

# Mandatory shipboard equipment: help or hindrance?

‘It really freaks me out!’: What seafarers think of mandatory shipboard equipment

## Professor Helen Sampson

Seafarers International Research Centre, School of Social Sciences, Cardiff University

In 2012, the Seafarers International Research Centre began a four-year study of seafarers’ views of mandatory shipboard equipment. We were concerned to get a detailed view of the way in which mandatory equipment was seen by seafarers and in doing so, we spent a considerable amount of time at sea on nine different ships. While on board we interviewed 152 crew members and supplemented this information with another 211 shore-based interviews. This perspective was enriched with 2,500 interviewer-administered questionnaires completed by seafarers in ports around the world. When the results were published, in 2016, they gave some cause for some concern.

While some equipment was regarded by seafarers as well-designed and fit for purpose, essential lifesaving equipment was viewed less favourably. In many cases seafarers expressed fears about lifeboats and a marked reluctance to engage in the drills and maintenance that are necessarily associated with their safe operation. At the same time, many seafarers believed that the liferafts, survival suits and lifejackets carried by many ships were poorly designed and not fully fit for purpose.

## Bridge and engine room equipment

The research considered a range of bridge, engine room, and emergency response equipment carried by vessels as a requirement of SOLAS and MARPOL regulations. The findings suggested that there was a high degree of support among seafarers for the carriage of some mandatory equipment, including electronic chart display and information systems (ECDIS) and oily water separators (OWS). These were seen as serving a useful function on board if/when they were well-designed and maintained.

Although seafarers generally supported the use of OWS, many of them suggested that poor design and maintenance could lead to misuse. Where OWS filters were not regularly replaced, for example, seafarers found themselves under pressure to discharge oily wastes illegally. One seafarer explained:

*‘The pressure [to bypass the OWS] is from the company because they don’t want to spend money sending the bilge water ashore, so they are forcing you to [...] manage however you feel like because they never gave you the right thing. So [...] you can see, some people do these things.’*

Forty-three per cent of engineers said they could understand why seafarers sometimes used ‘magic pipes’ to discharge oily waste illegally and 23% of engineers stated that they had been present on a vessel when a magic pipe was in use. Reassuringly, many seafarers suggested that these practices were dying out as a result of improved OWS design and tougher regulation and enforcement.

Mixed views were expressed about bridge watch alarm systems

(BWAS) and Global Maritime Distress and Safety System (GMDSS) equipment. Many seafarers considered both of these to have the potential to promote safety at sea. However, substantial numbers of seafarers felt that as a result of poor design the alarms could be irritating (too frequent and/or intrusive) and unnecessary.

## Lifesaving equipment

Lifesaving equipment attracted the strongest criticism from serving seafarers. Many were fearful of using lifeboats in either drills or in real emergency situations. One seafarer related how he routinely evaded participation in lifeboat drills. He explained:

*‘Now whenever I am asked to participate I talk to the bosun and tell him that I am not going to join the drill. It really freaks me out!’*

Another described an incident:

*‘There are two brothers. One chief mate and one AB [...] and there was a mistake and it [the lifeboat] first released on the forward and it fell in the water [...] Dead! [If] they ask me if I go to the lifeboat – No!’*

Twenty-seven per cent of our questionnaire respondents stated that in a real emergency they believed that seafarers would be afraid of using their lifeboats. Such fears inevitably spilled over into training practices and 41% of respondents stated that they had sailed with captains who had not lowered their lifeboats because they were afraid of accidents. As one explained:



Even in ideal conditions, more than half of seafarers experience difficulty boarding liferafts



Conditions in freefall lifeboats are cramped and uncomfortable

*‘To be frank, since you’ll not put my name, or the company name, I’m telling most of the Masters forge it [...] Masters they say that “As a Master, my responsibility is safety for the people. I don’t feel safe. I’m not doing it. If something happens blame will come on me.”’*

While davit-launched lifeboats were a particular source of concern, many seafarers also objected to taking part in drills relating to freefall lifeboats. They found them cramped and uncomfortable and they were afraid of incurring neck and spinal injuries as a result of the impact experienced in the course of the launch.

It was not only lifeboats that were described as problematic, however. Many seafarers were also concerned about the use of liferafts in an emergency. Here, the problems were not related to any dangers posed by the liferafts themselves, but more prosaically were connected to the difficulties that seafarers experienced when trying to board them from the water. The majority of our questionnaire respondents (70%) had attempted to board a liferaft from the water (unaided) during sea-survival training in ideal swimming pool conditions. Of these, 52% had experienced difficulty. They were generally aware that in heavy, cold seas their chances of boarding would be further reduced. Overall, seafarers considered that liferafts were designed with inadequate boarding systems given their high sides. As one put it:

*‘The ladder was too short so I couldn’t get the leverage to pull myself up.’* while another said:

*‘I think liferafts should not be too high. [...] and there should be something more to grasp and help us heave ourselves into the liferaft.’*

In this context we were not surprised to find that 27% of seafarers responding to our questionnaire thought that they would not be able to board a liferaft from the sea while wearing an immersion suit.

Seafarers were also generally critical of the design of many survival suits. They considered that immersion suits that did not incorporate proper five-fingered gloves inhibited liferaft access and the operation of lifesaving equipment such as flares. One explained:

*‘When you have this immersion suit it’s very hard to move. You cannot move easily. Even you cannot climb maybe to the liferaft. [...] Better to have this five fingers. Yes, like a glove [...] because when we climb, when we handle something needs to have five fingers. Because it is more difficult to have only two fingers [...] Yes we have to change that system!’*

These issues have also been highlighted by accident investigation reports such as that into the loss of the *Swanland* off the North Wales coast (MAIB, 2011).

Overall, our research demonstrates that seafarers are supportive of the carriage, and use, of most mandatory shipboard equipment. Nevertheless, there are several areas in which design could be improved. In particular, the research emphasises the very urgent need for the design of lifesaving equipment to be reviewed and for related regulatory standards to be revised. In relation to davit-launched lifeboats this process is already underway. However, our findings suggest that more broad-reaching changes to the design of liferafts, freefall lifeboats and survival suits are needed urgently.

This summary is inevitably unable to convey the full complexity of the project findings. To explore these in further detail please access the report via the following link: [http://www.sirc.cf.ac.uk/SIRC\\_Free\\_Online\\_Reports.aspx](http://www.sirc.cf.ac.uk/SIRC_Free_Online_Reports.aspx)

This research was generously supported by the Lloyd’s Register Foundation\*, The TK Foundation and Cardiff University.

\*Lloyd’s Register Foundation helps to protect life and property by supporting engineering-related education, public engagement and the application of research.

**OUT NOW**

**MARINER'S DIARY 2018**

With over 300 pages, this diary is a must for the organised Mariner. The spacious layout will enable you to keep your day-to-day work, notes and contacts securely in one place.

**£20**

**WITHERBYS**  
Since 1740

✉ info@witherbys.com  
☎ +44 (0)1506 463 227  
🌐 witherbys.com

📍 4 Dunlop Square, Livingston EH54 8SB, Scotland, UK