



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: May 14, 2001

In reply refer to: M-01-1

Admiral James M. Loy
Commandant
U.S. Coast Guard
Washington, D.C. 20593-0001

On the afternoon of July 20, 1998, the Liberian passenger ship *Ecstasy* had departed the Port of Miami, Florida, en route to Key West, Florida, with 2,565 passengers and 916 crewmembers on board when a fire started in the main laundry shortly after 1700. The fire migrated through the ventilation system to the aft mooring deck where mooring lines ignited, creating intense heat and large amounts of smoke that spread to several areas in the aft two main vertical zones (MVZs) of the ship. The *Ecstasy* subsequently lost propulsive power and most steering and had to be towed back to Miami. During the onboard emergency, all passengers evacuated safely from the affected areas; however, two crewmembers became trapped on deck No. 2, and firefighting teams had to rescue them. Nine passengers were treated for injuries resulting from pre-existing conditions or smoke inhalation, and 14 crewmembers sustained minor injuries from firefighting activities and/or smoke inhalation. Carnival Corporation, Inc., the owner of the *Ecstasy*, estimated that losses from the fire exceeded \$17 million.¹

Although no one was seriously hurt in the *Ecstasy* accident, the Safety Board identified several improvements that Carnival Cruise Lines could make in passenger and crew safety:

- Content of safety information disseminated to passengers,
- Policy for distributing lifejackets, and
- Method for accounting for passengers and crewmembers.

Carnival Cruise Lines conducted an emergency drill for the *Ecstasy's* passengers before the vessel sailed. Of the 126 passengers who responded to a postaccident survey conducted by the Safety Board, most indicated that the drill adequately prepared them for the actual emergency.² Fifty-three of those surveyed identified various problems or situations that were not

¹ For further information, read: National Transportation Safety Board, *Fire On Board the Liberian Passenger Ship Ecstasy, Miami, Florida, July 20, 1998*, Marine Accident Report NTSB/MAR-01/01 (Washington, DC: NTSB, 2001).

² The Safety Board mailed questionnaires to 300 *Ecstasy* passengers asking about the muster drill and whether they encountered any problems during the actual emergency. The Board received 126 responses.

addressed in the drill. For example, passengers indicated that the drill did not include specific information about fire emergencies, including what to do if they encountered smoke or fire. A number of respondents who mustered on an outer deck said that they had to move to a different station because of smoke, and the drill did not provide information about what to do if a muster station was not available.

On the day of the fire, the *Ecstasy* carried 4,946 lifejackets and 3,481 people, meaning that the ship had 1,465 extra lifejackets. Despite having more than enough lifejackets on board the vessel, some passengers perceived a lack of available lifejackets when they were not provided lifejackets at their muster stations. Forty-seven survey respondents said that they never received lifejackets. Two passengers stated that they became concerned when they asked for lifejackets and a crewmember started to pass them out and then reportedly was ordered to stop doing so. One passenger stated that a crewmember told her not to retrieve her lifejacket from her stateroom and, later, another crewmember told her to get her lifejacket from her cabin. She said that, when she attempted to do so, she could not reach her stateroom because of the smoke.

At the public hearing on the *Ecstasy* accident, the master testified that he wanted to maintain a calm environment and avoid panic among the passengers by conveying the impression that the situation was under control and did not warrant the distribution of lifejackets. While the lack of uniformity in distributing the lifejackets did not cause a mass panic, it did cause several passengers to become uneasy.

In this accident, two crewmen were unable to exit their deck because of heavy smoke. They initially sought refuge in a crew cabin. They were following survival techniques in a shower when one of the men panicked because of worsening smoke conditions. He left the toilet facility and began feeling his way along the bulkhead of the smoke-filled passageway. The other crewman followed the first man to try and convince him to return to the safety of the shower. The severity of the smoke-inhalation injuries that they sustained was limited only because fire team members searching the area happened upon the crewmembers.

The passenger's attempt to return to her stateroom and the entrapment of two crewmen in their accommodations area raised questions about the procedures used by the *Ecstasy's* shipboard personnel to account for passengers and crewmembers during the emergency muster. Crewmembers used two methods to account for passengers during the fire emergency. At the muster stations, the crewmembers noted the letters imprinted on the lifejackets worn by passengers to ensure that they had reported to the correct station. The muster station crews did not have a list, by name, of passengers assigned to the respective stations. In the accommodation areas, crewmembers checked each room to determine whether it was empty. They then wrapped a towel around the doorknob to show other searchers that the room had been checked.

Neither of these procedures provides assurance that the vessel has accounted for everyone on board. Depending upon the time and location of a fire or emergency condition, passengers and crewmembers might not be able to report to their muster station. In this accident, three MVZs were closed as a result of the fire and passengers had to muster at alternate stations. Identifying which people are missing by searching the staterooms and cabins assumes that the occupant will probably remain in his or her quarters and not go to another location. This method of accounting for individuals can be dangerous, depending on the emergency conditions.

Based on its findings in the *Ecstasy* investigation, the Safety Board asked that Carnival Corporation, Inc., the parent company of Carnival Cruise Lines, develop plans for all ships in its fleets to account for passengers and crewmembers in common emergency scenarios, in particular, a situation involving the inaccessibility of one or more MVZs.

As part of its mandate, the U.S. Coast Guard (Coast Guard) conducts quarterly control verification examinations (CVEs) of a vessel's operations to determine if they comply with the *International Convention for the Safety of Life at Sea, 1974* (SOLAS) safety requirements. In its oversight capacity, the Coast Guard could assist companies in improving safety by establishing an emergency scenario for a passenger drill during a CVE and evaluating the crewmembers' effectiveness in handling the crowd and emergency conditions.

Therefore, the National Transportation Safety Board recommends that the U.S. Coast Guard:

During control verification examinations, review a drill scenario in which one or more main vertical zones are inaccessible and evaluate the procedural effectiveness of the crew in crowd control, crisis management, lifejacket distribution, and passenger accountability. (M-01-1)

The Safety Board also issued safety recommendations to American Classic Voyages, Carnival Corporation, Inc., Carnival Cruise Lines, Crystal Cruises, Disney Cruise Line, Norwegian Cruise Line, Orient Lines, P&O Princess Cruises International, Ltd., Radisson Seven Seas Cruises, Regal Cruises, Renaissance Cruises, Inc., Royal Olympic Cruises, Royal Caribbean Cruises, Ltd., and Silversea Cruises, Ltd., ABB, Inc., and the International Association of Classification Societies. In your response to the recommendation in this letter, please refer to M-01-1. If you need additional information, you may call (202) 314-6607.

Acting Chairman CARMODY and Members HAMMERSCHMIDT, GOGLIA, and BLACK concurred in this recommendation.

Original Signed

By: Carol J. Carmody
Acting Chairman