SP-20
Log M-288

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: August 21, 1985

Forwarded to:

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1080 Port Boulevard
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SAFETY RECOMMENDATION(S)

M-85-62 through -65

About 2300, on August 20, 1984, a fire erupted in the auxiliary machinery (generator) room and spread to adjoining spaces of the Bahamian registered passenger ship SCANDINAVIAN SUN shortly after it docked at the Port of Miami, Miami, Florida. It had just completed a daily 14-hour round trip cruise to Freeport, Bahamas, with 530 passengers and 201 crewmembers on board. One passenger and one crewmember died as a result of smoke inhalation, 4 persons received minor injuries, and 58 persons were treated for smoke inhalation. Damage and repair cost was estimated to be $2.3 million. 1/

With the exception of the smoke detection system in the lower trailer hold, the fire detection system on the SCANDINAVIAN SUN consisted of ionization and heat detectors with an aural alarm and indicating lights in the pilothouse. The detectors in the vicinity of the fire functioned properly and registered fire in the pilothouse detector panels. The pilothouse was unmanned and a qualified person was not in position to take immediate action to close the automatic fire doors and to stop ventilation immediately upon activation of alarms in the detection panels. By the time the master arrived on the bridge, 14 of the 45 fire alarm zones on the fire detection panels already were indicating fire conditions. Although he secured the ventilation and closed the fire doors immediately upon assessing the situation, the flames already had entered the stair tower at the Bimini Deck and spread fire and smoke up to the top of the stair tower as well as outside the stair tower on the Andros and Nassau Decks where passengers were gathering to disembark. Therefore, the effectiveness of the system was diminished because no one was on hand to take immediate action to isolate the fire and secure ventilation. The local closure of the automatic fire doors in the lobby by crewmembers prevented flame spread and greatly reduced the damage in the lobby. The Safety Board believes that in order to protect the ship and the passengers, the pilothouse should be manned continuously to monitor the alarm systems at least so long as there are passengers still on board. Alternatively, the automatic/manual switch should be placed in the automatic position when the watch is moved from the pilothouse to the gangway.

1/ For more detailed information, read Marine Accident Report--"Fire Aboard the Bahamian Passenger Ship M/V SCANDINAVIAN SUN, Port of Miami, Miami, Florida, August 20, 1984" (NTSB/MAR-85/08).

Automatic fire doors should be closed quickly in the event of a fire to prevent fire spread. A heat or smoke detector should be made part of the release switch on fire doors which could close the door in the event that the detector is activated and could quickly seal off the fire. The individual door switch should be in addition to any other fire door closing system on the ship. Closing a fire door in this manner would be accomplished quickly without depending upon manual or automatic remote operation of the door from the bridge after fire has been detected. This would pose no additional hazard to persons caught behind a door as a person can exit through a fire door that has been closed by turning the latch handle to open the door. The door will automatically close itself after the person has exited.

The only control cabinets for CO_2 release for the main engineroom/generator room, the stabilizer room, and the separator room are on the port side of the Exuma Deck on the outside bulkhead on the stair tower. Unlocking and opening the CO_2 cabinet door automatically caused the ventilation to shut down and an alarm to be sounded in the space served by the CO_2 system. On the night of the accident, only two of the three cabinets were labeled: the upper left cabinet was marked "separator room" and the upper right cabinet was marked "engineroom." The lower left cabinet was unmarked. SOLAS regulations require that CO_2 controls be labeled clearly. The cabinet marked "engineroom" contained a single CO_2 control for both the engineroom and the generator room. The lower left cabinet contained the CO_2 control for the starboard stabilizer room. This control was activated by the chief engineer after discussion with the engineers assembled at the cabinets as to which control provided CO_2 to the generator room. It was not learned until 5 days after the fire that four cylinders of CO_2 were released into the stabilizer room instead of the generator room. Therefore, the fixed CO_2 system contributed nothing to extinguishing the generator room fire. After the fire, the cabinets were properly labeled. Training ship's officers in the fixed firefighting systems aboard the ship and local CO_2 controls would lessen the chance of releasing CO_2 into the wrong space.

Therefore, as a result of its investigation, the National Transportation Safety Board recommends that the Scandinavian World Cruises:

> Require that officers instruct crewmembers at each weekly fire drill aboard the SCANDINAVIAN SUN and other vessels in the company fleet on the importance of keeping self-closing fire doors unobstructed and of keeping watertight doors closed. (Class II, Priority Action) (M-85-62)
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> Initiate a training program on the fixed CO_2 systems, including selection of the compartments to be flooded, for all deck and engineering officers and selected crewmembers on the SCANDINAVIAN SUN and other vessels in the company fleet. (Class II, Priority Action) (M-85-63)
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> Require that the SCANDINAVIAN SUN and other vessels in the company fleet maintain a watch in the pilothouse manned by qualified personnel whenever passengers are aboard to monitor the alarm systems and to take immediate action in the event of an emergency. (Class II, Priority Action) M-85-64)
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> Require that the SCANDINAVIAN SUN and other vessels in the company fleet equipped with the automatic/manual fire control system set the switch controlling the automatic fire door release, ventilation stops, and general alarm in the automatic position whenever the pilothouse watch is secured. (Class II, Priority Action) (M-85-65)

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 recommendations in this letter.

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

By: Jim Burnett
Chairman