



LOG 397

**National Transportation Safety Board**  
**Washington, D.C. 20594**

**Safety Recommendation**

---

**Date:** July 12, 1995

**In Reply Refer To:** M-95-3

Ms. Cynthia Colenda  
President  
International Council of Cruise Lines  
1211 Connecticut Avenue, N.W.  
Suite 800  
Washington, D.C. 20036

---

On August 19, 1994, the Bahamian passenger ship *REGAL EMPRESS*, with 1,394 passengers and crewmembers and a New York harbor pilot aboard, was under way in New York Harbor when a fire ignited in the granulated cork insulation inside ductwork adjacent to the main engine exhaust trunk. The fire was extinguished, with the help of the Fire Department of New York (FDNY), about 3 1/2 hours after it was discovered. No deaths occurred as a result of the fire; 12 passengers sustained minor injuries and the fire caused about \$ 250,000 in damage.

The organized response of the officers and crew of the *REGAL EMPRESS* to this accident indicates the high quality of the emergency training they had received. They acted quickly to isolate and contain the fire, thereby minimizing smoke and heat damage. Neither communication nor language differences were problems. The crew provided adequate direction and guidance to passengers throughout the emergency, ensuring that passengers did not panic and disembarked safely.

The *REGAL EMPRESS* was en route to berth 3, pier 90, Manhattan, after completing a 5-day cruise from Canada via Martha's Vineyard, Massachusetts. About 0630, when the *REGAL EMPRESS* was approximately 10.5 miles south of Manhattan Island, a crewman discovered smoke coming from a cleaning gear room on the main deck in the cross alleyway between the pilot doors. He immediately reported the smoke to the ship's safety officer, who in turn informed the master. The master dispatched the safety officer to investigate the source of the smoke and directed the pilot to notify both the Coast Guard and the FDNY.

The *REGAL EMPRESS* continued its transit of New York Harbor while crewmembers unsuccessfully searched for the source of the smoke. The master shut down power ventilation and closed fire doors in the fire zone where the smoke was located in an effort to isolate the fire there. Nonetheless, when the ship docked at pier 90, Manhattan, the source of the fire had not been located.

At 0814, the REGAL EMPRESS moored at pier 90, and the crew gangway was rigged on the port side of the main deck level. FDNY personnel boarded the vessel with hoses to fight the fire. The FDNY incident commander consulted with the ship's safety officer, who was in charge of the ship's firefighting operations. Although the ship's crew had located the general area of the fire, they had not been able to find the source of the fire. A FDNY firefighter, using a thermal imaging viewer, examined the bulkheads, overhead, and deck in the area, searching for fire hot spots. He discovered one in a discontinued brine-cooling pipe duct near the main engine exhaust piping. The firefighters, using axes, cut a hole in the duct and directed water into the ductwork, extinguishing the fire, which had been burning in the granulated cork insulation in the brine-cooling pipe duct.

The fire, which ignited in an area not normally accessible by the crew, had remained unlocated for almost 2 hours. Although the crew, who were very familiar with the ship, conducted a thorough search, they were unable to locate the source of the fire until the FDNY came aboard and employed its thermal imaging device. Had it not been for this thermal imaging camera, which can show the hottest spot of a fire, even in a dense smoke environment, the fire would not have been extinguished as quickly as it was. If the fire had ignited while the vessel was still at sea, where the crew would not have had access to the device, the fire might well have caused significantly more damage and might have posed a greater threat to the 1,394 people on board.

Because a thermal imaging device can locate the source of a fire regardless of the volume of smoke present, it is an invaluable tool for improving fire safety, even on new passenger ships. Although new passenger vessels carrying more than 36 passengers are required to be constructed of incombustible materials, they nonetheless have large quantities of combustibles on board and experience fires, as demonstrated by the 1991 fire on board the Norwegian passenger ship SOVEREIGN OF THE SEAS. This fire ignited in a storeroom containing ordinary combustible materials, and fire fighters were hampered in locating the source by the large volume of smoke and were repeatedly driven from the fire by its intense heat. Had they had access to a thermal imaging device, they could have readily located the source of the fire and extinguished it sooner, resulting in much less damage to the ship and risk to the fire fighters. Thermal imaging devices, which are commonly used by municipal fire departments and on board U.S. Navy vessels, are available at reasonable prices. The Safety Board believes that such devices would significantly improve fire safety on board highly compartmentalized vessels, such as passenger ships, where fires can originate in areas obscured from normal view.

Therefore, the National Transportation Safety Board recommends that the International Council of Cruise Lines:


Encourage its member companies to provide their ships with thermal imaging devices to enhance the ability of shipboard firefighters to locate fires that may be obscured in a dense smoke environment or hidden from normal view due to compartmentalization. (Class II, Priority Action) (M- (M-95-3)

Also, the Safety Board issued Safety Recommendation M-95-4 to the U.S. Coast Guard.

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 actions taken as a result of its safety recommendations and would appreciate a response from you regarding action taken or contemplated with respect to the recommendation in this letter. Please refer to Safety Recommendation M-95-3 in your reply. If you need additional information, you may call (202) 382-6860.

Chairman HALL, Vice Chairman FRANCIS, and Member HAMMERSCHMIDT concurred in this recommendation.

By:



Jim Hall  
Chairman