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EQUIPMENT  
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Agenda item 16

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**UNIFIED INTERPRETATION OF PROVISIONS OF IMO SAFETY, SECURITY, AND  
ENVIRONMENT-RELATED CONVENTIONS**

**Fire integrity of open ro-ro spaces on cargo vessels  
(tables 9.5 and 9.6 of SOLAS regulation II-2/9.2.3.3)**

**Submitted by IACS**

**SUMMARY**

*Executive summary:* In the context of tables 9.5 and 9.6 of SOLAS regulation II-2/9.2.3.3, this document seeks clarification regarding the extent of application of requirements regarding insulation of "A-0" class standard of bulkheads and decks separating adjacent spaces on an open ro-ro deck and an open deck

*Strategic direction, if applicable:* 6

*Output:* 6.1

*Action to be taken:* Paragraph 12

*Related documents:* None

**Background**

1 *Inter alia*, resolution MSC.338(91) on *Amendments to the International Convention for the Safety of Life at Sea, 1974, as amended* involved amendments to tables 9.3 to 9.6 of SOLAS regulations II-2/9.2.2 and II-2/9.2.3. These amendments introduced stricter requirements regarding the structural fire integrity of special category and ro-ro spaces on ships carrying not more than 36 passengers, and ro-ro vehicle spaces and open decks on cargo ships, except tankers. The amendments require the boundary between open ro-ro spaces/open vehicle spaces (category 11) and open decks (category 10), to be "A-0" class.

2 SOLAS regulations II-2/3.35 and II-2/3.36 respectively define open ro-ro spaces and open vehicle spaces, as follows:

"*Open ro-ro spaces* are those ro-ro spaces that are either open at both ends or have an opening at one end, and are provided with adequate natural ventilation effective over their entire length through permanent openings distributed in the side plating or deckhead or from above, having a total area of at least 10% of the total area of the space sides.

*Open vehicle spaces* are those vehicle spaces either open at both ends or have an opening at one end and are provided with adequate natural ventilation effective over their entire length through permanent openings distributed in the side plating or deckhead or from above, having a total area of at least 10% of the total area of the space sides."

## Discussion

3 The application of the definitions of "open ro-ro spaces" and "open vehicle spaces" inherently result in openings in one or both ends of open ro-ro and vehicle spaces, in addition to possible permanent openings for ventilation. The fire integrity requirements introduced by resolution MSC.338(91) have created uncertainty regarding the global and consistent application of the requirement for the boundary between ro-ro vehicle spaces and open decks to be "A-0" class.

4 It is understood that the intention of these amendments was not to ban the use of open ro-ro spaces and some openings should be permitted. However, the requirement for the boundary between these spaces to be "A-0" class has not been brought into line with the definitions for open ro-ro or vehicle spaces.

5 Clarification regarding the standards applicable to various openings (e.g. doors, hatches, ramps and ventilation) in "A" class divisions for ro-ro and vehicle spaces, was introduced by the *Unified interpretations of SOLAS regulations II-2/9 and II-2/13* (MSC.1/Circ.1511), which was approved after the adoption of resolution MSC.338(91)). However, these unified interpretations only address the standards for closing appliances and do not address large permanent openings in open ro-ro decks.

6 SOLAS regulation II-2/20.3.1.5 prescribes restrictions on the positioning of permanent openings in ro-ro decks, as follows:

"Permanent openings in the side plating, the ends or deckhead of the space shall be so situated that a fire in the cargo space does not endanger stowage areas and embarkation stations for survival craft and accommodation spaces, service spaces and control stations in superstructures and deckhouses above the cargo spaces."

7 However, considering that the title of section 3 of SOLAS regulation II-2/20 refers to "...closed vehicle spaces, closed ro-ro spaces and special category spaces", it is considered that SOLAS regulation II-2/20.3.1.5 should apply to these spaces only.

8 It is noted that the text of SOLAS regulation II-2/20.3.1.5 was introduced in 1996 as SOLAS regulation II-2/53.2.5. This was several years before resolution MSC.338(91) introduced the stricter requirements regarding the fire integrity of ro-ro and vehicle decks. Consequently, IACS would urge some caution if SOLAS regulation II-2/20.3.1.5 is considered as representing an exhaustive list of openings that are prohibited. For example, the regulation does not restrict the use of openings towards open decks used for the storage of vehicles/cargo.

9 Taking into account the discussion in paragraphs 3 to 8 above, IACS is of the view that the existing SOLAS regulations and interpretations do not seem to provide sufficient

guidance and clarification on the application of the requirement for the boundary between open ro-ro and vehicle decks and open decks (category 10) to be "A-0" class. To facilitate providing the necessary clarity, IACS has developed three different understandings expressed as a new "note" in tables 9.5 and 9.6 of SOLAS regulation II-2/9.2.3. The Sub-Committee is invited to consider these "understandings" with a view to providing the requested clarification.

10 Of the three proposed understandings, as set out in the annex to this document, IACS is of the opinion that "understanding 2" appears to be in line with the current SOLAS requirements.

11 Further, IACS considers that "understanding 1" and "understanding 3" will restrict openings in an open ro-ro deck towards cargo and vehicles stowed on an open deck. "Understanding 3" is the strictest and will ban any openings in horizontal "A" class divisions. "Understanding 3" is also attempting to address the issue of openings in the sides of recesses of ramps connecting an open ro-ro deck and an open deck, which may in some cases compromise the horizontal "A" class boundary.

#### **Action requested of the Sub-Committee**

12 The Sub-Committee is invited to:

- .1 consider the foregoing discussion, in particular the possible "understandings" set out in the annex, which IACS has formulated to address the uncertainty that currently exists; and
- .2 if the Sub-Committee arrives at the requested clarification, provide its view on how this issue might be effectively and efficiently addressed, in particular whether an appropriate unified interpretation should be developed as an interim solution and, if so, note that IACS is prepared to develop such an interpretation for submission to SSE 8; and take action, as appropriate.

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## ANNEX

### PROPOSED UNDERSTANDINGS REGARDING REQUIREMENTS OF "A-0" CLASS INSULATION STANDARD OF BOUNDARIES BETWEEN OPEN RO-RO AND VEHICLE DECKS AND CATEGORY (10) OPEN DECKS IN TABLES 9.5 AND 9.6 OF SOLAS REGULATION II-2/9.2.3.3

1 In table 9.5, column (11) (Ro-ro and vehicle spaces), row (10) (Open decks), the symbol "A-0" is replaced by the symbol "A-0<sup>k</sup>".

2 In table 9.6, column (11) (Ro-ro and vehicle spaces), row (10) (Open decks), and column 10 (Open decks) and row (11) (Ro-ro and vehicle spaces), the symbol "A-0" is replaced by the symbol "A-0<sup>jk</sup>".

3 Based on one of the below understandings, a new note "<sup>k</sup>" may be added under tables 9.5 and 9.6, as follows:

#### Understanding 1

<sup>k</sup> For open ro-ro and vehicle spaces, the requirement for "A-0" should not apply to openings in the ends of the space or where permanent ventilation openings are fitted in the side plating or deckhead in accordance with the definitions in paragraphs 35 and 36 of SOLAS regulation II-2/3, as long as in case of fire in the cargo space such openings do not endanger the areas mentioned in SOLAS regulation II-2/20.3.1.5, as well as open decks used for storage of vehicles or any other type of cargo."

#### Understanding 2

<sup>k</sup> For open ro-ro and vehicle spaces, the requirement for "A-0" rating should not apply to openings in the ends of the space or where permanent ventilation openings are fitted in the side plating or deckhead in accordance with the definitions in paragraphs 35 and 36 of SOLAS regulation II-2/3, as long as in case of fire in the cargo space such openings do not endanger the areas mentioned in SOLAS regulation II-2/20.3.1.5.

#### Understanding 3

<sup>k</sup> With reference to the definitions in paragraphs 35 and 36 of SOLAS regulation II-2/3, openings should not be permitted in deckheads, including any side plating of recesses for ramps where these contribute to maintaining the horizontal "A" class boundary."