

Lifeboat release and retrieval systems – new IMO regulations

Guidance for ship owners and operators, manufacturers and ship builders

For several years, the IMO has been looking to improve the safety of lifeboat on-load release hooks. The number of failures during drills and inspections which resulted in casualties or injured crewmembers has been unacceptably high.

At the 89th session of the Maritime Safety Committee (MSC 89) in May 2011, the IMO adopted amendments to SOLAS Chapter III and the LSA Code, as well as related Guidelines for the Evaluation of Existing On-load Release and Retrieval Systems (OLRRS).

This guidance document from Lloyd's Register summarises these new requirements, explains their implications for relevant stakeholders, and describes the evaluation and replacement process.

Summary of new requirements

MSC 89 adopted/approved:

- Resolution MSC. 317 (89) which introduces new requirements under SOLAS regulation III/1.5 for lifeboat release and retrieval systems (OLRRS). The requirements apply to on-load mechanisms installed on all ships (new and existing cargo and passenger ships). The entry into force date is January 1, 2013, and the requirements will take effect on July 1, 2014.
- Resolution MSC. 320 (89) which revises the LSA Code (Chapter IV). The expected entry into force date is January 1, 2013. The main purpose of the revision of chapter IV of the Code is to prevent unexpected accidents during lifeboat drills and/or inspections.
- MSC.1/Circ.1392, Guidelines for Evaluation and Replacement of Lifeboat Release and Retrieval Systems. These Guidelines are only applicable to existing OLRRS. They cover: design review; performance test; reporting the evaluation results for existing OLRRS; one-time follow-up overhaul examination; and procedure for replacing non-compliant OLRRS.
- MSC.1/Circ.1393, MSC circular on Early Application of new SOLAS regulation III/1.5. This circular clarifies the application to newbuilds and encourages the use of compliant OLRRS at the earliest opportunity.
- Resolution MSC.321 (89), Amendments to the revised recommendation on testing of life-saving appliances (Resolution MSC.81 (70), as amended), relevant to the revised LSA Code Chapter IV.

Impact for existing ships

Ships must comply with the revised LSA Code sections 4.4.7.6.4 to 4.4.7.6.6 not later than the first scheduled dry-docking after July 1, 2014, but not later than July 1, 2019.

Implication for manufacturers

Manufacturers are to assess all of their types of OLRRS at the earliest opportunity. They should submit the assessment to a flag administration or recognised organisation (RO) and carry out a subsequent performance test. All of this should be completed before July 1, 2013.

Implication for ship owners

Shipowners and managers should identify existing types of OLRRS on their vessels and ensure that suitable fall prevention devices (FPDs) are fitted in accordance with (MSC.1/Circ.1327) pending evaluation of the system. Owners will need to replace any OLRRS which is found not to comply, with a compliant OLRRS. Shipowners and managers should then ensure that a one-time follow up overall examination has been conducted by the OLRRS manufacturer or their representative and witnessed by the flag administration or RO.

Impact for new construction ships

The revised LSA Code (section 4.4.7.6) shall be applied to new OLRRS.

Early application of new SOLAS regulation III/1.5 circular MSC.1/Circ.1393 was approved by MSC 89. MSC 89 agreed that for ships constructed (having their keel laid) on or after July 1, 2014, OLRRS are to comply with the revised LSA Code. The circular encourages administrations to initiate, at the earliest opportunity, approval processes for new OLRRS which comply with the revised LSA Code, to enable the fitting of these mechanisms before July 1, 2014.

Implication for manufacturers

Manufacturers will need to ensure that any new OLRRS they produce are compliant with the revised LSA Code.

Implication for ship owners

Owners will need to ensure that OLRRS installed on their new vessels comply with the new requirements.

Implication for ship builders

Builders will need to source and install OLRRS which comply with the new requirements.

Impact for flag administrations

Flag administrations should report to the IMO the results of any evaluations of existing OLRRS which have been notified to them. This information should be publicised to enable different stakeholders to understand which types of OLRRS have been reported as compliant, compliant after modification, or non-compliant.

Your questions answered

Q.1 Are the new amendments to SOLAS regulation III/1.5 retrospective?

A.1 Yes, the requirements apply to on-load mechanisms installed on all ships (new and existing cargo and passenger ships).

Q.2 Which new LSA Code requirements apply to existing ships and which ones apply to new ships?

A.2 Revised Chapter IV sections 4.4.7.6.4 to 4.4.7.6.6 applies to OLRRS fitted on existing ships. For ships constructed on or after July 1, 2014, OLRRS are to comply with the revised LSA Code (complete section 4.4.7.6). Circular MSC.1/Circ.1393 encourages administrations to initiate, at the earliest opportunity, approval processes for new OLRRS which comply with the revised LSA Code, to enable the fitting of these mechanisms before July 1, 2014.

Q.3 What safety improvements have been introduced for existing on-load release systems?

A.3 Existing OLRRS must comply with the following design criteria in Chapter IV:

4.4.7.6.4 – To provide hook stability, the release mechanism shall be designed so that, when it is fully in the closed position, the weight of the lifeboat does not cause any force to be transmitted to the operating mechanism.

4.4.7.6.5 – Locking devices shall be designed so that they can not turn to open due to forces from the hook load.

4.4.7.6.6 – If a hydrostatic interlock is provided, it shall automatically reset upon lifting the boat from the water.

Q.4 How will the new requirements be applied to existing ships and by when?

A.4 All existing lifeboat OLRRS will require evaluation at the earliest opportunity, but not later than July 1, 2013, and an onboard one-time follow-up overhaul examination by not later than the first scheduled dry-docking after July 1, 2014 (but no later than July 1, 2019). The evaluation should be in accordance with (MSC.1/Circ.1392).

Q.5 What does the evaluation process consist of?

A.5 The following five steps:

Step 1 – Self-assessment by manufacturer

Before the evaluation takes place the manufacturer should conduct a self-assessment of its types of existing OLRRS.

Step 2 – Design review by flag administration or RO

The manufacturer should submit the results of the assessment and supporting documentation to the flag administration or RO for design review at the earliest opportunity.

Step 3 – Performance test by manufacturer

The manufacturer should conduct a performance test on successful completion of the design review.

The design review and performance test (steps 2 and 3) should be completed not later than July 1, 2013.

Step 4 – Reporting the results of the evaluation to IMO

This should be done not later than July 1, 2013. The flag administration should report to IMO into which of the following categories each type of OLRRS falls:

- compliant with paragraph 4.4.7.6.4 to 4.4.7.6.6 of the revised LSA Code;
- compliant after having been modified; **or**
- non-compliant and needing replacement with an approved design fully compliant with the revised LSA Code.

Step 5 – One time follow-up overhaul examination

This is carried out on board for every operating mechanism on every ship by the manufacturer or one of its representatives. The vessel owner or operator is to ensure that not later than the first scheduled dry-docking* after July 1, 2014, every compliant OLRRS receives an overhaul examination in accordance with annex 1 of MSC.1/Circ.1206/Rev.1.).

*The first scheduled dry-docking was agreed to be the first scheduled out of water survey of the ship's outer bottom

Evaluation process questions and answers

(see Appendix 1 for a flowchart of the evaluation process)

Q.6 Why is it necessary to do a self-assessment?

A.6 The revised LSA Code Chapter IV (sections 4.4.7.6.4 to 4.4.7.6.6) requires manufacturers to carry out at the earliest opportunity a self-assessment of their types of existing lifeboat OLRRS to verify compliance in accordance with the Guidelines contained in MSC.1/Circ.1392.

Q.7 What happens if the OLRRS self-assessment is not successful?

A.7 There are two possibilities:

- The manufacturer can **decide to modify** the non-compliant design. If the manufacturer decides to modify the design, he should also re-assess the modified type of system.
- The manufacturer can **decide not to modify** the non-compliant design. In this case every mechanism of this type of OLRRS must be replaced. The manufacturer should notify the chosen flag administration or RO and the administration should report to the IMO that this type of OLRRS is non-compliant and all mechanisms of this type must be replaced.

Q.8 Who submits the application for the design review evaluation?

A.8 Manufacturers should submit the results of their OLRRS self-assessment to the flag Administration or RO in order that the design review can be carried out to determine compliance with the revised LSA Code sections 4.4.7.6.4 to 4.4.7.6.6.

Q.9 What should be included in the application submission?

A.9 The application submission should include design calculations, plans and testing documentation, together with the specification and installation instructions for the complete operating system. Safety instructions regarding the operating system should also be included with the submission. (See MSC.1/Circ.1392)

Q.10 Who should conduct the design review?

A.10 A flag administration chosen by the manufacturer or an RO acting on its behalf.

Q.11 When should the performance test start?

A.11 The performance test should start only after successful completion of the design review.

Q.12 Who should conduct the performance test?

A.12 The performance test should be conducted by the manufacturer for each type of lifeboat OLRRS, to verify compliance with the revised LSA Code sections 4.4.7.6.4 to 4.4.7.6.6 using the test specified in Appendix 1 of the Guidelines (MSC.1/Circ.1392). These tests shall be witnessed by the flag administration or its RO.

Q.13 When will the design review and performance test be completed?

A.13 The design review and performance test should be completed at the earliest opportunity. Designs which do not comply will either need to be modified and then re-assessed or be considered as non-compliant and require complete replacement. The design review and performance test, including modifications, where appropriate, and reporting, should be completed by July 1, 2013.

Q.14 Are there any more requirements following the performance test?

A.14 Yes. Every lifeboat OLRRS of a type found to comply with the existing lifeboat OLRRS evaluation will need an overhaul examination conducted by the manufacturer or one of its representatives. This inspection will include a detailed assessment of the condition of the components of the lifeboat OLRRS.

Q.15 What if the evaluation determines that the OLRRS does not comply with the new requirements?

A.15 OLRRS which are found to be non-compliant after the evaluation should either be modified or replaced with an approved design which is compatible with the lifeboat.

Q.16 Why is it necessary to fit fall prevention devices (FPDs)?

A.16 IMO has been discussing for some time the use of FPDs for existing OLRRS, to reduce the accidental release of on-load release mechanisms. MSC 89 agreed to recommend the fitting of FPDs to existing OLRRS which are awaiting evaluation, and to existing OLRRS which have been evaluated as being non-compliant with the revised LSA Code pending their replacement. On each existing ship, each lifeboat OLRRS should be supplemented with FPDs in accordance with the Guidelines for the fitting and use of fall preventer devices (MSC.1/Circ.1327).

Questions and answers for shipowners and operators

Q.17 As an owner what should I do to get an existing release and retrieval system evaluated?

A.17 We recommend that owners identify the type of OLRRS on board their ships at an early stage and contact the relevant manufacturer.

Questions and answers for new construction ships

Q.18 Can a new construction (build before July 1, 2014) apply the revised LSA?

A.18 Yes, voluntary compliance with the new LSA Code requirements will be possible. (Refer to MSC.1/Circ.1393)

For further information, contact us at fire.safety@lr.org

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Appendix 1 – Existing OLRRS evaluation process flowchart

Existing lifeboat on-load release and retrieval system (OLRRS) evaluation

MSC.1/Circ.1392

To be completed by 1 July, 2013*

