

## 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 firefighting capabilities are currently two of 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.

In July 2019, IUMI co-sponsored a submission to the IMO Sub-Committee on Carriage of Cargoes and Containers (CCC) containing a proposal to undertake a comprehensive review of maritime special provisions that are often used to exempt goods from the safety provisions of the International Maritime Dangerous Goods (IMDG) Code. This was agreed by CCC in September 2019, and a Correspondence Group subsequently submitted a report in June 2020. The Correspondence Group was permitted to continue their considerations under the approved terms of reference and submitted an addendum to the original report in May 2021 and another report in June 2022. The CCC Sub-committee agreed in September 2022 to implement many of the recommendations from these reports. Outstanding issues were referred to an Editorial & Technical Group for further consideration.

#### Firefighting system 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, a concern remains with the firefighting equipment on existing vessels. With the growing size of container vessels, 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 co-sponsored a submission to the IMO Maritime Safety Committee's 102<sup>nd</sup> session with a view to amending SOLAS.

MSC 103 agreed, based on paper MSC102/21/3 and 102/21/7, to include in the biannual agenda of the Sub-Committee on Ship Systems and Equipment (SSE) for 2022-23 and the provisional agenda for SSE 8 in February/March 2022 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", with a target completion year of 2025, in association with the Sub-Committee on the Carriage of Cargoes and Containers (CCC), as and when requested by SSE. 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. The amendments shall enter into force on 1 January 2028, provided they are adopted before 1 July 2026.

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 a 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. Further consideration of possible risk control options and regulatory amendments will be on the agenda of the IMO Sub-Committee of Ship System and Equipment (SSE) in March 2024.

#### *Relevant authority / organisations and documents*

- **IMO - Maritime Safety Committee (MSC) and Sub-Committees on Ship Systems and Equipment (SSE) and Carriage of Cargoes and Containers (CCC)**
  - **CCC1/INF.2:** Investigation on the fire and explosion on board the MSC Flaminia, submitted by Germany, 3 June 2014.
  - **CCC6/10/1:** Revision of the inspection programmes for cargo transport units carrying dangerous goods, submitted by New Zealand and ICHCA, 5 July 2019.
  - **CCC6/6/17:** Non-declaration and misdeclaration of dangerous goods – special provisions in the IMDG Code, submitted by Liberia, ICS, IUMI, BIMCO, ICHCA, IGP&I, IVODGA and WSC, 5 July 2019.
  - **MSC102/21/3:** Proposal for a new output to evaluate the adequacy of fire protection, detection and extinction arrangements on board containerhips to fight container fires, submitted by Marshall Islands, Singapore, IACS and WSC, 7 February 2020.
  - **MSC102/INF.2:** Information on insurance related economic aspects associated with containerhips fires, submitted by IUMI, 7 February 2020.
  - **MSC102/INF.3:** Analysis of current safety regulations concerning fire-fighting on board containerhips, submitted by IUMI, 7 February 2020.
  - **MSC102/21/7:** Proposal for a new output for the fire protection on containerhips regarding the review of relevant parts of SOLAS chapter II-2 with regard to fire protection in the cargo area on and under deck, submitted by the Bahamas, Germany, IUMI, BIMCO and CESA, 11 February 2020.
  - **MSC102/21/24:** Comments on documents MSC 102/21/3 and MSC 102/21/7, submitted by Liberia, ICS, ICHA, IG, IVODGA, ITF and WSC, 24 March 2020.
  - **CCC7/6/2:** Report of the Correspondence Group on a review of Maritime Special Provisions, 5 June 2020.
  - **CCC7/6/12:** Documentation requirements for exempted dangerous goods, submitted by Liberia, BIMCO, ICHCA, ICS, IG, IVODGA and WSC, 24 July 2020.
  - **CCC7/6/2/Add.1:** Report of the Correspondence Group on a review of Maritime Special Provisions, 30 April 2021.
  - **MSC103/WP.1/Rev.1:** Draft report of MSC 103, 17 May 2021.

- **SSE8/10:** Proposal for a road map amending SOLAS chapter II-2 to address firefighting capabilities on board container vessels, submitted by Bahamas, France, Germany, Marshall Islands, Norway, Singapore, IUMI, BIMCO and IACS, 26 November 2021.
- **SSE8/10/1:** Proposals for enhancing the capabilities of containerships for early fire detection in cargo holds and on cargo decks, submitted by China, 24 December 2021.
- **SSE8/10/2:** Comments on document SSE 8/10 – proposing draft guidelines for water mist lance, submitted by Denmark, 26 November 2021.
- **SSE8/10/3:** Comments on document SSE 8/10, submitted by Germany, Liberia, Panama, Philippines, ICS, IACS, IG, ITF and WSC, 7 January 2022.
- **MSC.1/Circ.1649:** Guidelines for the implementation of the inspection programmes for cargo transport units, 20 May 2022.
- **CCC8/6/1:** Report of the CG on a review of maritime special provisions, 17 June 2022.
- **CCC8/INF.13:** Safety concerns from fire incidents on board container ships carrying dangerous goods, submitted by Singapore, 14 July 2022.
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- **SSE9/10:** Proposal for fixed water monitor for control of fire on the cargo deck of containerships, submitted by Qatar, Republic of Korea and United Arab Emirates, 25 November 2022.
- **MSC107/10:** CARGOSAFE FSA study, submitted by Sweden, 28 March 2023.
- **SSE 10/10:** Report of the intersessional meeting of the Experts Group on Formal Safety Assessment (FSA), 3 November 2023
- **IUMI:**
  - Press release 20 September 2016; call for further industry cooperation to tackle containership fires.
  - **Memo & press release 19 September 2017: Fire-fighting on container vessels** (<https://iumi.com/opinions/position-papers>).
- **Cargo Incident Notification System (CINS):**
  - Guidance - Safety considerations for ship operators to risk-based stowage of dangerous goods on containerships, 25 November 2019.
  - Guidelines for the carriage of seed cake in containers, January 2020.
- **ABS:**
  - Fighting Fire on Container Ships, 2016.
  - Guide for fire-fighting systems for cargo areas of container carriers, October 2019.
- **German Federal Bureau of Maritime Casualty Investigation:** Investigation Report 15/19 – Fire in the area of the deck cargo on board the container ship Yantian Express in the Atlantic Ocean on 3 January 2019, 30 January 2020.

- **Tokyo MoU:** Safety Bulletin 03/20 – Safety risks of casualties caused by cargoes, May 2020.
- **CINS / IGP&I:** Guidelines for the carriage of seed cake (including seed meal) in containers, June 2020.
- **National Cargo Bureau:** White paper – A comprehensive holistic approach to enhance safety and address the carriage of undeclared, misdeclared and other non-compliant dangerous goods, 6 July 2020.
- **Cargo Integrity Group:** Quick guide to the UN-sponsored Code of Practice for Packing of Cargo Transport Units (the CTU Code), September 2020.
- **European Maritime Safety Agency:**
  - Analysis of marine casualties and incidents involving container vessels, September 2020.
  - Invitation to tender no EMSA/OP/2021 for study investigation cost efficient measures for reducing the risk from cargo fires on container vessels (CARGOSAFE), 15 June 2021.
  - CARGOSAFE report, 16 March 2023.
- **Transport Safety Investigation Bureau – Singapore:** Final report – Fire on board Maersk Honam at Arabian Sea on 6 March 2018, 5 October 2020.
- **CONTAIN:** Pilot project report – Exploring the challenges of containership fires, Danish Institute of Fire and Security Technology, 25 January 2021.
- **IACS:** Container ship safety position paper, 16 January 2023.
- **Cargo Fire and Loss Innovation Initiative (CFLII)**
- **ClassNK:** Guidelines for additional fire-fighting measures for container carriers, April 2023.

#### *Timeline / important dates & decisions*

- Entry into force of amended FSS Code & SOLAS regulation II-2/10: 1 January 2016.
- MSC 101 – IUMI lunch presentation, 5 June 2019.
- Gard conference, Arendal, 17-18 October 2019.
- SSE 7: 2-6 March 2020. IUMI lunchtime presentation by Are Solum (Gard), 4 March 2020.
- FSA Expert Group meeting, IMO - London: 26-36 October 2023.
- SSE 10: 4-8 March 2024.
- SSE target completion year output on container fires: 2025.
- OLAS amendment container fires: 1 January 2028, provided amendments are adopted within 1 July 2026.

#### *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 from July 2020 to address the carriage of undeclared, misdeclared and other non-compliant dangerous goods.