



SUB-COMMITTEE ON SHIP DESIGN AND
EQUIPMENT
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Agenda item 6

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MEASURES TO PREVENT ACCIDENTS WITH LIFEBOATS

Comments on the report of the Correspondence Group on Life-Saving Appliances (LSA)

Submitted by the United Kingdom, the International Chamber of Shipping, INTERTANKO, the Oil Companies International Marine Forum, the International Marine Contractors Association, the International Group of P&I Clubs, the International Parcel Tankers Association, the International Federation of Shipmasters' Associations, the International Transport Workers' Federation and BIMCO

SUMMARY

<i>Executive summary:</i>	The co-sponsors, on behalf of the Industry Lifeboat Group (ILG), note the report of the LSA correspondence group and report on work of the ILG including outline proposed amendments to the LSA Code and the Recommendation on testing and evaluation of life-saving appliances. The submission may be considered to report on "work in progress" and the ILG anticipates further development of this document in future. Future work will further seek to identify required consequential amendments to the LSA Code. Comment and guidance from the Sub-Committee are invited
<i>Strategic direction:</i>	5.1
<i>High-level action:</i>	5.1.2
<i>Planned output:</i>	5.1.2.1
<i>Action to be taken:</i>	Paragraph 5
<i>Related document:</i>	DE 52/6/1

1 The Sub-Committee, at its fifty-first session, established a correspondence group (CG) on matters relating to life-saving appliances, including measures to prevent accidents with lifeboats.

2 The report of the correspondence group is welcomed by members of the Industry Lifeboat Group (ILG) who participated in the CG. It is noted that the CG report advises that in following its terms of reference the group considered items including the concept of "fail safe", "poor and unstable design", fall preventer devices (FPDs) and amendments to MSC.1/Circ.1206.

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3 The ILG, following its submission DE 51/8/7, has in continuing its work concentrated on developing functional requirements for a safe hook design. The list of functional requirements has been used to determine initial proposed amendments to the Recommendation on testing and evaluation of life-saving appliances. ILG members consider that their work is fully consistent with and complementary to that of the CG.

4 Members of the ILG anticipate the need for further work to complete the task of developing draft amendments to the LSA Code and the Revised Recommendation on testing and evaluation of life-saving appliances, in accordance with its previous work on functional requirements.

Action requested of the Sub-Committee

5 The Sub-Committee is invited to note the above information and take action as appropriate.

ANNEX**PROPOSED AMENDMENTS TO THE RECOMMENDATION ON TESTING AND EVALUATION OF LIFE-SAVING APPLIANCES****Hook and documentation required for tests**

8.3.1 The following should be submitted to the testing establishment for the prototype testing of the hook:

- .1 two complete hook mechanisms which have been passed for delivery; and
- .2 a functional description of the hook mechanism together with any other documents necessary to carry out the tests.

Corrosion resistance test

8.3.2 One hook mechanism should be submitted to a corrosion resistance test which should be made in a salt mist chamber in accordance with ISO 3768:1967 for 1,000 h or equivalent national standard.

Any corrosion effects and other damage to the hook mechanism should be recorded.

8.3.3 The hook mechanism should then be subjected five times to the tests required by:

- .1 The standard marine vibration tests with load on the hook and load off the hook.
- .2 Multiple loading cycles from 0% load to 100% load. [further consideration required see LSA Code liferaft hook testing 8.2.5, etc.].

Load test

8.3.4 The primary release load should be determined as follows:

- .1 the hook should be loaded with 2.5 times the safe working load of the hook;
- .2 the primary release mechanism should be prepared for release, i.e. all security devices such as safety pins and hydrostatic locking devices should be removed to simulate the lifeboat being waterborne, and a load of 300 Newton is then applied and maintained to the release mechanism;
- .3 the hook should support the load on the hook without opening;
- .4 the weight on the hook should be steadily reduced, in the same condition as .2, until it is possible to release the hook and this load should be recorded;
- .5 the release load in .4 should be no more than 5% x SWL of hook;
- .6 the hook should be steadily loaded to 2.5 times the safe working load of the hook with all primary and secondary release linkages removed;

- .7 the hook should support the load in .6 without opening;
- .8 the weight on the hook should then be steadily reduced, over a period of 20 minutes, to determine whether there is a load at which the hook releases and this load should be recorded; and
- .9 the release load in .8 should be no more than 5% x SWL of the hook.

8.3.5 The maximum load on the hook to allow for secondary release loads should be determined as follows:

- .1 the hook should be loaded with 1.0 times the safe working load of the hook;
- .2 the secondary actuating mechanism should be set to the closed position;
- .3 the hook should support the load on the hook without opening;
- .4 the secondary actuating mechanism should be set to the open position and should be prepared for release, i.e. all security devices such as safety pins and hydrostatic locking devices should be removed to simulate the lifeboat being waterborne;
- .5 the hook should support the load on the hook without opening;
- .6 the procedure as defined in [8.3.9] is followed; and
- .7 simultaneous release of the hooks should occur and the secondary release force required to achieve this recorded.

Actuation force for primary and secondary release

8.3.6 There is an identified need for standardised controls in standardised locations, this function to be further considered. Additional input invited from training institutions and NI including consideration of both ergonomics and the human factor awaited.

- .1 For example: Primary release lever to be separate and distinct from secondary lever and to have distinctly different function, and of sufficiently distinctive form and green in colour.
- .2 The secondary release lever should be marked red in colour and of sufficiently distinctive form and be protected by at least 2 mechanical safety interlocks, including 1 locking pin and 1 break glass and require multiple movements of the lever through an arc of at least 45°.

8.3.6.1 (Check where this needs to go LSA Code 6.9?) Lifeboat controls should be grouped [as per diagram – to be developed] with steering controls centered in front of the coxswain's position, engine and ancillary controls should be located to the left of the coxswain and hook release mechanism controls should be to the right of the coxswain's seated position.

8.3.7 With the secondary release system loaded with 50% of its SWL the actuation force should be no less than [xxx Newton], and at 100% SWL no more than [yyy Newton].

8.3.8 The hook should be released 50 times with no load (primary release) and 10 times with 100% SWL without failure. The hooks should then be disassembled and the parts examined with no evidence of wear on any part that would prevent the system from operating as prescribed.

8.3.9 The hook should be arranged in a cold store at -30°C to simulate operational readiness and loaded with [xx.xkg]. A 3.5 cm thick uniform layer of icing should then be built onto it by spraying cold fresh water from angles above 45° from horizontal, with intermitting pauses to let icing form. The hook should then be activated and as a result release without failure.

Compatibility of davit launched lifeboats and release mechanisms

8.3.10 Where lifeboat release mechanisms are supplied for use with lifeboats of a different manufacturer, the original connection arrangement shall not be altered, and operational tests should be carried out to the satisfaction of the Administration before the particular combination of lifeboat and release mechanisms are accepted. (Copy also in 6.9 of LSA Code)

8.3.11 Each hook (new or replacement) should be supplied with a suitable connection arrangement to ensure compatibility between the release mechanism and the falls. (Copy also in 6.9 of LSA Code)
