

LP BULLETIN

Friday 21 December 2007

Bulletin 558 - 12/07 - Lifeboat hooks not fit for purpose - Worldwide

The UK Maritime and Coastguard Agency (MCA), through a recently published Marine Information Notice (MIN), recommends that a system should be introduced whereby maintenance shackles are rigged to by-pass lifeboat on-load release hooks during the lowering and recovery stages of lifeboat drills.

Marine Information Notice (MIN) 315 published December 2007 describes MCA research project 555 which is a study into the safety of davit-mounted, side launched ships' lifeboats and their launching systems. The primary objective of the study was to make proposals for measures to improve the hardware performance of lifeboats and contribute to the prevention of accidents.

The project found that:

- All on-load release hooks should be designed and constructed to be stable, i.e. self-closing, when supporting the weight of the lifeboat
- A safety case regime should be introduced specifically (and only) for lifeboat on-load release hooks, so as to achieve this aim
- The International Convention for the Safety of Life at Sea should be amended to include both this safety case requirement and additional safe design requirements for lifeboat launching equipment
- An interim measure of by-passing on-load release hooks during drills should be considered.

Notwithstanding the contributory factors noted in the IMO Circulars, this study has found that many existing on-load release hooks, whilst satisfying the current regulations, may be inherently unsafe and therefore not fit for purpose.

This situation arises because some designs of on-load hook can be described as unstable, in that they have a tendency to open under the effect of the lifeboat's own weight and need to be held closed by the operating mechanism. As a result, there is no defence against defects or faults in the operating mechanism, or errors by the crew, or incorrect resetting of the hook after being released.

The research project concluded that this was the principal reason for almost all of the more serious accidents that have occurred. Furthermore, it considered that the solution lies not in training or maintenance, but in radical re-design of the hook types involved. Improved maintenance, whilst desirable, is unlikely to be a sufficiently effective risk reduction measure because of the harsh operating environment and dwindling levels of skilled resource on board a ship.

Improved training is similarly unlikely to be a sufficiently effective measure. This is because human error is inevitable, particularly under the difficult working conditions (time pressures, language barriers, fatigue, cold, dark, wet, etc) which typically prevail on board. Given the reality of this context, it is entirely inappropriate for a safety critical system (i.e. an unstable design of on-load hook) to be catastrophically susceptible to single human error.



Unstable designs of on-load release hook are to be identified with the intention that they be withdrawn from service on all ships and replaced with stable designs. The necessary development of new hooks should be undertaken urgently and the transition made at the earliest possible time.

In view of the serious nature of the hazard, only as interim risk reduction measures, to avoid further unnecessary fatalities during mandatory lifeboat tests and trials a system should be introduced whereby maintenance shackles are rigged to by-pass the on-load release hook during lowering and recovery, but are disconnected at all other times.

Noting the difficulties with on-load release for twin fall launching systems, consideration should be given to adoption of single fall capsules for ships carrying small numbers of persons.

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The full text of the MCA Marine Guidance Note can be viewed online and downloaded from the MCA website at the following address

<http://www.mca.gov.uk/c4mca/mca-ml-d-page.htm?textobjid=32C435E43ACF5DA1>

MCA Research Project 555 - Development of Lifeboat Design can be viewed online and downloaded from the MCA website at the following address

http://www.mca.gov.uk/c4mca/research_report_555.pdf