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Seaways

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Focus

Getting development right

“ Training must provide a balance of capability in the use of technology as well as in the development of the core skills on which to rely when the technology fails ”

In our modern, technological world there is a tendency to devolve many operations to machines that we used to do ourselves. This is done in pursuit of greater efficiency, both saving time and, in many cases, reducing the need for people to do the operation. The maritime world has been seeing these developments for centuries with the progression from rowed craft to sail to coal-fired steam to oil burning motor ships, with increasing automation of equipment, and from breakbulk to unitised cargo among many other changes. Our industry is certainly not unique in this, as any study of the industrial revolution shows. In the modern era the mechanisation of farming provides an equivalent example of a massive reduction in manpower requirements. Nevertheless, competent personnel are still essential in all industries and the training must provide a balance of capability in the use of the technology as well as the development of the core skills on which to rely when the technology fails – as it is wont to do at the most inconvenient time and situation.

We receive much input querying the over-reliance on technology, particularly the lack of 'looking out the window' to maintain situational awareness on the bridge, and we have two articles this month on the subject of seamanship. Captain Chalaris questions whether we are producing seafarers without seamanship (see pp 10-12). He says that all should agree that technology is great and vital for ship operations but seamanship skills are vital as well. Shoreside training has an important role to play in providing this balance but he says the key to developing seamanship skills is experiential learning on board – mentoring, in our terms.

Putting seamanship skills to good use would surely improve the securing of pilot ladders which is much needed as found by the International Maritime Pilots' Association (IMPA) Safety Campaign 2015. This found that 59% of non-compliant ladders were incorrectly secured. Captain Winston Singh picks up on this report, his own observations and other accident reports to question why this situation continues to exist despite the comprehensive IMO and other regulations and guidance on the basic requirement of pilot safety (see pp 6-8). IMPA's excellent work has generated improvements on pilot boarding arrangements generally over recent years but they have identified inconsistency in reporting deficiencies as an area for further improvement – both on the ship itself and to the industry generally. We would certainly welcome such reports for the

Mariners' Alerting & Reporting Scheme (MARS) – see centre section – which seldom receives reports from pilots even though they see many unsafe practices on the wide variety of ships they serve. The full confidentiality of MARS means that they need have no fear for their commercial livelihood and driving safety improvement through reporting may just save their life one day.

The need for reporting

Reporting can of course seem onerous and an unwelcome additional duty after an arduous pilotage trip or voyage but it is an all important function of learning from experience. It benefits the reporters in that they think about the deficiency while writing the report and hopefully also offer a solution to make it safer and more efficient. The receivers of the report on the ship, in the office, or in the industry generally are alerted to such deficiencies and guided to safer practices. So why is reporting for improvement so seemingly difficult to achieve? Is it that sea staff are now required to report on so many things to the company office and answer so many email queries that real safety aspects are submerged by trivia? That the commercial shipping industry is not unique in finding reporting for lessons learned challenging is highlighted by Lt Cdr Angus Fedoruk who has a lead role on this in his Admiral's staff and led a multi-national team on the RIMPAC 2016 exercise (see pp 14-15). Clarity of communication of the importance of feedback, ease of reporting and showing the difference the reports have made are all crucial to success in the lesson learned role, he says, but the most important aspect is leadership from the top.

The same can be said of the clarity of shipping regulations, as Captain Mark Bull points out in *Lost in Translation* (see p 9). For example, if something must be done use the verb 'shall' not 'should'. And let us not fan the flames of criminalisation of accidents by encouraging the use of Corporate Manslaughter charges (see *ISM Complacency: can the criminal law help?* pp 25-26). The first person in the firing line will be the Master and there is already sufficient power in civil law to trace the root cause of failure back to the corporate decisions ashore. Let us see better use of those powers on the basis of thorough accident investigation first. Even better, make effective use of the various inspection regimes to hold company management to account before the accident waiting to happen occurs. 🚢



Mariners' Alerting and Reporting Scheme

MARS Report No. 288 October 2016

With this October issue we would like to continue in the vein of our complementary initiative to invigorate discussions on safety and lessons learned. So far this year we have covered **Learning Through Safety Meetings**, **Slips-Trips-Falls**, and **Enclosed Spaces**; many thanks to all those who sent in their observations on these topics. For this last segment of 2016 we would like to hear from you about **Cargo Incidents**. The first report of this month's issue is a good case in point.

Of course, we are always on the lookout for your reports of other near misses or accidents; please keep those coming! But in the next few months we would especially like to hear from you, in your own words, about any cargo incidents that have occurred on your ship. Cargo shifting, dangerous practices, loading or unloading incidents or close calls. Please send your reports to mars@nautinst.org

MARS 201651

Fumigation fracas

→ A cargo of maize was loaded and fumigation initiated at the loading port. The fumigation was to continue in transit and warning signage was posted on the hold access hatches. The vessel then departed on a trans-oceanic voyage. Once at the arrival port the warning signs had become substantially detached from the coamings. According to the port reception officials, fumigation signage is often totally lacking.

Port reception officials at this port also informed MARS that although the Master should inform the Harbour Master or port safety authority in advance when they are carrying cargo with in-transit fumigation, this is unfortunately not always the case.



Lessons learned

- Always ensure arrival port officials know in advance about in-transit fumigation.
- For the safety of crew, stevedores and port officials always ensure access to fumigated holds is restricted and fumigation signage is well displayed.

MARS 201652

Simple slip with serious consequences

→ The vessel was making way at sea when a hurricane force wind warning was received for the area of sailing. Despite this, the prevailing weather was still very good and the forecast indicated that the hurricane force winds would clear from the planned route, so the Master decided to maintain the planned course.

The next day the weather started deteriorating and a deviation from the planned course was attempted. During the night winds reached hurricane force and seas were as high as 10 metres; green water was shipped and suspected of causing damage. The next morning, in calmer seas, the Master and another officer proceeded to the starboard (windward) side of the accommodation superstructure to inspect for damage, the same side that the wind and waves were approaching.

They found that the starboard lifeboat had sustained damage, two liferafts were missing, and the embarkation ladder for the starboard lifeboat had broken free (but was still on board). Next, they inspected the port side of the accommodation area, which was better sheltered from the wind and seas. The ship was not rolling or pitching, but the deck was wet and slippery. The Captain walked farther aft to view the poop deck in an area where he could not reach a railing and after a few steps his right leg suddenly and unexpectedly slipped out from under him. In an effort to avoid falling he shifted all of his weight on his left leg, which twisted, cracked and gave way as he tried to remain upright. He slowly sat down with his broken left leg bent back beneath him.

The other officer immediately came to the Master's aid. The victim was brought to the ship's hospital and medical advice was requested. The next day an evacuation by helicopter was possible. The Master had sustained an open compound fracture of his left tibia and fibula.

Lessons learned

- Weather prediction models are not perfect so allow for some 'manoeuvring room' in your weather routing plan.
- Wet decks can be extremely slippery – walk on anti-slip areas or use handholds when on wet decks.

MARS 201653

Wrecked on a wreck

Edited from official report from Hong Kong SAR Marine Department – 9 Nov 2015

→ Underway in darkness, the OOW received a VHF call from the local coast guard advising that the vessel was approaching a danger and should therefore alter course. The OOW did not understand the exact nature of the danger, but he followed the instruction nonetheless and altered from their previous 185° to the requested 190°.

About 20 minutes later, the Master came on bridge and took the con, but the OOW did not inform him of the coast guard's instruction about altering course. Waves were about 3m in height with a visibility of about 5nm. In order to reduce the vessel's rolling the Master altered the course to 165°. Shortly after altering course, the coast guard again called to request the vessel alter course, this time to 090°, but without giving any

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reason. The Master did not follow this instruction. About 25 minutes later the vessel hit an underwater object on her port bow. It was later determined that they had hit a known wreck, a vessel that had sunk two months earlier.

The emergency alarm was sounded and the Master ordered to abandon ship about five minutes later as the vessel began listing to port. Although all crew were eventually rescued by nearby SAR resources, things did not go smoothly during the abandon ship:

- The starboard-side lifeboat was launched and automatically released from the falls before crew could board. The boat drifted away crew-less. Nine of the crew then switched to the port-side lifeboat, successfully launching and boarding the craft.
- The two inflatable liferafts were also launched, but the nine remaining crew members could not embark due to failure of the embarkation ladder. They were later rescued by a ship in the vicinity.

A salvage operation started the next day, but the vessel capsized and sank four days later.



Vessel listing during salvage attempt

The official investigation into the accident revealed the following contributory factors:

- The Master of the vessel did not ensure that all the latest navigational information and warnings had been considered in the voyage planning before sailing;
- The exchange of maritime safety information by means of VHF between ship and shore was not effectively carried out; the navigation officers of the vessel did not endeavour to clarify and heed the warning messages from shore;
- The bridge team members failed to communicate the navigation warnings and instructions received from shore to fellow members; and
- The navigation officers of the vessel did not maintain a proper look-out as they did not spot the wreck – which was marked by a red light and had a ship mast protruding 7m above the sea surface.

Lessons learned

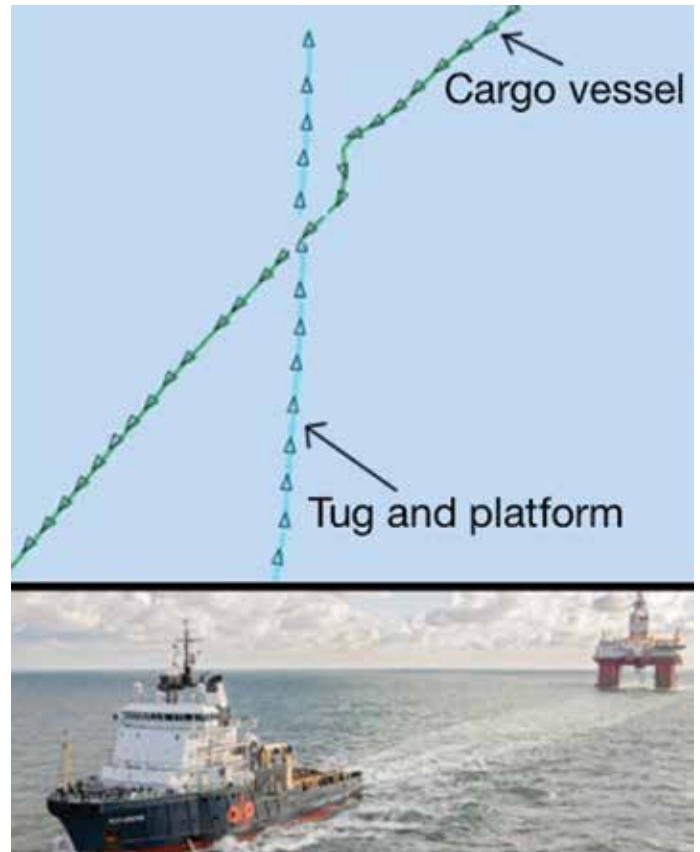
- Before leaving port ensure your charts are up to date for the required voyage.
- When passing the con to a relieving officer, even to the Master, inform them of all important issues concerning the navigation of the vessel.
- When undertaking your monthly abandon ship drills take them seriously, as one day you may need those same skills to save your life.

MARS 201654

Alcohol abuse suspected in near collision

➔ A tug was towing an oil production platform on a line about 1,000m long in good visibility and sea conditions. A close quarters situation was developing with a cargo vessel to starboard. Given the tow, the tug was unable to manoeuvre. The OOW of the tug contacted the cargo vessel and requested the cargo vessel alter course to port to go around the stern of the rig. The OOW of the cargo vessel, who was the Master, signalled his agreement and began altering course to port, but very slowly.

A few minutes later, the tug OOW again contacted the Master of the cargo vessel and insisted they alter to port more quickly as the CPA between the rig and the cargo vessel was zero. After further communication the Master of the cargo vessel then realised he was about to pass between the tug and the towed platform, so he made a hard alteration to port and passed the platform's stern by about 260 metres.



An investigation by the cargo vessel's company was initiated because the tug company contacted the cargo vessel company about the close call. From the data on the voyage data recorder (VDR), it was found that the Master of the cargo vessel was navigating visually and had no indication of CPA whatsoever, as both radars were set on standby during the near miss situation. According to the VDR recording, the Master initially steered the cargo vessel towards the stern of the tug, probably unaware of the fact that a tow line lay between the tug and the oil platform.

It was later discovered that the vessel's three senior officers, Master, chief mate and chief engineer, had serious alcohol consumption problems. Junior crew were aware of these facts but they were afraid to report the senior officers to the company management. Given the sequence of events it is highly likely that the Master, acting as OOW, was under the influence of alcohol at the time.

Lessons learned

- Irrespective of your rank, always take measures to inform management of alcohol abuse on your vessel – your life may depend on it.
- The company's safety management system should allow for a procedure to report any deficiency to company management, including drug and alcohol abuse by the crew and Master.

MARS 201655

Domino effect has fatal consequences

→ The vessel was berthed and completing the last day of a nine-day technical stop. The engine room crew were preparing to bring some steel plates to their storage location in the engine room. A toolbox meeting was conducted with all crew members involved, emphasising the importance of completing the job safely. The plates needed to be stored and secured at a location that already contained several other metal plates.

The fitter began the job by unscrewing the securing bolts of the angle bar at one end of the plates, then moved to the other end. The moment he removed the last screw of the securing angle bar, the steel plates shifted towards him. The fitter jumped back in a reflex reaction and hit the lower railing bar behind him. His impact on the railing caused it to bend and fail. As a consequence, the fitter fell to the engine room lower platform about 10m below. Although the victim was quickly transported to a local hospital he nonetheless succumbed to his injuries and was pronounced dead.

The railing that failed was the removable type which, when removed, allowed movement of larger parts lifted by the ER crane.



The company investigation found that although a toolbox meeting was supposedly held before the job being performed, the risk of shifting steel plates was not specifically mentioned during the meeting.

Lessons learned

- Avoid the checkbox mentality when conducting a tool box meeting; simply telling everyone to do the job safely is not enough. These meetings are meant to discuss the inherent risks involved for the job under review and help crew mitigate those risks.
- Steel plate storage should incorporate protections against having the plates tip over, domino style.

■ **Editor's note:** Another fatality due to shifting steel plates was recorded in MARS 201423 as well as a serious injury in MARS 201211. Steel plates are heavy, cumbersome items and when stored on edge are a potential hazard. These items should be the subject of careful consideration and storage.

MARS 201656

BBQ pit runneth over

As edited from Maritime and Port Authority of Singapore Shipping Circular No. 4 – 2016

→ The Port Authority has recently experienced several incidents involving barbecue pits on board ships causing a fire or explosion. Crew have received second and third degree burns as a consequence.

Investigation into these incidents have revealed that the persons

preparing the barbecue had used paint thinner, which is an inappropriate fuel, to light the charcoal or sustain the fire on the barbecue pit.

Lessons learned

- The risks of fire and explosion when lighting such fires should be adequately addressed within the company SMS.
- At no time should inappropriate fuel be used to light a barbecue.

MARS 201657

Lack of communication results in serious injury

As edited from Marine Safety Forum 16-01

→ An additional security gate was being installed at the top of the gangway in way of the pilot boarding access. One crew member was holding the gate in position while a second crew member located the securing bolts for the new gate. The second crew member was unable to see the first, as the pilot door in the ship's side was blocking his field of view. To access one of the securing bolts, the second crew member closed the pilot door without warning, trapping the first crew member's finger between the gate and the pilot door.

As a consequence the victim lost the top of his right thumb above the first knuckle line. He was immediately taken to the ship's hospital and the Master informed.



Lessons learned

- The work was viewed as an everyday task, with the consequence that the risk assessment was inadequate and vigilance was lowered. **Never assume any job is risk-free.**
- Lack of communication between the two crew involved in the task contributed to the accident. A good practice when working as a team is to verbalise your intentions before acting on them.

READER'S COMMENTS

→ A vessel's Master wrote to inform us of some errors that had been made with respect to MARS 201626, errors that we unfortunately reproduced from the official report, and that other readers have also rightly pointed out. The reader also mentions some interesting additional 'lessons learned':

- A check of the atmosphere for toxic gases such as H₂S and/or benzene is recommended.
- The use of breathing apparatus (BA) sets when entering a tank where the atmosphere is known to be unsafe should be permitted only in exceptional circumstances when no other practicable, safe alternative exists.
- In accordance with the International Safety Guide for Oil Tankers and Terminal (ISGOTT), in such exceptional cases the Master should issue a statement stating that there is no practicable alternative to the proposed method of entry and that such entry is essential for the safe operation of the ship.

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