



Ray M-310ASP-20

# National Transportation Safety Board

Washington, D.C. 20594

## Safety Recommendation

**Date:** February 27, 1986

**In reply refer to:** M-86-15 and -16

Admiral James S. Gracey  
Commandant  
U.S. Coast Guard  
Washington, D. C. 20594

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The Dominican Ferries Line M/V A. REGINA, a Panamanian-flag, 330-foot, 3,658-gross-ton passenger carferry ran aground on the southeast coast of Mona Island, Puerto Rico, at 0020 on February 15, 1985, while en route from Mayaguez, Puerto Rico, to San Pedro de Macoris, Dominican Republic. After unsuccessful attempts to refloat the REGINA, the 72 crewmembers and 143 passengers were landed by the vessel's lifeboats and liferafts on Mona Island and subsequently flown back to Mayaguez. One crewmember was injured slightly when leaving the vessel. The stranded vessel, valued at \$5 million, was considered a total loss. 1/

On February 14, 1985, the REGINA had arrived at Mayaguez at 1730. After discharging its vehicles and passengers, the vessel took aboard 31 automobiles and 143 passengers. About 2115, the vessel's main engines, bow thruster, steering gear, and navigation equipment were tested or checked and found to be satisfactory for getting underway, according to the Italian master. The REGINA left its berth at 2135, and the master maneuvered it out of the harbor.

The master had allowed the second officer to stay on leave at San Pedro de Macoris and the third officer to leave at Mayaguez to return to Italy. The master, the chief officer, and an apprentice third officer were onboard to stand the navigation bridge watches on this trip.

The master testified that he plotted a 255° true course line on British Admiralty chart No. 472 which was in use on the chart table. The vessel's course was established to allow a passing of 1 nautical mile off the south coast of Mona Island. The master did not make any allowances for drift when setting the autopilot. The weather was clear, visibility was 8 to 10 nautical miles, the wind was 15 knots from the east, and the sea was Beaufort scale state 4 from the east. The vessel's engine speed for the trip was set for 16 knots by the master.

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1/ For more detailed information, read Marine Accident Report—"Grounding of the Panamanian-Flag Passenger Carferry M/V A. REGINA, Mona Island, Puerto Rico, February 15, 1985" (NTSB/MAR-86/02).

The master usually did not stand a navigation watch, but since the REGINA was lacking two deck officers, he took the navigation watch after departing the Mayaguez Harbor buoys. The master testified that he was "very tired" when the vessel left Mayaguez, and that he planned to have the apprentice third officer relieve him after the vessel passed Mona Island.

The master stated that during his watch en route toward Mona Island, he stayed near the starboard engine control console inside the pilothouse. The master testified that he checked the gyro and magnetic compasses during the watch, but that he did not use the navigation equipment to plot the vessel's positions on the chart while proceeding toward Mona Island. The vessel's portside radar, oriented "north up," was set to the 12-nautical-mile scale. The master stated that neither a vessel's heading flasher nor range rings were displayed on the radarscope, and there was about 2 nautical miles of sea return showing at the center of the radarscope. He did not make any adjustments to eliminate the sea return. The starboard radar was inoperable. The master expected to be at the island between 0030 and 0045 on February 15.

The master testified that about 2400 he looked at the radarscope and saw that the "island was hidden in the sea return." About 0020 on February 15, he saw the "wall of Mona [Island]" to starboard and realized that the vessel was too close to the island. He disengaged the autopilot and turned the helm hard to port, but the maneuver was made too late to avoid grounding. The REGINA ran aground on the reef off Mona Island while traveling at 16 knots.

By using the satellite navigation system, and by taking visual gyrocompass bearings of available lighted navigation aids and radar ranges of landmasses while leaving Puerto Rico and approaching Mona Island, the master could have determined the vessel's positions as the vessel traversed Canal de la Mona. However, at no time during the 2 hours 30 minutes that the REGINA was in transit from the Mayaguez Harbor entrance buoys until grounding did the master make use of the navigation equipment to fix the vessel's positions on the chart.

The Safety Board believes that the master's failure to monitor the vessel's progress along the charted course line by plotting navigation fixes so as to detect the vessel's set and drift resulted in the grounding of the REGINA. Had the master applied a safer passing distance off the coast of Mona Island when plotting the course line, the grounding could have been averted.

The master's inadequate performance of routine navigation watchkeeping tasks and lax adherence to recommended, safe navigation procedures can be attributed to the repetitive trip routine on the ferry route. However, illness, fatigue, circadian rhythm effects, and possibly boredom were also involved to varying degrees. The master said that he had been ill for about 1 month with an upper respiratory infection. Although there is no indication that the illness was serious, there is little doubt that it adversely affected the master's performance to some degree. Two of three medications the master said he had been taking probably did not affect his performance, but the cough syrup may have made him drowsy.

There is evidence that the master was suffering from both chronic and acute fatigue. He had not had a day off duty during the preceding 12 months. Insomnia and operational responsibilities had deprived the master of sleep for a period of about 42 hours at the time of the grounding.

The master was cognizant of his responsibility to supervise the health and fitness of his crew, and he controlled the watch and leave schedules of the crew. However, he apparently was not effective in monitoring his own health. Because of vessel operating schedules, it is not uncommon for masters to work for prolonged periods if operational or economic considerations make this practice necessary. However, management needs to be aware of the potential for chronic fatigue and to institute means of detecting it. In addition to monitoring fatigue, the company should be concerned with the health of its masters. The master of the REGINA was not required to report his illness or the fact that he was taking medication.

The Safety Board previously addressed the issue of watchstanders on medication in its report on the collision of the U.S. Coast Guard cutter CUYAHOGA and the Argentine freighter SANTA CRUZ II.<sup>2/</sup> As a result of the investigation of the CUYAHOGA accident, the Safety Board issued Safety Recommendation M-79-25 to the Coast Guard:

Establish standards for the taking of medication by watchstanders on Coast Guard vessels to insure that the medication does not impede the individual's ability to perform his duties.

The Coast Guard did not concur with the recommendation. Although Safety Recommendation M-79-25 was later classified "Closed--Reconsidered" by the Safety Board, the Board commented, "It is our continued opinion, however, that some guidelines are urgently needed to assist a commanding officer or watch officer in determining fitness to stand watch."

Although a master may to some degree be able to determine the physical fitness of his deck officers and other crewmembers to stand a watch, he is not necessarily the best judge of his own physical fitness to do so. Consequently, some oversight is needed to ensure that a master is capable of effectively performing his duties. The Safety Board believes that oversight of the physical fitness of a master is the responsibility of the owner/operator who employs the master. The Safety Board notes that in the U.S. Coast Guard Navigation and Vessel Inspection Circular No. 11-83 of October 12, 1983, "The Coast Guard has found that in most instances where a vessel has overnight accommodations for more than 50 passengers, an increased safety risk exists unless specific safety requirements are made applicable to the vessel." The Board believes that in the interest of passenger safety, passenger vessel officers who stand vessel operating watches should be required to report when they are taking medication since it could affect their ability to properly perform watchkeeping tasks.

About 0040, 20 minutes after the grounding, the master began calling the Coast Guard on the radios, using VHF-FM channel 16 and 2,182 kHz. The master described the vessel's situation, advised that there was no immediate danger, and advised that it would be best to wait until daylight before having the passengers and crew leave the vessel. The master stated that the Coast Guard Station, San Juan, Puerto Rico, answered on channel 16 about 0115. Communications concerning the situation were continued thereafter with the Coast Guard.

About 0600, the Coast Guard Rescue Coordination Center (RCC) San Juan advised the REGINA's master that a U.S. Navy vessel, the USS JOSEPH HEWES, would arrive on scene about 0830. The arrival time was later changed to 1030. The Coast Guard initially planned that the REGINA's passengers and crew would be transferred to the HEWES. But

<sup>2/</sup> Marine Accident Report--"Collision of Argentine Freighter M/V SANTA CRUZ II and U.S. Coast Guard Cutter CUYAHOGA in Chesapeake Bay at the Mouth of the Potomac River, Maryland, October 20, 1978" (NTSB/MAR-79/03).

the delayed arrival of the HEWES and the increasing seas prompted the master to decide to use the REGINA's lifeboats to take the passengers and crew ashore. The master requested the fishing vessel F/V CANTALICIO, which was anchored about 1 mile from the REGINA, to guide the REGINA's lifeboats through the reefs to shore. The master testified that he had expected the Coast Guard to send personnel to coordinate the abandoning of the REGINA and to assist in routing the lifeboats through the reefs to Mona Island.

At 0830, the master ordered the crew and passengers to put on lifejackets and to begin leaving the vessel by means of the lifeboats and several inflatable liferafts. The last of the passengers left the vessel by 1100. The CANTALICIO towed the lifeboats and liferafts to Mona Island. The crew and passengers were landed on Mona Island with their hand-carried luggage by 1130.

The Coast Guard RCC San Juan was alerted immediately after the REGINA's message was received at 0043 on February 15. The RCC controller (watch officer) testified that it took a half hour to establish the identity and to determine the location of the calling vessel because of badly broken radio transmissions. After determining that the REGINA was not in immediate danger of sinking, and that the master planned to wait until daylight to land the passengers and crewmembers on Mona Island, the RCC controller notified the Coast Guard Air Station (CGAS) at Borinquen, Puerto Rico.

At 0130, the REGINA owner's representative at Santo Domingo, Dominican Republic, was informed by the Coast Guard of the vessel's situation and told that it was the company's responsibility to remove the passengers from the vessel and to remove the grounded vessel from Mona Island.

At 0132, the Puerto Rico Search and Rescue (PR SAR) coordinator was notified by the Coast Guard about the grounded vessel. The PR SAR coordinator, a Puerto Rican government employee, served as liaison to the Coast Guard concerning the resources available on Mona Island.

At 0345, a helicopter from CGAS Borinquen was dispatched to the scene. The helicopter's pilot reported the geographic position and orientation of the REGINA on the reef. The helicopter landed near the old Mona Island lighthouse at 0447, and the crew remained on scene until 0647. The helicopter crew confirmed that the REGINA was in no immediate danger of sinking, and notified the Puerto Rico Department of Natural Resources (DNR) detachment on the island of the planned daylight landing of evacuees from the REGINA.

At 0540, the Coast Guard Operation Center, Miami, Florida, reported that the USS JOSEPH P. HEWES was en route and expected to arrive at the REGINA in about 3 hours. The RCC San Juan controller testified that it was initially planned to use the HEWES to transport the REGINA's evacuees to Puerto Rico.

At 0920, the REGINA's agent informed the Coast Guard that arrangements were being made by the company to transport the REGINA's evacuees by commercial aircraft from Mona Island to Mayaguez. At 1000, the agent reported that only one aircraft was confirmed, and he requested Coast Guard and Navy aircraft assistance. The Coast Guard officially requested helicopter assistance from the Navy at 1030. The agent was notified at 1123 that the Coast Guard would not commit its helicopters unless an "emergency situation" existed.

The HEWES arrived onscene about 1030 while the REGINA's passengers and crew were being transported to Mona Island. The HEWES was unable to use its small boats to transport persons from the beach because of surf conditions. No further effort was made to transfer the REGINA's evacuees to the HEWES by boats or helicopters.

At 1216, the HEWES was requested by the Coast Guard to begin removing the evacuees from Mona Island. The HEWES responded that it would not be able to remove all of the persons by nightfall. At 1258, the REGINA's agent was notified that the HEWES would transport the evacuees to San Juan. At 1340, the HEWES informed the Coast Guard that its small boats were unable to transfer the evacuees from Mona Island because of surf and shore conditions. Shortly after 1400, the Coast Guard advised the HEWES and the REGINA's agent that it was attempting to transport the evacuees from Mona Island with aircraft. The agent reported that the Puerto Rico DNR detachment on Mona Island would not allow the evacuees to land. By then the evacuees were already ashore, and the agent had contacted U.S. Customs Service officials concerning the status of the evacuees.

At 1439, the Coast Guard Commander, Greater Antilles Section (COMGANTSEC) authorized the use of a helicopter to transport children, babies, and pregnant women from Mona Island. At 1519, the Puerto Rico DNR advised the Coast Guard that Puerto Rico Air National Guard (PRANG) helicopters might be able to assist in the airlift. Meanwhile, the Commander, Naval Forces Caribbean (CNFC) authorized the HEWES to remain overnight onscene and to use its helicopter on Mona Island. Helicopters were used to deliver food and liquids to the evacuees, but the foodstuffs were not equitably distributed to the widely dispersed evacuees.

At 1647, the CNFC informed the Coast Guard that, at the request of the Governor of Puerto Rico, three helicopters from the Roosevelt Roads Naval Facility would be assigned for the airlift. The helicopters were onscene about 1900. The Puerto Rico Secretary of State informed the Coast Guard at 1705 that one or two PRANG helicopters were being provided for the airlift. The Coast Guard subsequently telephoned the PRANG command headquarters to confirm this information but got no response.

The first airlift with REGINA evacuees onboard departed the Mona Island airstrip at 1727 and arrived at Mayaguez at 1801. At 2140, airlift operations ceased because of nightfall and aircraft safety considerations. The aircraft hired by the REGINA's agent transported 44 persons, and Coast Guard, Navy, and PRANG helicopters transported 65 persons to Mayaguez.

On February 16, at 0604, the PRSAR reported that six PRANG helicopters capable of lifting six to eight persons each were en route from Mayaguez to Mona Island, and that a commercial aircraft had departed 1/2 hour earlier. At 1307, the REGINA's agent notified the Coast Guard that all persons were off the island except for the master and four crewmembers who were standing by the vessel.

The Coast Guard officially terminated its search and rescue case file at 0024 on February 17, but continued its activities relative to vessel salvage and pollution control. The RCC San Juan controller on duty when the REGINA grounded testified that RCC San Juan had not experienced a previous situation similar to the REGINA grounding on Mona Island.

The REGINA's grounding was considered a "nonemergency situation" because there was no immediate threat to life of the persons onboard. The RCC San Juan watch officer stated that the Coast Guard was responsible for search and rescue in the "maritime

regions out to sea," and that the PRSAR was responsible for the "inland" regions. The Coast Guard considered the owners of the REGINA responsible for the rescue of the persons onboard and the removal of the vessel from the Mona Island reef. The two RCC San Juan watch officers who testified stated that they did not know whether a formal agreement existed defining the areas of responsibility between the Coast Guard and the Puerto Rican government for the situation created by the REGINA's grounding. One of the RCC San Juan watch officers stated that he did not know the location of the airstrip on Mona Island, and that there was "considerable confusion" as to who was providing guidance to the aircraft pilots during the airlift operations.

Although the Coast Guard considered the REGINA's grounding to be a nonemergency, the return of the evacuees to Mayaguez in this instance remained a significant element of a search and rescue operation, and COMGANTSEC had area responsibility for the operation. Because of the variety of agencies involved, centralized management control was needed to effectively use the resources available. In this instance, most of the transport vehicles employed to transport the evacuees were not those of the Coast Guard. The Coast Guard RCC San Juan served as the coordination center to some extent, but the management control of a typical search and rescue operation was lacking. Since the events took place at a considerable distance from RCC San Juan, and radio contact difficulties were experienced, an onscene commander (OSC) might have alleviated some of the coordination problems that occurred. However, an OSC was not assigned in this operation. Had an OSC been assigned, better control of the vessel evacuation and the airlift might have been achieved.

The Safety Board believes that there was a lack of effective coordination between the Coast Guard RCC San Juan and the Puerto Rican government in promptly handling the removal of the REGINA's passengers and crewmembers from Mona Island, and that there is a need for the Coast Guard to improve communications for handling similar incidents that may occur at isolated islands in the Caribbean Sea. The Board also believes that had the Coast Guard directed the use of PRANG, Navy, commercial, and its own aircraft resources more effectively when the need for an airlift was recognized, most if not all of the evacuees could have been removed from Mona Island before nightfall.

The Safety Board understands that the Coast Guard plans to hold a conference in 1986 with government representatives from the islands in the Caribbean Sea to consider contingency plans for responding to major ship disasters involving cruise liners that carry large numbers of tourists to determine how the countries might coordinate the use of their resources to assist in such disasters, and to develop bilateral and multilateral agreements. However, the Board believes that the Coast Guard should take early action with United States agencies involved in search and rescue activities and develop logistics and communications plans to improve responsiveness to emergency and "nonemergency" situations that involve significant numbers of persons.

As a result of this investigation the National Transportation Safety Board recommends that the U.S. Coast Guard:

Require that masters and watchstanding officers on U.S. passenger vessels carrying 50 or more passengers, including ferries, report to the vessel's operating company when they are taking any medication so that a medical determination can be made as to the effect of such medication on their ability to perform watchkeeping tasks properly. (Class II, Priority Action) (M-86-15)

Develop and implement a memorandum of understanding with the government of Puerto Rico concerning responsibilities, communications, and coordination of logistics among the agencies responsible for participating in various search and rescue emergency and nonemergency situations on the Puerto Rican offshore islands, such as the M/V A. REGINA grounding at Mona Island, Puerto Rico, on February 15, 1985. (Class II, Priority Action) (M-86-16)

BURNETT, Chairman, GOLDMAN, Vice Chairman, and LAUBER, Member, concurred in these recommendations.

By:   
Chairman