

LONDON BRANCH

Safety of mooring operations

➔ Some 50 persons gathered on board HQS Wellington in June to participate in the London Branch Joint Informal Meeting (JIM) on safety of mooring operations. Chaired by Philip Wake OBE FNI, the panel of speakers comprised Stuart Edmonston MNI, Director of Loss Prevention, UK P&I, Dr Nippin Anand FNI, Principal Specialist in Safety Management Systems (SMS) at DNV GL, and Joe Megeed, Technical Advisor, Oil Companies International Maritime Forum (OCIMF).

Stuart opened his presentation with photographs showing the bad practices on the mooring deck that P&I club surveyors have found on ships. Statistics show that of the number of claims over the past five years, 36% were for personal injuries. Mooring accidents were the seventh highest cause of injury, with 14% resulting in death. Stuart continued with a demonstration of risk assessment for mooring operations using the 'bow-tie' method showing threats, controls (training, footwear, design, procedures, certified seafarers etc.) and consequences. He finished his presentation with a case study of the accident on the *Morraborg* in 2011, where those on the bridge were unable to see what was happening on the forecastle. Poor communications and misunderstanding about the manoeuvre resulted in a rope snapping and the Chief Officer being killed.

Snapback zones and the accident on the *Zarga* in March 2015 were the subjects of Joe Megeed's presentation. When the rope parted, the HMPE (high-modulus polyethylene) acted correctly and dropped. The third officer, who was standing out of the snapback zone, and forward of the fairlead, was struck by the other part of the rope and suffered serious injury.

This triggered OCIMF to update its publication *Mooring Equipment Guidelines*, which will be published later in the year. The challenge is to include guidance not just on winches, lines, fittings and terminals, but to look at the mooring system in its entirety. This is a complex issue, covering towing bits, leads of lines in both loaded and ballast conditions, and the safety factor considerations on the berth. The new edition will also incorporate lessons learned from the *Zarga*.

Nippin Anand looked at a functional approach to mooring. He talked about normal people doing normal work, and how things can go right and wrong. When something goes wrong it has usually gone well many, many times before. That is why people do it. So without understanding why something is done in a particular way and why it went well, we have no hope of understanding why it went wrong. Mooring is a function, not an isolated operation, and safe mooring is a functional approach to normal work. People under pressure will improvise and bypass safety constraints.

On completion of the three presentations, the debate was open to the audience for questions and comments. These looked at the design of the mooring deck – the area is more or less the same as it was on ships 100 years ago. Since then, there has been no significant alteration in the design, except that the area is smaller, with smaller crews to moor the vessel, so resources are not available to do the job properly. With the deck officer having to be physically involved, there is no overall supervision. This is partly down to design and partly the result of commercial considerations. Asked about a mooring guard system to protect

crew, Joe Megeed said that a working group was looking into various systems, with some protective cages already being designed in to the winch control area.

A member of the audience told of the difficulty of getting shipyards to revise the design of newbuildings. Often amendments to the design are limited by the need for extra mooring space having to be balanced with the need for maximum cargo space.

The very high cost of new technology such as suction or magnetic systems prohibits their use in anything other than very specific ship/berth combinations. A proposal to have a mooring winch for each rope/fairlead would require more space and be costly, but some type of trade-off could be designed. The way mooring lines criss-cross mooring decks means that crews are often adjacent to lines under tension. We have to find a design to mitigate this. Appropriate use of legislation might drive solutions to this problem.

A potential solution is to design the ship for the jetty or design the jetty for the ship, but this would only work in specific trades.

One person highlighted the fact that often the designer (the naval architect) has never been on board a ship and is not focused on the user but on the structural arrangement, such as the placement of winches and pedestals.

The discussion could have continued for longer than the time available, but some significant points were made and these will be considered by NIHQ in its contribution to the design for safe moorings correspondence group at the IMO. The presentations can be seen and heard in the Members' section of the NI website.

Harry Gale FNI



London Branch Joe Megeed



London Branch panel