M-88-57)

Also, the Safety Board issued Safety Recommendations M-88-58 through -60 to the North Pacific Fishing Vessel Owner's Association.

KOLSTAD, Acting Chairman, BURNETT, NALL, and DICKINSON, Members, concurred in these recommendations. LAUBER, Member, did not participate.

By: James L. Kolstad
Acting Chairman