

Seaways

The International Journal of The Nautical Institute

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BRM

20 years on

What have we learnt? What should we change? P13



Focus

Effective Regulation

“
The need is to focus on the effective implementation of existing regulation rather than creating new ones whenever a major incident draws attention
”

The theme for this year’s World Maritime Day, as announced by IMO Secretary-General Koji Sekimizu in January, is ‘Effective Implementation of IMO Conventions’ (see pp 26). This is undoubtedly an excellent theme and very much in tune with the stance of the Institute, as well as many other industry organisations, that there are more than enough regulations already, so the need is to focus on their effective implementation rather than creating new ones whenever a major incident draws the attention of governments towards the maritime industry. There are of course some Conventions that have taken years to negotiate and agree that have still not been ratified by sufficient flag states to be brought into effect, such as the Ballast Water Management Convention, and the IMO will strive to make progress with these. Nevertheless, there are others that are in effect but have yet to be ratified and implemented by some flag states. Taking the matter down to the company and individual level, it is well known that effective implementation of Conventions is far from consistent. Turn to the MARS reports and read the report on the collision between two vessels in good visibility in clear contravention of a number of well known, one would even say basic, Colregs. As George Livingstone reminds us (see pp 13-14) such casualties are often blamed on inadequate Bridge Resource Management (BRM) training but it is in fact just bad seamanship and unprofessional conduct. Effective regulation has done much to address these and many issues, and has governed the introduction of a great deal of technology to protect and assist the seafarer, but the human factor remains difficult to legislate into a safety culture.

In the meantime, the loads being piled on the relatively few people on board continue to increase (see Chief Mate’s Column p4 for a reality check) and some pertinent MLC 2006 work versus rest hours cases shown up during inspections (see pp 25-26). Let us hope that effective implementation of this Convention will take the flag states to task for inadequate safe manning certificates on the one hand and the companies on the other for effectively forcing sea staff

to ‘flog the log’, rather than penalising the easy option – the seafarers. Only by proving the impossibility of balancing the hours of work and rest with accurate data will change for the better come about.

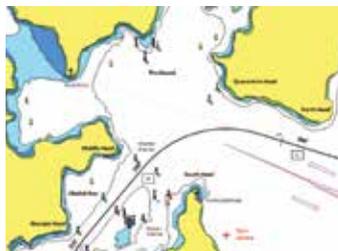
Whilst on the subject of IMO’s work, it must be galling for the Secretary-General and his Secretariat staff to see their hard work in producing Guidelines for all manner of safety related aspects ignored by major maritime nations who should know better in respect of their responsibilities. A case in point which has again arisen is Places of Refuge, a subject we campaigned on robustly some 13 years or so ago. Major industry organisations are again having to raise the protest flags as yet another ship, the *Maritime Maisie*, struggles to find a safe haven despite being in the care of a large team of expert salvors (see p 16).

Seafarer Survey

One may well wonder, given the tales of woe above, why anyone would wish to serve at sea and how long the optimistic expectations of the life might last. These are questions an EU-funded survey attempts to answer (see pp 10-12). It also looks at the question of the move to a shore job – a move 62% of the 2000 in the survey expected to make, the majority in a 10 to 15 year timeframe. The difficulties in achieving that move were explored and a related debate has been taking place amongst our LinkedIn group concerning academic pathways to the seafaring career, although this should probably be termed the maritime career (see p34). Rounding off this subject, Steven Gosling’s reflections on studying for and gaining his MSc in Maritime Operations and Management is well worth reading as part of our regular series of Continuing Professional Development (CPD) articles (see pp 6-7). He is far too modest to mention it but his hard work and ability was recognised with the award of a Distinction which was richly deserved and we congratulate him on his achievement. Sponsoring his MSc brought Steven to our attention and the rest is history, as they say, and proof positive that CPD can and does enhance your career prospects. 📖



p6



p21



p26



p35



Mariners' Alerting and Reporting Scheme

MARS Report No. 257 March 2014

MARS 201413

'Can-do' attitude falls flat

→ A fast ferry was shifting from an operational berth to a lay-by position after completing discharge. A seafarer at the aft mooring station was in position to receive the heaving line from ashore for the stern-line. After two attempts where the heaving line fell short the seafarer, holding a boat hook, placed himself right next to the aft fairlead's stag-horn, looking upwards in the hope that his more advanced position would help for the third attempt.

Suddenly, he over-balanced, falling over the two low rails (just below knee-level) and between the stag-horn and the adjacent railings, striking his head and coming to rest on the port jet thruster 'buckets' and guard. The port jet was immediately de-clutched (stopping movement of bucket) and quick action by deck and engine room crew on scene recovered the seafarer. While the engine room crew looked after the injured seafarer the vessel was secured and the victim then transported to medical attention. Having sustained an injury to the knee and a blow to the head, the seafarer was signed off work for a week.



Simulation showing position of the seafarer



Modified guardrails

Lessons learned

- 1 Need for better guarding of the area concerned (and to eliminate the 'trip hazard' caused by the two low rails by the addition of a higher rail).
 - 2 Inadequate risk assessment for mooring operations on this class of vessel.
 - 3 Need for improved risk assessment procedures.
 - 4 The importance of mitigating the 'can-do' culture of seafarers to ensure that they always give priority to their own safety over other considerations.
- **Editor's note:** As the saying goes, always keep one hand for the vessel and one hand for yourself. Lesson number four is a good indication that the company management realises that often, employees just want to get the job done. It takes training and good leadership to change people's behaviour – and to ensure they always think about their own safety before and while undertaking a particular task.

MARS 201414

Water mist fire suppression – suppressed

As edited from UK P&I Club Bulletins

→ There have been many detentions due to inoperative water mist fire suppression systems discovered during port state control inspections. In each case, the water supply valve was found in the closed position, essentially rendering the water mist system not readily available for immediate use.

Often, the chief engineer did not know that the water supply valve was in the closed position. It appears that the valves are closed to prevent accidental operation during maintenance and not returned to the open position once maintenance is completed.

It is highly advisable to make frequent rounds and inspections of the water mist system, paying close attention to valve alignment. Additionally, it is advisable to ensure that there is adequate labelling and that correct procedures are established so that the valve is not overlooked and accidentally left closed. Existing and new crew members must know at all times that critical fixed fire-fighting equipment is available for immediate use.

MARS 201415

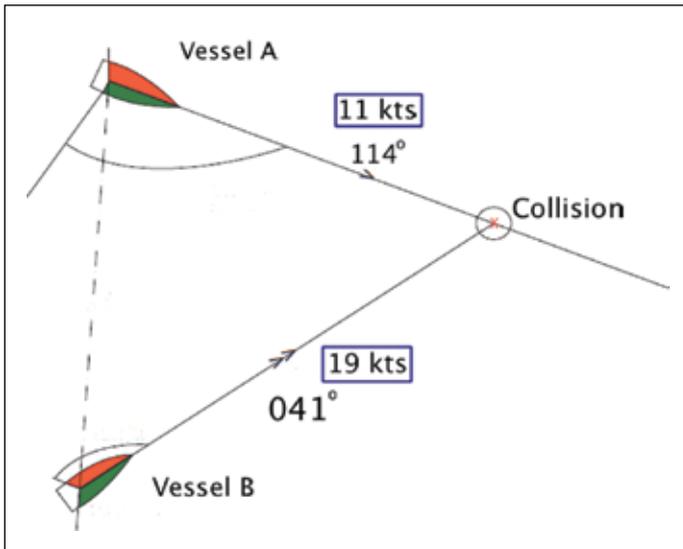
Collision in good weather and visibility

Edited from official Maritime Accident Investigation Branch (MAIB) report 17/2013

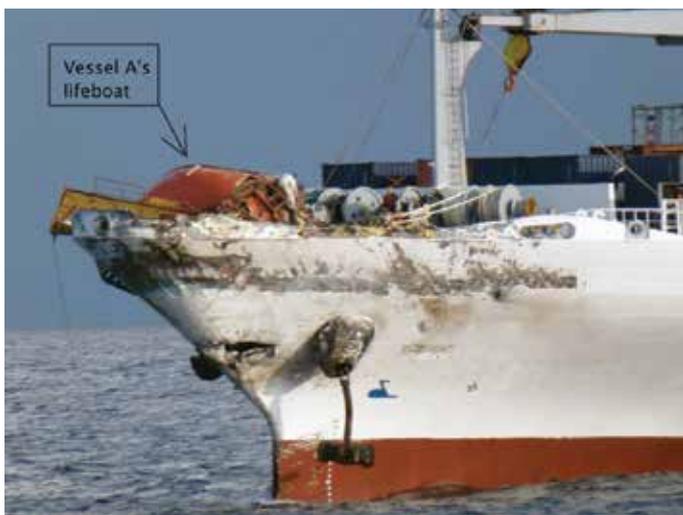
→ Vessel A was making way on an auto-pilot heading of about 104° at a speed of 10.8 knots with an experienced OOW and an ordinary seaman as lookout on the bridge. It was night, but visibility was good. Vessel B was on an auto-pilot heading of about 043° and a speed of 19.5 knots with a lone, but very experienced, watchkeeper on the bridge. Information obtained from vessel B's voyage data recorder indicated that the watchkeeper occupied himself with tasks other than those exclusively of navigation and lookout.

At about 0515, vessel A's lookout alerted the OOW to a vessel on his starboard side. The OOW determined that the vessel was overtaking his ship on a course of around 090° and would pass 3 or 4 cables clear down his vessel's starboard side. He attempted to plot vessel B's radar target, but was unsuccessful: he did not take a visual bearing of the vessel. Some 17 minutes later, the two vessels were less than 3 nm from each other and on a collision course. At about this time, or soon after, the lookout on Vessel A warned the OOW for a second time about the other ship on their starboard side. As the distance between the two ships further reduced, the lookout alerted the OOW for a third time to the presence of the other ship. The OOW started to alter his vessel's heading slowly to port; he predicted that this adjustment would increase the passing distance of the two ships. Shortly afterwards the lookout shouted for the OOW to 'do something'. The OOW now realised that a collision was imminent. He put the steering controls into manual mode and turned the helm hard to port. Meanwhile, vessel B's watchkeeper first saw vessel A very close on his port bow but was unable to take avoiding action in the short time now available to him.

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Vessel A



Vessel B

Some of the findings of the official report were:

- Vessel A's OOW did not establish that vessel B was on a steady bearing, and that his was the give-way vessel. The inaction of vessel A's OOW showed a total disregard for the safety of his vessel and his shipmates. Despite his experience and knowledge of the Colregs, he made an unfounded assumption that vessel B would pass clear of his vessel.

- Vessel A's OOW did not assess the situation correctly initially, or reconsider his assessment when the situation did not develop as he expected. Even in the scenario that he had imagined, he was willing to accept a CPA that was much less than specified in the Master's night orders.
- It is extremely difficult to determine a vessel's aspect at night and, even if correct, aspect is no guarantee of a vessel's acting heading or course.
- The complacent attitude of vessel A's OOW, his misplaced belief in his ability to assess the risk of collision by eye, and his underestimation of the chance of encountering another vessel at close quarters combined to prevent him from taking the necessary actions to prevent the collision.
- Vessel B's watchkeeper did not post a lookout or set the watch alarm, and instead relied on his ability to maintain an effective lookout on his own.
- Vessel B's watchkeeper allowed himself to be distracted by tasks other than navigating and keeping a lookout, possibly by placing himself in a position where he could not see out of the bridge windows or look at his navigation aids.
- In choosing to take the watch alone and not setting the watch alarm, the watchkeeper on vessel B demonstrated extremely poor judgment, systematically overcoming each of the safeguards that should have been in place for keeping an effective navigational watch.
- The lack of regard of vessel B's watchkeeper for his primary roles as lookout and officer in charge of a navigational watch can only be assessed as complacent.

■ **Editor's note:** One would like to think that every collision is avoidable. All the more so in uncongested waters with good visibility/weather and ships manned by experienced watchkeepers. In the official report, complacency is cited as a major contributing factor on both vessels. While this is most certainly true, complacency, in and of itself, is not a root cause. If the experienced watchkeepers of both vessels were so complacent in this instance, so too must they have been at other times. Why wasn't this behaviour picked up and corrected earlier? Often, such unacceptable practices are allowed to persist due to poor management and weak leadership; exactly the deficiencies ISM is meant to counteract. Ironically, ISM is not a silver bullet in this respect; ISM is not a substitute for good management and strong leadership.

MARS 201416

Mobile phones cause concern

➔ Although there are strict rules in many jurisdictions against using a mobile phone while driving, the same is not enforced in the port sector. In my six years working ashore in port operations I have seen many very dangerous near misses due to usage of mobile phones by crane operators/forklift operators/pay loader operators and stevedores working in the hold and by ship's crew while standing on hatch coamings. I repeatedly tell staff/operators that if they must talk on a mobile phone, they are to stop the machinery and place it in safe position (without load being suspended on cranes etc.) and then talk briefly, and only if it is urgent.

There were times when I have confiscated the mobile phone from the worker in question and fined them as well. At our port we organised a safety campaign against the usage of mobile phones while handling equipment and instigated heavy fines for any violations. After a few weeks a marked improvement was noticed.

It is proposed that a safety campaign against mobile phone usage by working operators must be taken up by all ports. Vessels should also insist that stevedores do not talk on mobile phones while handling cranes or other equipment.

MARS 201417

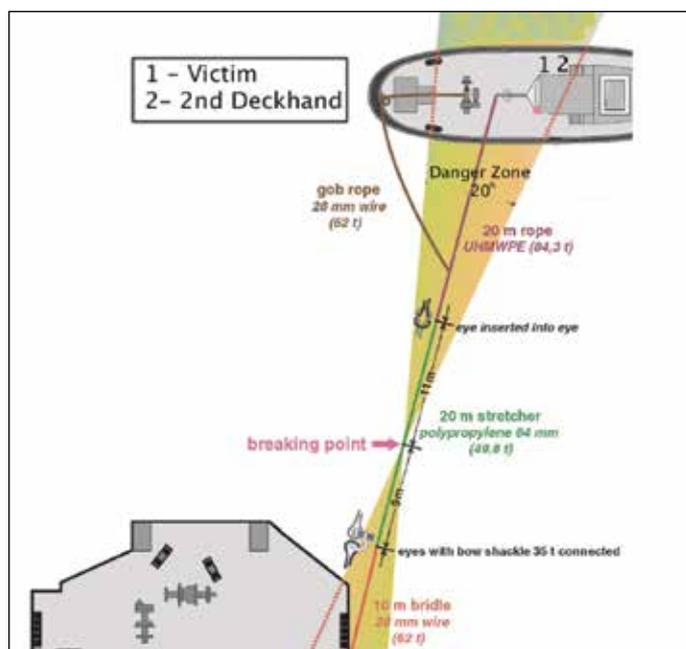
Stretcher past its limit

Edited from Germany's Bureau of Maritime Casualty Investigation (BSU) report no. 422

➔ Prior to undertaking the berthing manoeuvre of a car carrier, the crew of the aft assisting tug discussed the particular hazards of the job as well as the use of personal protective equipment. The towing gear was visually inspected and no deficiencies were found. Environmental conditions at the time were good; there was hardly any swell or wind.

The towsline system consisted of three parts: a 10m bridle to the assisted ship (28mm cable rated to 62 t), connected with a round pin anchor shackle, then the 20m stretcher (initially reported to be polypropylene, 64mm rated to 49.8 t), and 20m of ultra high molecular weight polyethylene (UHMWPE) rope (rated to 84.3 t), as well as a 28mm tricing cable (rated to 62 t), which was attached to the towsline using a round pin anchor shackle and controlled by means of a tricing winch.

The tug made fast aft and commenced operations. Following the pilot's instructions, they were to pull at an angle of 90°. Everything seemed to be going well when suddenly the stretcher parted and struck one of the deckhands, who was standing in front of the port side companionway. Standing beside the victim, the second deckhand managed to avoid injury. The victim was given initial medical aid and transferred to the hospital where he was diagnosed with severe injuries to his legs. The victim was experienced and had worked on the tug for the past 11 years.



As can be seen in the diagram, the deckhands were within the snap back zone. A parted towsline snaps back faster than the speed of sound. This means that the break had already occurred before the bang was heard on the aft deck; the deckhands could not move to safety in time if they were still within the danger area. While the best protection is located in the superstructure, the Master and chief mate were already on station there leaving no room for the two deckhands. The procedures of the owner's quality management system do not define safety areas for the crew. Although the deckhand's safety area beside the companionway was apparently tried and tested at an earlier time, an analysis shows that the only possible safety area on the deck of an aft tug would be the forward edge of the bridge. Yet this is impractical on this tug as the trigger for the slip device cannot be accessed from that location.



Failed stretcher, subsequently found to be undocumented and of unknown manufacture or SWL

Some of the findings of the official report were:

- The material used for the fabrication of the stretcher was of low quality. Polypropylene split film of this type is normally used for mooring lines. The rope was manufactured and delivered without any of the 'tracer' threads that identify the company or the standard.
- The stretcher should never be the weakest component of the towing connection. Since a failure of the stretcher is virtually a worst case scenario, this element is normally oversized by 1.5 times the maximum tensile strength of the other connecting components, which themselves are usually set at two to three times the bollard pull of the tug.
- Best practice dictates that the length of the stretcher should be no less than 5m and no more than 10m for port towing connections. Also, only fairlead shackles should be used for connecting individual components of the towing gear. Both of these best practices were ignored in the present case.
- Prior to being used in this incident, 73 of the total of 456 fibres of the stretcher were already completely or partially frayed. The failure of the stretcher was primarily caused by this pre-existing damage.

■ **Editor's note:** Accidents are very rarely, if ever, the result of a single factor. This accident is a prime example of that rule of thumb. Although the stretcher was of inadequate quality and was already damaged before use, a series of less than adequate practices and failed risk analysis (safety area of crew on stern) also combined to aggravate the consequences of this accident.

MARS 201418

Risky crossing of TSS

As edited from MAIB Safety Digest 2/2013

➔ A cargo vessel was on a regular service that required her to routinely cross a Traffic Separation Scheme (TSS). The passage plan required a close approach to the south-west traffic lane on a course of 192°(T) and then, with a course alteration to port, cross the traffic lane at right angles. Although dark and windy (SW force 4), the visibility was good. The OOW was in charge of the bridge watch with the Master and a lookout in attendance. The vessel's speed over the ground was 9.5 knots. The OOW had been plotting the radar tracks of four vessels in the south-west lane, which he considered might be cause for concern once the cargo vessel reached the waypoint at the edge of the traffic lane. He briefed the Master on his observations, concluding that one of the vessels, a bulk carrier, would be a problem once the cargo vessel had altered course to port to cross the lane.

The Master assessed that if they altered course at the waypoint without significantly losing speed, they would pass safely ahead of three of the vessels and, if they continued to turn to port, would pass safely astern of the bulk carrier in question. He advised the OOW of his

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intentions and then took the con. At the waypoint, the Master ordered a slow alteration of course to port. During the turn, with their vessel heading 125°(T) and the bulk carrier bearing 082°(T) at a range of 2.04 miles, the bulk carrier's OOW made several calls on VHF radio Channel 16 to clarify the crossing vessel's intentions. None was heard on board the cargo vessel.

The cargo vessel stopped turning on a heading of 093°(T) with the bulk carrier fine on her starboard bow at a range of 1.4 miles. She then slowly turned to starboard, keeping the bulk carrier on her starboard bow, and finally steadied on her planned course to cross the traffic lane.

Lessons learned

1 The cargo vessel's passage plan has the vessel altering course by 60° at the edge of the south-west traffic lane; little time remains for the manoeuvre to be carried out before the vessel enters the traffic lane. This precludes other vessels in the TSS from effectively assessing the situation and taking appropriate action. On the other hand, a waypoint located sufficiently outside the TSS would have enabled the cargo vessel to comply fully with Rule 10(c) of the Colregs. It would also have enabled the bulk carrier to properly determine if a risk of collision existed in accordance with Rule 7(a) and, if so, to take early, substantial and appropriate action as a give-way vessel in accordance with Rules 15 and 16.

- 2** Passage planning requires precautionary thought. Precautionary thought declines with the onset of complacency, a recognised danger for vessels on a regular service.
- 3** The Master's plan to continue turning to port to pass astern of the bulk carrier took no account of how the bulk carrier's OOW would interpret the manoeuvre. Effective collision avoidance requires an accurate perception of the circumstances, an understanding of the Colregs and, importantly, a projection of the consequences of any decided action. A preferred plan would have been to slow down and not attempt to cross the TSS until there was a sufficient gap in the traffic flow for the cargo vessel to proceed on her planned course without risk of collision. Such action would have been in accordance with Rule 8(e) of the Colregs.
- 4** Uncertainty might have been avoided if the cargo vessel's Master had effectively communicated his intended manoeuvre to the bulk carrier's OOW at a sufficiently early stage. In this case, the cargo vessel's Master made no attempt to convey his plan to the bulk carrier, and the VHF radio calls made by the bulk carrier's OOW were not received on board the cargo vessel owing to the speaker volume having been turned down. VHF radio transmissions are of no value unless they can be heard.

MARS: You can make a difference.

You can save a life, prevent injury and contribute to a more effective shipping community.

Everyone makes mistakes or has – or sees – near misses. By contributing reports to MARS, you can help others learn from your experiences. Reports concerning navigation, cargo, engineering, ISM management, mooring, leadership, design, training or any other aspect of operations are welcome, as are alerts and reports even when there has been no incident. The freely accessible database (<http://www.nautinst.org/mars/>) is fully searchable and can be used by the entire shipping community as a very effective risk assessment, loss prevention and work planning tool and also as a training aid.

Reports will be carefully edited to preserve confidentiality or will remain unpublished if this is not possible.

Editor: Captain Paul Drouin AFNI

Email: mars@nautinst.org or MARS, c/o The Nautical Institute, 202 Lambeth Road, London SE1 7LQ, UK

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