



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: July 18, 2000

In reply refer to: M-00-8 and -9

Captain Ted Thompson
Executive Vice President
International Council of Cruise Lines
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In 1997, the National Transportation Safety Board issued to the International Council of Cruise Lines (ICCL) two related safety recommendations concerning the need for automatic local-sounding smoke alarms in passenger and crew accommodation areas on board cruise ships. Subsequently, the ICCL informed the Safety Board that it does not make recommendations to its membership and that it could not act in an advocacy role concerning this safety issue. As a result, the Safety Board withdrew its recommendations.

As you are aware, a related U.S. Coast Guard proposal was submitted to the International Maritime Organization (IMO) Sub-Committee on Fire Protection (Maritime Safety Committee 71/20/5, January 4, 1999). Your organization opposed this proposal in a detailed submission, and the proposal was removed from the subcommittee work agenda without technical discussion. The Safety Board is certain that the action of the ICCL agency in opposing the Coast Guard proposal is incompatible with the hands-off approach detailed to us in response to our 1997 recommendations. We further consider that your arguments to the IMO were wrongly conceived and not in the best interests of the traveling public and are of the opinion that the ICCL should withdraw its opposition and support any further Coast Guard actions on this issue before the IMO.

The Safety Board has reviewed the ICCL opposition paper and finds that several points deserve clarification. The ICCL paper objects to the use of fire examples involving ships that were not compliant with the 1992 Fire Safety Amendments to the 1974 Safety of Life at Sea (SOLAS) Convention. In counterpoint, the paper cites an unidentified "more recent fire" on board an unidentified vessel "that does comply with the applicable 1992 amendments" and asserts that in this instance, "the fire safety system requirements of SOLAS worked properly and as expected." In the Safety Board's view, whether the examples cited were of fires on ships compliant with the 1992 Fire Safety Amendments is a moot point. The 1992 amendments do not require automatic local-sounding smoke alarms, and none of the amendments provide an equivalent level of life

safety protection. These examples do illustrate that, had these vessels been fitted with automatic local-sounding smoke alarms, the people on board would have received earlier warning of the presence of smoke and would have had commensurately more time in which to escape. As a result, lives would have been saved.

The Safety Board has investigated fires on board passenger ships that had safety upgrades, such as the *Universe Explorer*,¹ which had a fully addressable smoke detection system, and on vessels that are fully compliant with the 1992 amendments. Even though the *Universe Explorer* had a sophisticated smoke detection system that operated properly during a July 1996 fire on this vessel, five people died from smoke inhalation because they did not get early enough warning of the presence of smoke. Even in the April 1997 fire on the *Vistafford*,² in which the general alarm was sounded immediately after the activation of the fire alarm panel, enough of a delay in warning the crew remained so that a fatal quantity of smoke entered the accommodation spaces causing one crewman to lose his life.

The recent fires on board the Liberian passenger ship *Ecstasy*³ and the Netherlands passenger ship *Nieuw Amsterdam*⁴ illustrate that the need for automatic local-sounding smoke alarms is just as great for vessels that are fully compliant with the 1992 amendments. In the July 1998 fire on the *Ecstasy*, two crewmen became trapped by smoke, and both suffered smoke inhalation injuries before they were rescued. In the May 2000 fire on the *Nieuw Amsterdam*, a passenger was forced to crawl on his hands and knees along the passageway outside his cabin due to the heavy smoke. After rescue by a crewman, the passenger was treated for smoke inhalation and for physical injuries sustained while he was blindly attempting to escape in the heavy smoke. As previously stated, both vessels were fully compliant with the 1992 Fire Safety Amendments. Had these ships been fitted with automatic local-sounding smoke alarms, these individuals would have had earlier warning of smoke, would then have had more time in which to escape, and probably would not have been trapped or injured.

One of the major objections to automatic local-sounding smoke alarms stated in the ICCL paper appears to be a perceived increase in the risk of mass panic by passengers and the impairment of effective crowd control when passengers respond to an audible alarm when the vessel's master and emergency response team are not "knowledgeable of the situation and in control from the outset." The ICCL cited a "worst case scenario" wherein an "improper and uncontrolled response by passengers . . . could cause panic, injury or death."

The Safety Board's recommendation to the Coast Guard called for local smoke alarms that would only sound in the immediate area where smoke is present and evacuation is vitally important. The recommendation did not envision the automatic sounding of the general alarm throughout the entire ship based upon the activation of a single smoke detector. The proposed local alarm could in no way realistically be expected to result in a mass panic situation. Since the alarm would also sound in the centrally located and continuously manned fire control station, the

¹ On July 27, 1996, in Glacier Bay, Alaska.

² On April 6, 1997, underway from Fort Lauderdale, Florida, to the Azores.

³ On July 20, 1998, Miami, Florida.

⁴ On May 23, 2000, in Glacier Bay, Alaska.

crew would be immediately informed of the activated alarm and would be able to launch an appropriate response without delay.

Furthermore, cruise passengers, especially those coming from the United States, are familiar with smoke detector alarms. They have them in their homes and in the hotels ashore in which they are guests. Such passengers would, in the Board's opinion, not be likely to panic just because a local alarm is sounding. Rather, they would probably investigate the source of the alarm, and if they smelled or saw smoke, they would leave the area, which would be the correct action for them to take. If cruise vessel operators had doubts whether passengers would take this appropriate action, instruction concerning the proper course of action in the event of the activation of a local alarm could be included in the fire drill required to be held upon sailing.

In addition, the Safety Board also recommended that automatic local-sounding smoke alarms be installed in crew accommodation spaces. The Safety Board believes that passenger ship crewmen, who must live on board their vessels, are exposed to higher risks than necessary because of the lack of automatic local-sounding smoke alarms in their berthing areas. As dramatically illustrated by the *Universe Explorer* and the *Vistafford* fires, in which a total of six crewmen lost their lives, off-duty crewmen asleep in their cabins need to receive immediate warning of smoke if they are to have a chance to escape without injury. Crewmen, especially those who have completed their training, as required by the International Convention of Standards of Training, Certification, and Watchkeeping, ought to be expected to react to alarms properly and without panic. The Safety Board finds it significant that the ICCL paper did not address the need for automatic local-sounding alarms in crew accommodation spaces.

The ICCL paper stated that "on a daily basis there are as many as 20 or more false alarms as a result of normal sensitivity of smoke detectors and their tendency to activate in the presence of steam, aerosol sprays, and cigarette and cigar smoke." Independent of the local smoke alarm issue, the Safety Board finds this statement to be particularly troubling. Inquiries made by Safety Board staff to the fire detection industry indicate that such a number of false alarms is significantly beyond any acceptable norm and indicates serious problems with the detection system. Multiple false alarms are not only a nuisance but also a safety hazard because they engender apathy on the part of responders. In the interest of safety, the Safety Board requests that the ICCL provide the Board with details regarding the magnitude of the apparent false alarm problem concerning shipboard fire detection systems and information about what the industry is doing to combat it.

Nearly six million passengers boarded cruise ships from U.S. ports in 1999.⁵ Fires also continue to occur with troubling regularity on board passenger ships operating from U.S. ports; since the fires on board the *Universe Explorer* and the *Vistafford*, the cruise ships *Ecstasy*, *Tropicale*,⁶ and *Nieuw Amsterdam* have each experienced fires. The occurrence of these fires continues to demonstrate the need for automatic local-sounding smoke alarms in accommodation spaces, and the Safety Board is concerned for crew and passenger safety in light of the lack of these alarms.

⁵ "As Orders Climb, Shares Wilt." Marine Log, May 2000.

⁶ On September 19, 1999, in the Gulf of Mexico.

The Coast Guard's proposal⁷ that SOLAS chapter II-2 be amended to require automatic local-sounding smoke alarms to be required in passenger and crew accommodation spaces on passenger ships stated that:

- technology already exists to provide the local alarms,
- most existing fire detection systems could be altered to accommodate local alarms at reasonable cost, and
- automatic local-sounding smoke alarms would present a "tremendous improvement to life safety for passengers and crew."

The Safety Board recognizes and appreciates the Coast Guard's efforts to effect regulatory change on the international level. However, the Coast Guard's efforts have been frustrated by the action of the ICCL in presenting spurious arguments predicting crowd control problems and citing exceedingly high false alarm rates as justification for not taking the proposed action. In the Safety Board's opinion, crowd management and detection system false alarms are problems separate and distinct from the need for providing individuals with timely warnings of danger by means of automatic local-sounding smoke alarms. If crowd control or false alarm problems are experienced on passenger ships, those problems should be solved. They do not, in and of themselves, justify taking no action to solve another problem, that of providing adequate warning to passengers and crew that their living quarters are filling with smoke. In view of the continuing risks of death and injury from fire, the Safety Board is convinced that automatic local-sounding smoke alarms are essential in crew and passenger accommodation areas. Furthermore, the Safety Board believes that, in the interest of saving lives, the ICCL should withdraw its opposition before the IMO to the proposal that such alarms be required on passenger ships and support a full discussion of the technical issues involved and any further Coast Guard actions on this matter before the IMO.

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

Withdraw your opposition to the amendment of the Safety of Life at Sea Convention chapter II-2 to require automatic local-sounding smoke alarms in crew accommodation spaces on board passenger ships and support a full discussion of the technical issues involved and any further U.S. Coast Guard actions on this matter before the International Maritime Organization. (M-00-8)

Withdraw your opposition to the amendment of the Safety of Life at Sea Convention chapter II-2 to require automatic local-sounding smoke alarms in passenger accommodation spaces on board passenger ships and support a full discussion of the technical issues involved and any further U.S. Coast Guard actions on this matter before the International Maritime Organization. (M-00-9)

⁷ "Fire Detection and Fire Alarm Systems on Passenger Ships." Maritime Safety Committee 71/20/5, dated January 4, 1999.

The Safety Board also issued safety recommendations to American Classic Voyages; Carnival Cruise Lines; Celebrity Cruises, Inc.; Costa Cruise Lines; Crystal Cruises; Disney Cruise Line; Holland America Line Westour, Inc.; Norwegian Cruise Line; Orient Lines, Inc.; Premier Cruises; Princess Cruises; Radisson Seven Seas Cruises; Regal Cruises, Inc.; Renaissance Cruises, Inc.; Royal Caribbean International; Royal Olympic Cruises; Seabourn Cruise Lines; and Silversea Cruises, Ltd.

The Safety Board would appreciate a response from you within 90 days addressing the actions you have taken or intend to take to implement our recommendations. In your response to the recommendations in this letter, please refer to M-00-8 and -9. If you need additional information, you may call (202) 314-6170.

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

[original signed]

By: Jim Hall
Chairman