

NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 16-91

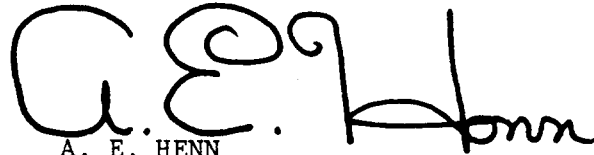
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Subj: Special Fire Protection Systems for Atriums

1. **PURPOSE.** The purpose of this Circular is to call attention to and endorse IMO MSC/Circular 526, "Special Fire Protection Systems for Large Open Multi-Deck Areas on Passenger Ships," which was approved by the Maritime Safety Committee (MSC) at its 58th session in May 1990 pending introduction into the SOLAS Convention.
2. **BACKGROUND.**
 - a. MSC/Circ.526 provides recommendations not presently covered in the Safety of Life at Sea Convention regarding special fire safety requirements for large open multi-deck areas on passenger ships.
 - b. Increasing use of attractive shoreside architectural features is being incorporated into passenger vessel design. Specialized fire protection and life safety concepts are needed to offset the hazards associated with many of these unique concepts. Implementation of the recommendation outlined in MSC/Circ.526 will incorporate design features which provide an adequate level of safety for both crew and passengers.
3. **DISCUSSION.**
 - a. The Coast Guard endorses the proposed amendments as recommended by the Maritime Safety Committee. Use of these recommendations by the naval architectural community should improve the overall level of safety on passenger vessels when designs of this type are instituted.
 - b. Ships that may have been under advanced stages of design or construction prior to the approval date of these recommendations were reviewed on a ship by ship basis. Fire protection requirements for large open multi-deck areas (atriums) on those vessels vary in nature due to differing agreements made among flag administrations and classification societies.
 - c. Equivalent levels of safety for atrium spaces agreed upon for ship construction prior to the development of the MSC circular were based on discussions with designers and Headquarter's staff using sound fire protection engineering principles. Owners and naval architects may elect to fully implement the special requirements outlined in the MSC circular in lieu of design alternatives previously agreed upon.
 - d. At the 59th session of the Maritime Safety Committee, the amendment was adopted and shall enter into force on 1 January 1994.

4. IMPLEMENTATION.

- a. Officers in Charge, Marine Inspection should bring enclosure (1) to the attention of appropriate individuals in the marine industry in their zones.
- b. Owners and operators of passenger vessels, as well as naval architects, are encouraged to consider the recommendations of enclosure (1) in order to enhance the safety of their new ship building.



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Chief, Office of Marine Safety,
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End: (1) MSC/Circ.526, "Special Fire Protection Systems for Large Open Multi-Deck Areas on Passenger Ships"

INTERNATIONAL MARITIME ORGANIZATION

MSC/Circ.526

29 June 1990

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IMO

SPECIAL FIRE PROTECTION SYSTEMS FOR LARGE OPEN MULTI-DECK AREAS ON PASSENGER SHIPS

- 1 The Maritime Safety Committee, recognizing the recent trend in the design and construction of passenger ships in the incorporation of large open multi-deck areas (atriums) in ship design, approved at its fifty-eighth session certain amendments (attached) to the 1974 SOLAS Convention, as amended, to take account of special fire safety requirements for such areas which are not presently covered in the Convention.
- 2 The special requirements are as follows:

Items requiring special standards where large open public spaces span three or more decks containing combustible materials such as furniture and fittings and enclosed spaces such as shops, offices, restaurants, etc., are as follows:

 - .1 the entire main vertical zone containing the space shall be protected throughout with a smoke detection system in compliance with regulation 11-2/13, with the exception of 13.1.9;
 - .2 the space shall be provided with a smoke extraction system capable of exhausting the entire volume of the space within 10 minutes. The smoke extraction system shall be capable of being activated by the smoke detection system and capable of manual control;
 - .3 each level within the space shall have two means of escape, one of which should be an enclosed vertical escape as defined in regulation 11-2/28.1.5;
 - .4 the entire main vertical zone containing the space shall be protected with an automatic sprinkler system in accordance with regulation 11-2/12.
- 3 Members are invited to take account of the proposed amendments to the Convention and apply them, as appropriate, pending their introduction into the Convention.

ANNEX

DRAFT AMENDMENTS TO THE INTERNATIONAL CONVENTION FOR THE SAFETY
OF LIFE AT SEA, 1974 CONCERNING LARGE, MULTI-DECK OPEN SPACES

1 Chapter 11-2 - Regulation 28

Means of escape

The following new subparagraph 1.8 is added after existing subparagraph 1.7:

"8 Where public spaces span three or more decks and contain combustibles such as furniture and enclosed spaces such as shops, offices and restaurants, each level within the space shall have two means of escape, one of which shall give direct access to an enclosed vertical escape meeting the requirements of regulation 28.1.5."

2 Chapter 11-2-Regulation 32

Ventilation systems

The following new paragraph 1.7 is inserted between existing paragraphs 1.6 and 2:

'1.7 Where public spaces span three or more open decks and contain combustibles such as furniture and enclosed spaces such as shops, offices and restaurants, the space shall be equipped with a smoke extraction system. The smoke extraction system shall be activated by the required smoke detection system and be capable of manual control. The fans shall be sized such that the entire volume within the space can be exhausted in ten minutes or less."

3 Chapter 11-2-Regulation 36

Fixed fire detection and fire alarm systems, automatic sprinkler, fire detection and fire alarm systems

The existing paragraph is numbered as paragraph I, and the following new paragraph 2 is added after new paragraph I:

"2 Where public spaces span three or more open decks and contain combustibles such as furniture and enclosed spaces such as shops, offices and restaurants, the entire main vertical zone containing the space shall be protected throughout with an automatic sprinkler system in compliance with regulation 12 of this chapter."

4 Chapter 11-2-Regulation 40

Fire patrols, detection, alarms and public address Systems

The following new paragraph 7 is added after existing paragraph 6:

"7 Where public spaces span three or more open decks and contain combustibles such as furniture and enclosed spaces such as shops, offices and restaurants, the entire main vertical zone containing the space shall be protected throughout with a smoke detection system complying with regulation 13 of this chapter, with the exception of paragraph 1.9."