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SUB-COMMITTEE ON FIRE PROTECTION  
54th session  
Agenda item 10

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## CONSIDERATION OF IACS UNIFIED INTERPRETATIONS

### Unified interpretation of paragraph 9.2.2 of the FSS Code – Sources of power supply for fixed fire detection and fire alarm systems

Submitted by the International Association of Classification Societies (IACS)

#### SUMMARY

<b><i>Executive summary:</i></b>	This document provides at annex a copy of IACS UI SC 35 relevant to paragraph 9.2.2 of the FSS Code on sources of power supply for fixed fire detection and fire alarm systems
<b><i>Strategic direction:</i></b>	1.1
<b><i>High-level action:</i></b>	1.1.2
<b><i>Planned output:</i></b>	1.1.2.1
<b><i>Action to be taken:</i></b>	Paragraph 8
<b><i>Related documents:</i></b>	FP 38/6/6; FP 39/INF.12; FP 41/9/5 and FP 42/7/1

#### Background

1 IACS initially informed the IMO of its Unified Interpretation (UI) SC 35 by means of document FP 38/6/6. The original version of this UI provided an interpretation of SOLAS regulation II-2/13.1.3, before these provisions were transferred to the International Code for Fire Safety Systems (FSS Code), paragraph 9.2.2, which now states:

“There shall be not less than two sources of power supply for the electrical equipment used in operation of the fixed fire detection and fire alarm system, one of which shall be an emergency source. The supply should be provided by separate feeders reserved solely for that purpose. Such feeders shall run to an automatic change-over switch situated in or adjacent to the control panel of the fire detection system.”

2 The original version of IACS UI SC 35 provided the following interpretation:

“The main (respective emergency) feeder shall run from the main (respective emergency) switchboard to the change-over switch without passing through any other distributing switchboard.”

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3 This interpretation was subsequently considered (among many others) in a series of working and correspondence groups established by the Sub-Committee. The report of the Correspondence Group on Interpretations of SOLAS 74, established at FP 40, (FP 41/9/5) indicates that the group had considered an 'alternative' interpretation in addition to that which had been submitted by IACS. However, the report of the Working Group on Unified Interpretations of SOLAS chapter II-2, established at FP 41, (FP 42/7/1) indicates that during its meeting this interpretation had been abandoned. The report of the working group does not provide any explanation for this action being taken. Consequently, IACS notes that when MSC 69 subsequently approved MSC.1/Circ.847 on Interpretations of vague expressions and other vague wording in SOLAS chapter II-2, the provisions of this IACS UI were not included.

### **Discussion**

4 IACS has now undertaken a review of its UI SC 35. It was agreed that it should not remain in its present form as it precludes designs that correctly reflect the intent of the relevant provisions of the FSS Code, namely the use of batteries as one of the sources of power.

5 The following principles were agreed as a framework for undertaking the review of UI SC 35:

- .1 the power supplies for the fixed fire detection equipment shall be arranged such that a failure will not result in loss or degradation of the fixed fire detection and fire alarm system performance;
- .2 where necessary, a source of stored energy is to be provided to ensure continuity of fire detection and alarm system when the automatic power supply changeover switch changes supply; and
- .3 a battery may be used as one of the two sources of power and can be self-contained within the fire detection and alarm panel or situated in another location suitable to provide a supply in the event of an emergency. The capacity of the battery must be able to power the fire detection and alarm system for a period of 18 h for cargo ships and 36 h for passenger ships.

6 A copy of IACS UI SC 35 Rev.2 is set out at the annex.

7 The Sub-Committee is invited to note that, unless otherwise instructed by the Administration, IACS members acting as Recognized Organizations will apply the annexed latest revision of IACS UI SC 35 in implementing the provisions of paragraph 9.2.2 of the FSS Code.

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

8 The Sub-Committee is invited to consider the foregoing and the latest revision of IACS UI SC 35, as set out at the annex, and decide as appropriate.

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**SC35**

(1985)  
(Rev.1  
Nov 2005)  
(Rev.2  
Sept  
2009)

**Fixed Fire Detection and Fire Alarm System****FSS Code, Ch. 9, 2.2 Sources of power supply**

*There shall be not less than two sources of power supply for the electrical equipment used in the operation of the fixed fire detection and fire alarm system, one of which shall be an emergency source. The supply shall be provided by separate feeders reserved solely for that purpose. Such feeders shall run to an automatic change-over switch situated in or adjacent to the control panel for the fire detection system.*

**Interpretation****1. Continuity of power supply**

1.1 Operation of the automatic changeover switch or a failure of one of the power supplies shall not result in permanent or temporary degradation of the fixed fire detection and fire alarm system.

1.2 Where the fixed fire detection and fire alarm system would be degraded by the momentary loss of power, a source of stored energy having adequate capacity shall be provided to ensure the continuous operation during changeover between power supplies.

1.3 Connection of electrical power supplies to an automatic changeover switch shall be arranged such that a fault will not result in the loss of all supplies to the automatic changeover switch.

**2. Emergency supply**

2.1 The fixed fire detection and fire alarm system emergency power may be supplied by an accumulator battery or from the emergency switchboard. Where the system is supplied from an accumulator battery, the arrangements are to comply with the following requirements:

1. the accumulator battery shall have the capacity to operate the fire detection system under normal and alarm conditions during the period required by SOLAS Chapter II-1, Regulation 42 or 43 (as applicable) for the emergency source of power supply.
2. the rating of the charge unit, on restoration of the input power, shall be sufficient to recharge the batteries while maintaining the output supply to the fire detection system.
3. the accumulator batteries are to be suitably located for use in an emergency.

Note:

For battery recording and UPS arrangements, see IACS UR E18 and E21.

2.2 Where the emergency feeder for the electrical equipment used in the operation of the fixed fire detection and fire alarm system is supplied from the emergency switchboard, it shall run from this switchboard to the automatic changeover switch without passing through any other switchboard.

Note:

This UI is to be uniformly implemented by IACS Members and Associates for systems approved on or after 1 July 2010.

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