Complexity – is the SMS still manageable?

➜ Another large audience gathered on board HQS *Wellington* for the London Branch technical meeting on the complexities of shipboard operations. The Safety Management System (SMS), as required by the ISM Code, has without doubt significantly improved operations, saved lives and prevented much pollution. It has been continuously developing in response to an increasing number of drivers. Sometimes changes result in systems becoming unwieldy and increasingly remote from their purpose – safety. A panel of speakers looked at the complexity of the system, asking why does it matter and is it a problem? They also looked at how the SMS can best serve its purpose and meet demands placed on it by the likes of regulation, charterers, vetting bodies and international standards, and what industry bodies can do to reduce complexity. The panel, chaired by Philip Wake FNI, CEO of The Nautical Institute, comprised: Martin Shaw AFNI, Managing Director MOAMS; Mark Rawson FNI, QSE manager Zodiac Maritime and David Cotterell MNI, Director, OCIMF.

Simple, complicated, complex

Martin Shaw opened the meeting by explaining simple, complicated and complex systems. Simple systems can be understood by everyone, and changes are predictable. Complicated systems can be modelled and understood with some effort and changes can generate surprises. Complex systems, however, as a whole cannot be understood by individuals and changes are generated from emergent rather than designed behaviour. In complex adaptive systems, there are a large number of interactions, but people can learn and adapt to improve performance.

The biggest concern on ships is the time required to cope with increased regulations and compliance, with less personnel having the capacity to absorb them. More complexity leads to corner cutting and box ticking. The greater the number of organisations that interact on an operation (eg IMO, flag states, owners, class, industry organisations, inspections, port state, charterers etc.,) the more complexity is loaded on the vessel.

What of the future? While the global industry and management concepts have changed since the introduction of ISM, it is unlikely ISM will deliver in the changed environment. Shipmanagers should have a strategy for managing complexity through education, standardisation, process and technology. They should address complexity generated externally, provide clear direction for the organisation, make the right internal choices and build simplicity into all projects and processes. Make things simpler!

One size does not fit all

Mark Rawson began his presentation by emphasising that the shipping industry is a dynamic business with frequent changes in trade, operations, technology, types of ships and management systems. Companies have to be able to manage increasing regulations, and the increase in the number, scope and inconsistency of inspections to which their vessels are subject. However, prioritising one inspection to the detriment of others can have unintended consequences. Focusing on one thing may mean something else is missed. We need more user friendly management systems, focusing on what is achievable first and paying lesser attention to smaller deficiencies. This means we need to focus on different solutions for different ship types.

Learning and training must take place within a structured system. The regulatory environment will not change, so we must accept it and adapt accordingly. Ultimately, stakeholders/customers share the same objectives and we should encourage transparency and communication.

Shipboard reality

Complexity is everywhere, said Dave Cotterell; just look at the complicated rules for secure access codes and passwords needed for everyday operations. So how do we cope with complexity in the shipboard environment? We can argue about whether the ISM code is in the right form, whether it is delivering; but we cannot argue against the principle of it. In the early days of ISM/SMS there was a tendency to buy a complete system off the shelf, usually totally unsuitable for the ship operations. We have moved a long way forward, but we still see some very complex SMS – we should be able to manage this with the technology available these days. However, the upward trend in technical complexity increases at a faster pace than we can train the personnel to manage that complexity. 'If all you have is a procedure between you and disaster, the default position is disaster if somebody doesn't follow that procedure,' he warned. Checklists for everything are rife and the culture of understanding potential consequences is diminishing. David concluded that complexity is with us, it's how we manage it that really counts.

Views from the floor

A lively discussion followed the presentations:
- In companies promoting best practices, the people on board ships can cope with complexity and unexplained deviations. However, political context within the flag state often sets national agendas, so national, regional, coastal and port regulations are added on top of the IMO regulations. States are perfectly entitled to do this, but it results in more complexity.
- Regulation is becoming more complicated and complex. It is a better world since ISM was brought in, so an update and change in how it is managed is probably due – but what is better? Arguably it would be a principle of international legislation that can be understood, supplemented by guidelines that can be implemented and applied.
- Is complexity due to the fact we are not designing ships to operate properly, and are asking seafarers to do too much? There are significant changes in operation of ships in the commercial market. Given the work/rest hours legislation, should we be going back to 1970s manning practices and using port captains, riding crews etc?
- Should an SMS be standardised across the industry? A good SMS should engage with seafarers enabling them to participate, and be easy to use. It is a framework of things which must be included in the management system.
- Accidents in the tanker industry significantly reduced after introduction of ISM, but the trend increased from 2005-2007. This was attributed to a shipping boom with more and more ships, changes in the industry, increased regulations, and officers being promoted with less experience. For ship managers with mixed fleets, there should be a standard SMS with additional sections for the different fleets eg chemical tanker fleet, container fleet, etc.
- SMS is a live document, but everything is added on – regulatory requirements, etc. and there are very few managers/owners who will allow anything to be removed, so SMS becomes too large and unwieldy.
- When there is a problem the answer appears to be to write more procedures. The answer is not more procedures, but to think again and fix the problem.
- One final comment from the audience – When next you revise your SMS use the KISS principle – Keep It Short and Simple.

The presentations can be seen on the London Branch website (www.nautinstlondon.co.uk/presentations).

Additionally, Martin Shaw's presentation can be seen and heard in the members section of the NI website.

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