

IUMI Policy Agenda

4. Containership fire safety

Brief description

The increasing size of container vessels and recent incidents contribute to the high awareness and importance placed by insurers on several issues related to the safety of these vessels. Fires count among the worst hazards of the global shipping industry, and every ineffective attempt to extinguish a fire puts the crew at risk. Damage to the environment, cargo and the vessel also increases. Misdeclaration of cargo and insufficient fire detection and firefighting capabilities are the main challenges related to this peril.

Container contents

The contents of a container must be known if it is to be transported safely, but misdeclaration is a recurring safety problem. This applies equally to road, rail, brown and blue water transport.

Containers often contain a wide range of hazardous and toxic substances. It is reported that approximately 20% of containers in transportation are misdeclared. An analysis from the Cargo Incident Notification System (CINS) shows that in just over a quarter of the incidents where causation was detected were attributable to cargo being misdeclared. This may lead to insufficient handling of the container, and worst case an incorrect firefighting strategy that may increase the danger of combustion of the goods in the container.

Firefighting systems on container vessels

Insufficient firefighting capacity on board large container vessels poses a challenge that is only increasing with the size of these vessels.

Based on a 2008 impact assessment, the IMO's Maritime Safety Committee (MSC) approved in June 2013 new requirements for fire protection of on-deck cargo areas. The amended SOLAS regulation II-2/10 requirements only apply to new vessels constructed on or after 1 January 2016. In addition to all other fire protection arrangements as per existing regulations, vessels designed to carry five or more tiers of containers on or above the weather deck shall from then on also be provided with mobile water monitors and at least one water mist lance.

Although these changes were a step in the right direction, concerns remain with the firefighting equipment on existing vessels. With the growing size of container ships, the challenge of insufficient firefighting arrangements is becoming even greater.

Consequently, IUMI recommended in a position paper from September 2017 that responsible authorities, class and relevant industry stakeholders engage in discussions on how to further improve the fire detection, protection and firefighting capabilities on board container vessels. Together with Germany, Bahamas, BIMCO and CESA, IUMI drafted a submission to the IMO Maritime Safety Committee's 102nd session with a view to amending SOLAS.

MSC 103 agreed to include in the agenda of the Sub-Committee on Ship Systems and Equipment (SSE) for 2022-2023 an output on "Development of amendments to SOLAS chapter II-2 and the FSS Code concerning detection and control of fires in cargo holds and on the cargo deck of containerships", in association with the Sub-Committee on the Carriage of Cargoes and Containers (CCC). The amendments shall apply to new ships and they shall enhance provisions for early fire detection and effective control of fires in containerized cargoes stowed on and under deck of containerships.

A group of experts had been formed by IUMI to outline a road map for amending SOLAS. Based on input from this group, six flag states, IUMI, BIMCO and IACS submitted in November 2021 a paper with a proposed outline and initial assessment of gaps and regulations to SSE.

In December 2021, EMSA launched a 'Study Investigating Cost Efficient Measures for Reducing the Risk from Cargo Fires on Container Vessels (CARGOSAFE)', which follows the structure of a Formal Safety Assessment (FSA) and includes the tasks of hazard identification, risk analysis, risk control options, cost effectiveness assessment, and making recommendations for decision making. In November 2022, MSC 106 agreed to establish an FSA expert group to review the outcome of any relevant studies (including CARGOSAFE) relating to detection and control of fires on container vessels. The CARGOSAFE report was finalized in March 2023 and subsequently submitted to MSC 107 for consideration by the FSA expert group which met in October 2023. The FSA EG confirmed that the CARGOSAFE study was conducted in line with the IMO's FSA guidelines.

Possible risk control options and regulatory amendments were on the agenda of the IMO Sub-Committee of Ship System and Equipment (SSE) in March 2024. IUMI had submitted document SSE 10/10/2 together with France and BIMCO in which the co-sponsors advocated for certain risk control options of the Cargosafe study which will have the most significant impact for improvements in fire detection and firefighting onboard containerships. Particularly important in this regard are the implementation of linear heat detection systems which detect temperature rises in individual containers as well as fixed water monitors to be installed on the superstructure of the vessels.

The IMO Fire Protection Correspondence Group has continued its work to amend SOLAS regulations. A crucial improvement which was supported and advanced by IUMI is the requirement for newbuilds to include not only mobile water monitors, but fixed water monitors as well. A number of detailed SOLAS amendments have been discussed during four rounds of correspondence. Discussions continued at SSE 11 in February 2025 where IUMI advocated for mandatory requirements for fixed water monitors as well as improved detection methods such as video fire detection (on deck) and linear heat detection (under deck). Various matters such as guidelines for water mist lances, the requirements for the carriage of infrared imagers, and the installations of fixed water monitors were discussed in detail, but no final conclusions could be reached yet. This is why the deliberations will continue in a Correspondence Group which will report to SSE 12 in March 2026. IUMI participates in the CG.

Due to the need for continuous discussions, the SSE Sub-Committee agreed to delay the regulatory process and have all amendments related to improved containership fire safety approved as one “package”. The original target completion year was 2025. For this timeline, amendments would have come into force on 1 January 2028, provided that they had been adopted before 1 July 2026. This has now been shifted to the SOLAS amendment cycle 2032, i.e. all agreed amendments will come into force on 1 January 2032, provided they will be adopted before 1 July 2030.

IUMI will:

- Support a holistic approach to preventing and mitigating fires starting in the cargo on board container vessels.
- Support measures that improve the monitoring of containers and their contents.
- Support internationally harmonized legislation and national regulations based on the CTU Code.
- Monitor and support measures to ensure the structural safety of large container vessels.
- Support an amendment of SOLAS to improve fire safety.
- Support the NCB recommendations and the World Shipping Council’s Cargo Safety Program to address the carriage of undeclared, mis-declared and other non-compliant dangerous goods.