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

IACS unified interpretation SC11 of SOLAS regulation II-1/45.5.3

Submitted by IACS

SUMMARY

Executive summary: This document presents IACS unified interpretation (UI) SC11 of the vague phrase "other high fire risk areas" in SOLAS regulation II-1/45.5.3 relating to the precautions against shock, fire and other hazards of electrical origin. The intention is to clarify which areas the cables and wiring serving essential or emergency power, lighting, internal communications or signals should be routed clear of, so far as practicable.

*Strategic direction,
if applicable:* 7

Output: 7.1

Action to be taken: Paragraph 34

Related documents: None

Background

1 The first sentence of SOLAS regulation II-1/45.5.3 requires certain electrical cables and wiring to be routed clear of galleys, laundries, machinery spaces of category A and "other high fire risk areas", as follows:

"5.3 Cables and wiring servicing essential or emergency power, lighting, internal communications or signals shall so far as practicable be routed clear of galleys, laundries, machinery spaces of category A and their casings and other high fire risk areas..."

2 The phrase "other high fire risk areas" is defined neither in SOLAS chapter II-1 on Construction – Structure, subdivision and stability, machinery and electrical installations, nor in SOLAS chapter II-2 on Construction – Fire protection, fire detection and fire extinction.

3 IACS members have experienced that the lack of clarity leads to uneven application of requirements amongst flag Administrations, offering limited predictability for industry stakeholders. This document proposes a unified interpretation of the phrase "other high fire risk areas" to facilitate consistent implementation of SOLAS regulation II-1/45.5.3.

Discussion

4 Machinery spaces of category A are defined by SOLAS regulation II-2/3.31, as follows:

"31 *Machinery spaces of category A* are those spaces and trunks to such spaces which contain either:

- .1 internal combustion machinery used for main propulsion;
- .2 internal combustion machinery used for purposes other than main propulsion where such machinery has in the aggregate a total power output of not less than 375 kW; or
- .3 any oil-fired boiler or oil fuel unit, or any oil-fired equipment other than boilers, such as inert gas generators, incinerators, etc."

5 Galleys are not defined by SOLAS regulation II-2/3; however, they are included in the definition of "service spaces" in SOLAS regulation II-2/3.45. The increased fire risk associated with deep-fat cooking appliances is addressed by SOLAS regulation II-2/10.6.4. In addition, *Unified interpretations of SOLAS chapter II-2, the FSS Code, the FTP Code and related fire test procedures* (MSC/Circ.1120), as amended by MSC.1/Circ.1436, provide the following interpretation of SOLAS regulation II-2/3.45:

"2 Spaces containing any electrically heated cooking plate or hot plate for keeping food warm with a power of more than 5 kW should be regarded as galleys."

6 Laundries are also not defined by SOLAS regulation II-2/3. However, IACS assumes that a laundry may contain potential fire risks, such as heating appliances, contaminated laundry and flammable cleaning products.

7 Based on paragraphs 4 to 6 above, IACS understands that the term "other high fire risk areas" in SOLAS regulation II-1/45.5.3 means the areas containing risks and ignition sources similar to those in galleys, laundries and machinery spaces of category A, i.e. internal combustion machinery, hot surfaces, flammable oils, oil-fired equipment and heating appliances.

Fire risk categories in SOLAS regulation II-2/9

8 SOLAS regulation II-2/9, as amended, addresses containment of fire and determines the structural fire integrity of bulkheads and decks in passenger ships, cargo ships and tankers based on the fire risk of a space and its adjacent spaces.

9 IACS members have used the relevant fire risk categories in SOLAS regulation II-2/9 as guidance on which spaces should be regarded as "other high fire risk areas" for the purpose of compliance with SOLAS regulation II-1/45.5.3.

10 It should be noted that these categories are established for the purpose of determining the appropriate fire integrity standards between adjacent spaces, i.e. classifying groups of spaces towards each other. Some of the fire risk categories include a variety of spaces, some of which may contain fire risks similar to those identified in paragraph 7 above, while others may not.

11 Therefore, IACS members have found the categories useful in considering what constitutes "other high fire risk areas" in the context of SOLAS regulation II-1/45.5.3; however, they are unfit to be used as references in their entirety. The considerations are detailed below.

Cargo spaces

12 Cargo spaces are covered by the fire risk category (11) for ships carrying more than 36 passengers and by the fire risk category (8) for ships carrying not more than 36 passengers and for cargo ships (except tankers).

13 Cargo spaces are defined in SOLAS regulation II-2/3.8 as "spaces used for cargo, cargo oil tanks, tanks for other liquid cargo and trunks to such spaces". Since cargo spaces have the potential to have a prolonged fire (air and fire load inside the cargo hold), IACS considers that those spaces should generally be regarded as high fire risk areas.

14 Cargo spaces are generally protected by a fire-extinguishing system; however, SOLAS regulations II-2/10.7.1.2 and 10.7.1.4 give the flag Administration the opportunity to exempt from such requirements, for example for cargo ships constructed solely for the carriage of ore, coal, grain, unseasoned timber, non-combustible cargoes or similar cargoes, and which are fitted with steel hatch covers and effective means of closing ventilators and other openings leading to the cargo spaces. IACS is of the view that such spaces considered by the Administration to constitute a low fire risk should be exempted from being considered as "other high fire risk areas" in the context of SOLAS regulation II-1/45.5.3.

15 Also, IACS considers that cargoes with a flashpoint above 60°C may be exempted from being considered as "other high fire risk areas" in the context of SOLAS regulation II-1/45.5.3 due to their lower risk of ignition.

Special category, ro-ro and vehicle spaces

16 Passenger ships and cargo ships, except tankers, could contain special category, ro-ro and vehicle spaces. The structural fire protection of such spaces is covered by SOLAS regulation II-2/20.5 for passenger ships and by the fire risk category (11) for ships carrying not more than 36 passengers and for cargo ships (except tankers).

17 The risks in such spaces include, for example cars, trucks, power connections and reefer units. IACS considers the risks comparable to those in galleys, laundries and machinery spaces of category A, due to, for example, motor vehicles with flammable fuel in their tanks. Accordingly, it is suggested that these spaces be considered as "high fire risk areas" in the context of SOLAS regulation II-1/45.5.3.

Spaces containing flammable liquids

18 The fire risk category (11) for passenger ships carrying more than 36 passengers includes cargo oil tanks, oil fuel tanks and oil fuel filling stations. Spaces in which flammable liquids are stowed are covered by the fire risk category (14). The spaces include paint lockers, store-rooms containing flammable liquid and laboratories in which flammable liquids are stowed.

19 For passenger ships carrying not more than 36 passengers, cargo ships (except tankers) and for tankers, the spaces where the storage of flammable liquids is permitted are covered by the fire risk category (9) "service spaces (high risk)".

20 The fire risk category (8) for tankers covers cargo pump rooms which contain potential hydrocarbon leakage sources (the cargo pumps) inside the space.

21 IACS considers spaces containing flammable liquids to represent a fire and/or explosion risk in case of ignition sources, similar to those which may be expected in galleys, laundries and machinery spaces of category A and may be considered as "other high fire risk areas" for the purpose of compliance with SOLAS regulation II-1/45.5.3.

Accommodation spaces of greater fire risk

22 SOLAS regulation II-2/9 categorizes accommodation spaces for ships carrying more than 36 passengers as (6) "minor fire risk", (7) "moderate fire risk" and (8) "greater fire risk". IACS considers that these terms could be understood as "minor" and "greater" risks in relation to each other, not necessarily in relation to other fire risk categories.

23 For example, small accommodation spaces are categorized as "minor fire risk", while large spaces are defined as "greater fire risk". However, the "greater fire risk" spaces do not require measures (e.g. A-60 insulation) that are required for galleys, laundries and machinery spaces of category A, and they do not contain risks and ignition sources typical for such spaces, such as combustion machinery, hot surfaces, flammable oils, oil-fired equipment and heating appliances. Accordingly, it is understood that those accommodation spaces of greater fire risk need not be considered as "other high fire risk areas" for the purpose of cable routeing according to SOLAS regulation II-1/45.5.3.

Storage spaces

24 The fire risk category (13) for ships carrying more than 36 passengers covers store-rooms, workshops, pantries and similar spaces. For passenger ships carrying not more than 36 passengers, cargo ships (except tankers) and tankers, service spaces are categorized as "service spaces (high risk)" and "service spaces (low risk)". Low risk service spaces are typically store-rooms having an area of below 4 m², while high risk service spaces include store-rooms having an area of 4 m² or more.

25 As for accommodation spaces, the term "high risk" may be seen as visualizing that larger rooms represent a higher risk than smaller rooms. However, the risk may still be considered low as compared to machinery spaces of category A, galleys and laundries. IACS is of the view that general storage spaces, not containing flammable liquids, do not contain risks equivalent to internal combustion machinery, hot surfaces, flammable oils, oil-fired equipment, and heating appliances, regardless of their size. Accordingly, IACS is of the view that storage spaces, including service spaces (high risk), which do not contain flammable liquids need not be considered as "other high fire risk areas" for the purpose of compliance with SOLAS regulation II-1/45.5.3.

26 However, service spaces (high risk) containing flammable liquids should be considered as "other high fire risk areas", as per paragraph 21 above.

27 For passenger ships carrying more than 36 passengers, the storage of combustibles is permitted also for the fire risk category (11). This fire risk category includes shaft alleys and pipe tunnels allowing the storage of combustibles, and auxiliary machinery spaces where the storage of combustibles is permitted.

28 IACS acknowledges that the storage of combustibles may constitute a fire risk; however, it is also considered that such spaces do not contain ignition sources similar to galleys, laundries and machinery spaces of category A, i.e. generators, hot surfaces, flammable oils, oil-fired equipment and heating appliances. Accordingly, it is suggested that these spaces need not be considered "high fire risk areas" in the context of SOLAS regulation II-1/45.5.3.

Other machinery spaces

29 Other machinery spaces are covered by the fire risk categories (10) or (11) for passenger ships carrying more than 36 passengers and by the fire risk category (7) for ships carrying not more than 36 passengers and for cargo ships (except tankers). As per the definitions in SOLAS regulation II-2/3, "other machinery spaces" are spaces that do not contain internal combustion machinery for propulsion or with a total output of not less than 375 kW, oil-fired equipment, incinerators and similar risks. The spaces include spaces, such as electrical equipment rooms, ventilation and air conditioning rooms.

30 As other machinery spaces per definition represent less fire risks than galleys, laundries and machinery spaces of category A, IACS considers that they need not be considered as "other high fire risk areas" for the purpose of compliance with SOLAS regulation II-1/45.5.3.

Summary

31 SOLAS regulation II-1/45.5.3 requires that cables and wiring servicing essential or emergency power, lighting, internal communications or signals shall, so far as practicable, be routed clear of galleys, laundries, machinery spaces of category A and their casings and other high fire risk areas.

32 Based on the discussion in paragraphs 4 to 30, IACS UI SC11 provides an interpretation of the vague phrase "other high fire risk areas" in SOLAS regulation II-1/45.5.3, as set out in the annex, as follows:

- .1 pantries containing cooking appliances (paragraph 5);
- .2 cargo spaces except cargo tanks for liquids with a flashpoint above 60°C and except cargo spaces exempted in accordance with SOLAS regulations II-2/10.7.1.2 or II-2/10.7.1.4 (paragraphs 12 to 15);
- .3 vehicle, ro-ro and special category spaces (paragraphs 16 to 17); and
- .4 spaces containing flammable liquids (paragraphs 18 to 21).

33 Member States are invited to note that the unified interpretation will be applied by IACS members to ships contracted for construction on or after 1 January 2026, unless advised otherwise by the flag Administration in writing.

Action requested of the Sub-Committee

34 The Sub-Committee is invited to note the foregoing, IACS unified interpretation UI SC11 in the annex, and take action, as appropriate.

ANNEX

IACS UNIFIED INTERPRETATION SC11 OF SOLAS REGULATION II-1/45.5.3

SOLAS regulation II-1/45.5.3 reads, as follows:

"5.3 Cables and wiring servicing essential or emergency power, lighting, internal communications or signals shall so far as practicable be routed clear of galleys, laundries, machinery spaces of category A and their casings and **other high fire risk areas**. In ro-ro passenger ships, cabling for emergency alarms and public address systems installed on or after 1 July 1998 shall be approved by the Administration having regard to the recommendations developed by the Organization*. Cables connecting fire pumps to the emergency switchboard shall be of a fire-resistant type where they pass through high fire risk areas. Where practicable all such cables should be run in such a manner as to preclude their being rendered unserviceable by heating of the bulkheads that may be caused by a fire in an adjacent space.

* Refer to *Recommendation on performance standards for public address systems on passenger ships, including cabling* (MSC/Circ.808)."

Interpretation

The following spaces are to be as a minimum considered as "other high fire risk areas":

- .1 cargo spaces except cargo tanks for liquids with a flashpoint above 60°C and except cargo spaces exempted in accordance with SOLAS regulations II-2/10.7.1.2 or II-2/10.7.1.4;
- .2 vehicle, ro-ro and special category spaces;
- .3 spaces containing flammable liquids; and
- .4 pantries containing cooking appliances.

Notes:

1 This UI is to be uniformly implemented by IACS Societies on ships contracted for construction on or after 1 January 2026.

2 The "contracted for construction" date means the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. For further details regarding the date of "contract for construction", refer to IACS Procedural Requirement (PR) No. 29.