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National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: February 6, 1998

In reply refer to: M-98-19 through -23

Mr. Warren L. Ruther, Jr.
Chief Executive Officer
New Orleans Paddlewheels, Inc.
690 Port of New Orleans Place
New Orleans, Louisiana 70130

Shortly after 1400 on December 14, 1996, the fully loaded Liberian bulk carrier *Bright Field* temporarily lost propulsion power as the vessel was navigating outbound in the Lower Mississippi River at New Orleans, Louisiana. The vessel struck a wharf adjacent to a populated commercial area that included a shopping mall, a condominium parking garage, and a hotel. No fatalities resulted from the accident, and no one aboard the *Bright Field* was injured; however, 4 serious injuries and 58 minor injuries were sustained during evacuations of shore facilities, a gaming vessel, and an excursion vessel located near the impact area. Total property damages to the *Bright Field* and to shoreside facilities were estimated at about $20 million.[1]

Questionnaires were sent to 74 persons who had been either in or near the Riverwalk Marketplace when the accident occurred or who were among the passengers and crew of the *Queen of New Orleans* or *Creole Queen* at the time of the allision. A total of 12 responses were received from individuals who said they had been aboard the *Queen of New Orleans* when the *Bright Field* struck the wharf.

According to the *Queen of New Orleans' Emergency Evacuation Plan for Moored Conditions*, the vessel can be exited only from the bow section of the second deck. The plan states that to evacuate the vessel in an emergency, every passenger is to be directed to this gangway. The owner of the vessel noted that three portable emergency gangways, which are designed to be used in the event the main gangway is inoperable, are aboard the vessel. The vessel's emergency evacuation plan, however, does not refer to these portable gangways, or provide instructions on how to make them operable in an emergency, or give guidance for directing passengers to them. The evacuation plan also does not take into account the time needed to alert the crew to take action or for crewmembers to stage the portable gangways and

[1] For more detailed information, read Marine Accident Report—*Allision of the Liberian Freighter* Bright Field *with the Poydras Street Wharf, Riverwalk Marketplace, and New Orleans Hilton Hotel in New Orleans, Louisiana, December 14, 1996.* (NTSB/MAR-98/01).

assure their safe operation. Because the emergency gangways were not used during the *Bright Field* accident, the only exit available was the second deck bow gangway.

New Orleans Paddlewheels, Inc., provided security camera videotapes that show areas of the vessel being evacuated in what company officials call "a calm and orderly evacuation." The Safety Board did not see, on these tapes, any passengers sustaining injuries during the evacuation. Nonetheless, some passengers were injured, as documented by medical records. While the Safety Board recognizes that the number of questionnaire responses was small relative to the number of passengers aboard the vessel, the responses are nevertheless meaningful and illustrate the panic induced when the crowd was confronted with no means of escape from a vessel directly threatened by an oncoming freighter. Furthermore, had the vessel been filled to its capacity of 1,800 passengers and crewmembers, the number of persons unable to evacuate in time could have been significantly higher. The ensuing panic most likely would have been more hazardous, possibly resulting in a higher number of, and more severe, injuries. The Safety Board concluded that evacuation of the *Queen of New Orleans* was hampered, and passenger risk increased, by the fact that only one gangway was made available for passenger egress during the emergency.

The *Creole Queen*, a New Orleans Paddlewheels, Inc., excursion vessel with a capacity of 1,000 passengers and crew, was docked astern of the *Queen of New Orleans*. At the time of the accident, 190 passengers and crewmembers were aboard. Following the master's instructions to evacuate, passengers exited the vessel across a single dockside gangway. When the bow wave from the *Bright Field* passed the *Creole Queen*, the gangway dropped from the side of the vessel, and three passengers on the gangway fell into the river. One passenger was seriously injured; the other two sustained minor injuries. By this time, approximately one half of the *Creole Queen*'s passengers had been evacuated. The remaining passengers could not exit the vessel until the gangway was repositioned.

The Safety Board acknowledges the efforts of the senior officers of both vessels to evacuate a large number of passengers. Even so, if the 36,000-ton *Bright Field* had struck the *Queen of New Orleans*, the remaining passengers still on board the gaming vessel, regardless of their exact numbers, would have been in grave danger.

The Safety Board concluded that New Orleans Paddlewheels, Inc., must make better provisions for all its vessels in the event of an impending allision or other emergency. Consequently, the Safety Board issued the following safety recommendations to New Orleans Paddlewheels, Inc., on September 5, 1997:

> Work with the U.S. Coast Guard to review the *Emergency Evacuation Plan for Moored Conditions* of the *Queen of New Orleans* and amend it regarding current evacuation procedures and the number of immediately accessible gangways and disembarkation locations, to ensure timely and orderly exiting of passengers in the event of emergency evacuation. (M-97-62)
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> Work with the U.S. Coast Guard to develop and implement procedures for evacuation under moored or docked conditions for all your excursion vessels to

> ensure that passengers can exit each vessel in a timely and orderly manner should an emergency evacuation be necessary. (M-97-63)

In a September 29, 1997, letter to the Safety Board, New Orleans Paddlewheels, Inc., replied that its emergency evacuation plan for the *Queen of New Orleans* in moored conditions

> addresses the evacuation of all areas on board the vessel. We purposely did not include portable gangways because they are to be used only when the primary evacuation gangway is inoperable. Our deck crew is regularly trained and drilled on how to use these portable gangways in multiple locations.

The Safety Board is concerned that the evacuation plan for the *Queen of New Orleans* does not provide a readily available additional means of escape that does not require staging in an emergency. The Safety Board's intent in issuing Safety Recommendation M-97-62 was to prompt New Orleans Paddlewheels, Inc., to amend the *Queen of New Orleans*'s *Evacuation Plan for Moored Conditions* not only to enhance evacuation procedures, but also to address the need to provide for more than one immediately accessible disembarkation location to ensure a timely and orderly exiting of passengers.

Further, although the September 29 letter states that the deck crew is trained and drilled on use of the portable gangways, the letter does not address the training of the nonoperating crewmembers, who are responsible for assisting passengers to the egress areas of the vessel during emergencies. The *Evacuation Plan for Moored Conditions* provides no guidance on the use of portable gangways to the numerous nonoperating crew on board the vessel who are responsible for directing passengers and assisting their escape. Moreover, the specific plan to which all crewmembers are to look for guidance in responding to emergency situations does not provide any information on these gangways or how to guide passengers to them. Based on the failure of New Orleans Paddlewheels, Inc., to effectively address these concerns, the Safety Board classifies Safety Recommendation M-97-62 "Closed--Unacceptable Action." New Orleans Paddlewheels, Inc., has not responded to Safety Recommendation M-97-63 concerning the development of evacuation procedures for moored or docked conditions for all its excursion vessels. Therefore, Safety Recommendation M-97-63 remains classified "Open--Await Response."

All of the surveyed passengers from the *Queen of New Orleans* said they had boarded the vessel between 1300 and 1400. Nine of the passengers did not recall receiving any information concerning what to do in the event of an emergency and did not recall observing any safety information placards when they boarded the vessel. Seven of these passengers did not receive a life jacket when evacuating the vessel. Each of these passengers recalled first learning about the emergency when they heard the announcement from the first mate over the public address system.

The company operating manuals and station bills for both the *Queen of New Orleans* and *Creole Queen* clearly stated that nonoperating crewmembers were responsible for distributing life jackets, keeping order in the stairways and passageways, and controlling the movement of passengers to ensure their safety. During the *Bright Field* emergency, however, several

nonoperating crewmembers experienced difficulty in performing their duties. For example, when the first mate directed the crewmembers to go to their mooring stations during the evacuation of the *Queen of New Orleans*, the vessel's director of security did not understand or appreciate the implications of this announcement. Also, nonoperating crewmembers did not distribute life jackets to passengers aboard the *Creole Queen* during the emergency.

Drills held aboard the *Queen of New Orleans* had not simulated an evacuation while moored. Moreover, the drills and training sessions that were held only involved supervisory gaming staff, who were expected to inform other gaming staff crewmembers of their content. No formal methods were used to verify whether the nonoperating crewmembers were advised of the content of the safety meetings or the nature of drills performed. Unless it requires accountability for the flow of safety information from supervisory gaming staff to the rest of the nonoperating staff, management cannot ensure that the latter receive safety information that could be critical in an emergency. The Safety Board concluded that nonoperating crewmembers of the *Queen of New Orleans* and the *Creole Queen* had not received training covering the full range of emergency scenarios and were unprepared to properly carry out their responsibilities in this accident.

As a result of its investigation of a 1994 fire aboard the small passenger vessel *Argo Commodore*,[2] the Safety Board issued the following recommendation to the Passenger Vessel Association (PVA):

> Develop and provide to your members crew drills for on-board crew emergency procedures/standards that include preincident planning for a variety of shipboard emergencies, including fires, and the deployment of crew resources for proper response to the emergency without compromising passenger safety. (M-95-43)

This recommendation was later placed on the Safety Board's list of Most Wanted Safety Improvements. In 1997, the PVA made available to the Safety Board its recently published *Training Manual for Passenger Vessel Safety*, which incorporates a "Non-marine Crew Training" section that outlines a comprehensive training program for nonoperating crewmembers. The introduction to this section states that specialized safety training for nonoperating employees "makes sense when management realizes that, more often than not, [these employees] will be the first person[s] on the scene in any kind of emergency."

Based on the PVA's support for the concept of comprehensive training for nonoperating employees and its development of the training manual, the Safety Board classified Safety Recommendation M-95-43 "Closed--Acceptable Action." The Safety Board notes that New Orleans Paddlewheels, Inc., which is a PVA member, has apparently not yet implemented the training program for nonoperating crewmembers set forth by the PVA in its training manual.

According to the vessel master, when the *Queen of New Orleans* was to remain moored, he did not make any safety announcements because he believed the vessel was an extension of

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[2]Marine Accident Report--*Fire Aboard U.S. Small Passenger Vessel* Argo Commodore *in San Francisco Bay, California, December 3, 1994* (NTSB/MAR-95/03).

the dock when not underway. The *Queen of New Orleans* broadcast a vessel safety videotape throughout the vessel's queuing area; however, a significant number of passengers on board the vessel on the day of the accident, some of whom had been on the vessel several times before, did not recall ever having seen or heard the safety broadcast. Because the scheduled cruise had been canceled because of the high river stage, no safety briefings were provided prior to the *Bright Field* accident. However, the master stated that he had instructed the engineer to start the engines to prepare for leaving the dock to avoid being struck by the *Bright Field*. Had the vessel left the dock, the master probably would not have had time to provide passengers with such basic instructions as the location of life jackets. The Safety Board concluded that the lack of effective recurring safety briefings for occupants of the *Queen of New Orleans* regarding emergency and evacuation procedures may have contributed to the confusion and panic reported among passengers and crew during the vessel evacuation.

Emergency instruction placards and signage aboard the *Queen of New Orleans* were not conspicuously displayed and were not readily visible during the emergency. The safety instructions, printed on plain white paper with clear laminate, were subject to destruction in an emergency such as that involving fire. Moreover, the paper on which the instructions were printed was similar to the color of the walls upon which they were affixed, negating their effectiveness in an emergency characterized by haste, panic, or reduced visibility. According to a number of the vessel's passengers on the day of the accident, they did not see emergency instruction signage or egress diagrams. The Safety Board concluded that the instruction placards and signage aboard the *Queen of New Orleans* were ineffective in disseminating emergency instructions and vessel information to passengers.

This accident demonstrates that the many and diverse stakeholders in the area of the Port of New Orleans, including the Coast Guard, the State of Louisiana, the Board of Commissioners of the Port of New Orleans (the "Dock Board"), the pilot organizations, and the owners and operators of riverfront properties and nearby moored passenger ships, did not adequately prepare for or mitigate the risk of a marine casualty affecting people and property within the Port of New Orleans. Some of the stakeholders, most notably the Dock Board, had commissioned partial risk assessment studies at various times for the assets in the harbor area. Despite their limitations (in either geography or scope), these studies did provide adequate information for the stakeholders to recognize the possibility of an accident similar to the one involving the *Bright Field*.

For example, risk assessment projects predicted an increase in accidents involving collisions, rammings, and groundings due to increased river traffic. The Louisiana State University risk assessment project, in 1994, concluded that no sections of the Port of New Orleans waterfront were free of ship allisions, including the area where the high-capacity passenger vessels, gaming vessels, and riverfront properties were located. Analysis of accident data for the Port of New Orleans from 1983 through 1993 (a total of 166 rammings along the left descending bank between miles 91 and 101 AHP) identified a mooring area for gaming vessels that had seen the fewest "historical allisions on the left bank." The study acknowledged, however, that no area of the left descending bank of the river had been completely free of vessel strikes during the 11-year period studied.

Several passenger vessels, including gaming, tour and cruise vessels, were allowed to dock along the left descending bank, the side of the river at highest risk. Had the *Bright Field* lost power some time later and the same accident scenario evolved, the ship would likely have rammed the gambling vessel, resulting in substantial loss of life. The cruise vessels, which had even less warning time, would quite likely also have sustained serious passenger injuries or loss of life.

While silting around the vessels' docking areas may offer some protection from ramming by deep-draft vessels at average river stages, the silt layer did not reduce water depth sufficiently to retard a runaway ship when the river was high, as it was on the day of the *Bright Field* accident. The property owners and other stakeholders within the Port of New Orleans clearly had the responsibility to establish and maintain a reasonable level of safety in the port area. The Safety Board concluded that the Coast Guard, the Dock Board, and the property owners did not adequately address the risks posed to moored vessels along the Erato, Julia, Poydras, and Canal Street wharves; as a result, under certain conditions, those vessels were vulnerable to ramming by other marine traffic.

The Coast Guard has overall responsibility for maintaining public safety in the Port of New Orleans area. Under the *Ports and Waterways Safety Act of 1972*, the Congress charged the Coast Guard with monitoring and managing risk in all U.S. ports and taking actions to maintain risk at an acceptable level. In carrying out this role, the Coast Guard must assess and manage the risk that is inherent in all commercial activities within U.S. ports. In fact, in its *1996 Performance Report*, the Coast Guard's Office of Marine Safety and Environmental Protection asserts that managing risk is its primary mission. The Safety Board concurs with this assessment and notes that the Coast Guard has the authority, the responsibility, and the experience to direct a comprehensive assessment of risk in the Port of New Orleans.

As a result of its investigation of the *Bright Field* accident, the National Transportation Safety Board makes the following safety recommendations to New Orleans Paddlewheel, Inc.:

> In accordance with the guidance published by the Passenger Vessel Association, require that nonoperating crewmembers on all your vessels participate in formal emergency training and drills in the proper handling of emergencies that have the potential to affect the persons in their charge. Maintain written records to verify nonoperating crew proficiency levels and skill retention. (M-98-19)
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> Review the existing methods of providing safety information to boarding passengers and make the necessary improvements to ensure that all vessel occupants receive recurring safety briefings, regardless of whether the vessel is scheduled to leave the dock. (M-98-20)
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> On all your vessels, post emergency instructions that are printed on fire- and heat-resistant material and that are clearly visible to all passengers both under normal conditions and during emergencies when lighting and visibility may be diminished. (M-98-21)

Participate with the U.S. Coast Guard and other stakeholders in a comprehensive risk assessment that considers all activities, marine and shoreside, within the Port of New Orleans. (M-98-22)

In cooperation with the U.S. Coast Guard and other stakeholders, including Federal, State, and local agencies; private commercial entities; shipowners; and pilot associations, implement risk-management and risk-mitigation initiatives that will ensure the safety of people and property within the Port of New Orleans. (M-98-23)

Also, the Safety Board issued Safety Recommendations M-98-1 through -4 to the U.S. Coast Guard; M-98-5 and -6 to the U.S. Army Corps of Engineers; M-98-7 and -8 to the State of Louisiana; M-98-9 through -12 to the Board of Commissioners of the Port of New Orleans; M-98-13 through -15 to International RiverCenter; M-98-16 through -18 to Clearsky Shipping Company; M-98-24 through -26 to the New Orleans Baton Rouge Steamship Pilots Association; M-98-27 and -28 to the Crescent River Port Pilots Association; and M-98-29 and -30 to Associated Federal Pilots and Docking Masters of Louisiana, Inc.

The National Transportation Safety Board is an independent Federal agency with the statutory responsibility "to promote transportation safety by conducting independent accident investigations and by formulating safety improvement recommendations" (Public Law 93-633). The Safety Board is vitally interested in any action taken as a result of its safety recommendations. Therefore, it would appreciate a response from you regarding action taken or contemplated with respect to the recommendations in this letter. Please refer to Safety Recommendations M-98-19 through -23 in your reply. If you need additional information, you may call (202) 314-6450.

Chairman HALL, Vice Chairman FRANCIS, and Members HAMMERSCHMIDT, GOGLIA, and BLACK concurred in these recommendations.

By: Jim Hall
Chairman