



SUB-COMMITTEE ON SHIP DESIGN AND
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CONSIDERATION OF IACS UNIFIED INTERPRETATIONS

IACS Unified Interpretation on steam boilers and boiler feed systems (SOLAS regulation II-1/32.4)

Submitted by the International Association of Classification Societies (IACS)

SUMMARY

<i>Executive summary:</i>	This document advises the Sub-Committee about IACS Unified Interpretation SC 232 on the application of SOLAS regulation II-1/32.4 regarding steam boilers and boiler feed systems
<i>Strategic direction:</i>	2
<i>High-level action:</i>	2.1.1
<i>Planned output:</i>	2.1.1.5
<i>Action to be taken:</i>	Paragraph 6
<i>Related documents:</i>	-

Introduction

1 SOLAS regulation II-1/32.4 provides as follows regarding steam boilers and boiler feed systems:

“4. Every steam generating system which provides services essential for the safety of the ship, or which could be rendered dangerous by the failure of its feedwater supply, shall be provided with not less than two separate feedwater systems from and including the feed pumps, noting that a single penetration of the steam drum is acceptable. Unless overpressure is prevented by the pump characteristics, means shall be provided which will prevent overpressure in any part of the systems.”

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Discussion

2 IACS would offer the following observations regarding SOLAS regulation II-1/32.4:

- .1 SOLAS regulation II-1/32.4 specifically uses the phrase “every steam generating system”, it does not use the term “boiler” as used in the other paragraphs of regulation II-1/32. Where a vessel is fitted with two boilers, the phrase “steam generating system” refers to the combination of the two boilers making up the “steam generating system”. If each of two adequately sized boilers is fitted with a single feed water pipe, there are in fact two separate feed water systems for the “steam generating system”; and
- .2 SOLAS regulation II-1/32.2 requires safety arrangements which will cut off the fuel supply and give an alarm in the case of low water level, air supply failure or flame failure, *for boilers intended to operate without manual supervision*. Accordingly, the loss of the single feed water pipe to a boiler would not necessarily render the steam generating system “dangerous” to the vessel or crew.

3 After review of the above issues, IACS has concluded that, on the basis that the pipe is a non-active component and provided that in a steam generating system there is an accepted level of redundancy, the following arrangement is considered acceptable:

One feed water pipe to each boiler all supplied from at least two feed water pumps.

4 Consequently IACS concludes that:

- .1 for boilers in a steam generating system, without redundancy installed for propulsion or essential auxiliary purposes, two independent feed water pipes are required; and
- .2 for boilers under manual control, it can be assumed that the level of safety is equivalent to the one required by SOLAS regulation II-1/32.2.

By way of documenting these considerations, IACS has developed and agreed a Unified Interpretation, a copy of which is provided at annex to this document.

5 The Sub-Committee is invited to note that in implementing the requirements of SOLAS regulation II-1/32.4, unless otherwise instructed by the Administration on whose behalf they are authorized as a Recognized Organization, IACS Members will apply this interpretation on ships contracted for construction on or after 1 January 2010.

Action requested of the Sub-Committee

6 The Sub-Committee is invited to consider the IACS Unified Interpretation provided at annex and take action as appropriate.

ANNEX**STEAM BOILERS AND BOILER FEED SYSTEMS****SOLAS regulation II-1/32.4**

“Every steam generating system which provides services essential for the safety of the ship, or which could be rendered dangerous by the failure of its feedwater supply, shall be provided with not less than two separate feedwater systems from and including the feed pumps, noting that a single penetration of the steam drum is acceptable. Unless overpressure is prevented by the pump characteristics, means shall be provided which will prevent overpressure in any part of the systems”.

Interpretation

Where a steam generation system consists of two or more adequately sized boilers, and the feed water for each of these boilers is supplied by a single feed water pipe, the level of redundancy for the piping of the feedwater system is considered to comply with SOLAS II-1/32.4.

Note:

1. This Unified Interpretation is to be applied by all members and associate on ships contracted for construction on or after 1 January 2010. However, members are not precluded from applying this UI before this date.
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 Procedural Requirement (PR) No. 29.