

IUMI Policy Agenda

12. Safety of RoRo vessels

Brief description

Due to the “Norman Atlantic” fire just before New Year 2014 and the fire on the “Sorrento” in April 2015, IMO increased its focus on the evacuation and safety of RoRo vessels. The Maritime Safety Committee (MSC) highlighted the need for an international response to the casualty reports from the marine accident investigations and act to enhance the current safety regime.

Marine underwriters have witnessed that the frequency of fires in the Car/RoRo segment is at a level twice the frequency of fires on most other vessel types. Cargo fires are the most frequent type of fires, which could be related to the fire risk of cars in general, as well as challenges with detecting, locating and extinguishing fires on these vessels. Refrigeration units, transportation and charging of electric and other alternative fuel vehicles, stowaways and passengers on ro-ro decks are other factors that potentially increase the fire hazard.

Interferry released in March 2016 Operational Best Practice Guidance on ferry safety for ro-ro passenger ships. The key finding of their review is that more attention should be given on response time in case of an incident.

MSC 97 agreed in November 2016 to include in the 2016-2017 biennial agenda of the Sub-Committee on Ship Systems and Equipment (SSE), with the support of the Sub-Committees on Ship Design and Construction (SDC) and Human Element, Training and Watchkeeping (HTW), an output on “Review SOLAS chapter II-2 and associated codes to minimize the incidence and consequences of fires on ro-ro spaces and special category spaces of new and existing ro-ro passenger ships”. SSE agreed in March 2017 on a two-step approach: 1) the development of Interim Guidelines, and 2) the development of amendments to SOLAS and associated codes. The interim guidelines for minimising the incidences and consequences of fires on ro-ro spaces and special category spaces of new and existing ro-ro passenger vessels were approved by MSC 101 in June 2019. The guidelines cover prevention/ignition, detection/decision, extinguishing fires, containment and integrity of life-saving appliances and evacuation.

In December 2018, MSC approved a circular with revised guidelines for the design and approval of fixed water-based systems for ro-ro spaces and special category spaces, with application date 1 January 2021. MSC 102 approved in November 2020 amendments to the revised guidelines for the design and approval of fixed water-based fire-fighting

systems for ro-ro spaces, extending the maximum height for these fire-fighting systems from 9 to 10 metres for alignment with the definition of special category spaces.

SSE agreed in March 2020 to re-establish the Correspondence Group on Fire Protection to consider amendments to SOLAS and relevant IMO instruments for new and existing ro-ro passenger vessels. The CG presented its recommendations in November 2021 for further consideration by SSE 8 in February/March 2022.

Carriage of lithium-battery vehicles present a particular challenge when a fire has broken out. In March 2020 during SSE 7, a document about risks associated with the transport of lithium-ion battery powered vehicles was introduced. As a follow up, interested Member States and international organisations can submit proposals for a relevant new output to address these risks. IUMI is supportive of further consideration of this as a new output which would also look at other alternative fuel vehicles. A decision on this new output is deferred until April 2022 (MSC 105).

Relevant authority / organisations and documents

- **IMO – Maritime Safety Committee (MSC) & Sub-Committee on Ship Systems and Equipment (SSE)**
 - **MSC96/INF.3:** Electric mobility on ro-ro and ro-pax ships. Report of the Formal Safety Assessment study, 9 February 2016.
 - **MSC96/16/1:** Formal Safety Assessment - Considerations on the revision of SOLAS regulation II-2/20 – fire safety in connection with the transport of vehicles with electric generators or electrically powered vehicles, submitted by the EC and Member States, 8 March 2016.
 - **MSC97/19/3:** Work programme – Fire safety of ro-ro passenger ships, submitted by EU Member States and the EC, 1 August 2016.
 - **SSE5/INF.4:** Information from several relevant studies, submitted by EC and the EU Member States, 8 December 2017.
 - **SSE6/6/1:** Review of relevant recent accident investigation reports from the EU, submitted by the EC and EU Member States, 30 November 2018.
 - **MSC.1/Circ.1430/Rev.1:** Revised guidelines for the design and approval of fixed water-based fire-fighting systems for ro-ro spaces and special category spaces, December 2018.
 - **MSC.1/Circ.1615:** Interim guidelines for minimizing the incidence and consequences of fires in ro-ro spaces and special category spaces of new and existing Ro-Ro passenger ships, 26 June 2019.
 - **SSE7/6:** Report of the intersessional meeting of the Experts Group on Formal Safety Assessment, 5 December 2019.
 - **SSE7/6/6:** Draft amendments to SOLAS regulation 11-2/20 regarding ships carrying lithium-ion battery vehicles, submitted by China, 8 January 2020.
 - **MSC104/15/19:** Proposal for a new output to evaluate the adequacy of fire protection, detection and extinction arrangements in vehicle, special

- category and ro-ro spaces in order to reduce the fire risk of ships carrying new energy vehicles, submitted by China, 2 July 2021.
- **SSE8/6:** Review of SOLAS Ch II-2 and associated codes to minimize the incidence and consequences of fires on Ro-Ro spaces and special category spaces of new and existing Ro-Ro passenger ships, report of the Correspondence Group, 26 November 2021.
- **SSE8/6/2:** Comments on document SSE 8/6, submitted by EU Member States and EC, 23 December 2021.
- **SSE8/6/5:** Comments on Correspondence Group Report SSE 8/6, submitted by ICS and INTERFERRY, 7 January 2022.
- **Interferry:** RoRo Deck Fire Safety - Operational Best Practice Guidance, 8 March 2016 (MSC96/6/2).
- **DNV GL:** Fires on Ro-Ro decks, 20 June 2016.
- **European Maritime Safety Agency (EMSA):** FIRESAFE – study investigating cost effective measures for reducing the risk from fires on ro-ro passenger ships, SP Technical Research Institute of Sweden, Bureau Veritas, Stena Rederi, December 2016 (SSE4/INF.8).
- **IUMI: Position Paper: Fires on ro-ro passenger vehicle decks, 7 February 2017** (<https://iumi.com/opinions/position-papers>).
- **Alternative Fuel Vehicle Project:** Report: Safe transportation of alternative fuel vehicles, 13 June 2017.
- **Standard Club:** A master's guide to Fire Safety on Ferries, April 2018.
- **LASH FIRE** international R&D project.

Timeline / important dates

- MSC 97: 21-25 November 2016.
- IACS/IUMI Technical Cooperation Group: 6 June 2017.
- EMSA FIRESAFE study II, 2018.
- MSC 101: 5-14 June 2019.
- SSE 8: 28 Feb – 4 March 2022.
- LASH FIRE: September 2019 – August 2023.
- LASH FIRE conference, EMSA, 14 December 2021.

IUMI will:

- Support Interferry RoRo Deck Fire Safety Operational Best Practice Guidance.
- Support ongoing work at the IMO to improve safety of RoRo vessels and Car Carriers.
- Support a new output at the IMO for consideration of risks associated with the transport of lithium-ion battery powered vehicles.