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Seaways

The International Journal of The Nautical Institute

Parallel indexing

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Focus

Taking the right route

“
The right route is easier to take if guided by a strong professional ethos
”

Whether you are navigating in ice, approaching a port, entering enclosed spaces or simply trying to operate safely at all times so as to avoid criminalisation, taking the right route and acting in a professional manner is an imperative. In the Captain's Column, newly elected Fellow, Captain Jeffrey Parfitt, turns the spotlight on the pressures within the offshore sector. These ships of various types and their crews are well used to operating close to structures and in undeveloped harbours as well as in some of the more inhospitable marine environments. Captain Parfitt correctly identifies a 'can do' attitude amongst the people manning these ships which may indeed be useful in getting out of trouble – but may have been a cause of it in the first place. It may also have been born out of the 'have to' situation of the recent past when jobs were scarce and there was little or no loyalty to be found in employment. The right route in the situations he highlights is clearly effective consultation between Head Office and the ship's staff to ensure the proposed contract for the ship is operationally feasible, will not result in unacceptable risk, and will not put the Master in danger of criminalisation when all the blame is heaped on him if anything goes wrong. It is for these unfortunate cases that the Institute took out the Legal Defence Insurance for members (see p 5).

Passage planning and parallel indexing will certainly help to avoid straying from the right route, taking all the relevant information and ship's characteristics into account to achieve a safe and hopefully profitable voyage. Part 2 of Captain Paul Whyte's series on parallel indexing gives a concise explanation of its use in wheel-over situations (see pp 6-7). As technology continues to advance rapidly, it is important to ensure that such tried and tested methods of an earlier era are adapted to the new technology and remain an integral part of a navigator's training both in college and at sea. The Institute has been aware of the need for a delicate balance between old and new ways of navigating for a good many years now and continues to publish and speak out on the subject extensively but it is best summed up by the well known phrase from the Colregs 'by all available means'.

There is no doubt that those venturing into the polar

regions need to take this maxim to heart and utilise all available information as well as means of navigation. Being so far from support services, including search and rescue (SAR) assets, makes it vital that very careful planning is undertaken before the venture begins although, as Captain Duke Snider explains (see pp 12-15), you must be prepared for changes to the plan if ice or weather conditions do not turn out as expected. The dangers are all too apparent, as illustrated by the sad loss of Canadian Coast Guard personnel that Duke reports. It is equally important that experienced ice navigators are employed, and there are not so many of them around. With increasing traffic, there is a growing need for training in this specialisation. We are therefore fortunate that Duke is leading the Institute's efforts to help the industry establish international standards for ice navigation training.

A different form of navigating is being experienced by our volunteer delegates at the IMO and of course our regular attendees from the staff. It is important that our members gain an understanding of the workings of the IMO, as the premier regulatory body for the maritime world, and the Institute's role there as a non-governmental organisation (NGO) with consultative status. We are pleased that Captain Kevin Coulombe finds it a worthwhile and fascinating experience (see p 25) and it is certainly the case that the working groups benefit from the practical seafaring knowledge and experience that our delegates bring to the debates.

In summary, the right route is easier to take if guided by a strong professional ethos, such as that embedded in the membership of the Institute and seen in the work of the branches, the letters and the LinkedIn debates. There is also a convincing bottom line case for taking the right route to improving all aspects of safety. Captain John Wright sets this out concisely and as passionately as ever in explaining the benefits of Human Element Leadership & Management (HELM) training (see p 16) which should be required reading for all, especially senior management. Whilst it is now a requirement under the STCW Manila Amendments for new officers, let us not forget that all existing personnel at sea and ashore would greatly benefit from this training – and your bottom line will improve, too. 🌐



p6



p12



p28



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Mariners' Alerting and Reporting Scheme

MARS Report No. 252 October 2013

MARS 201357

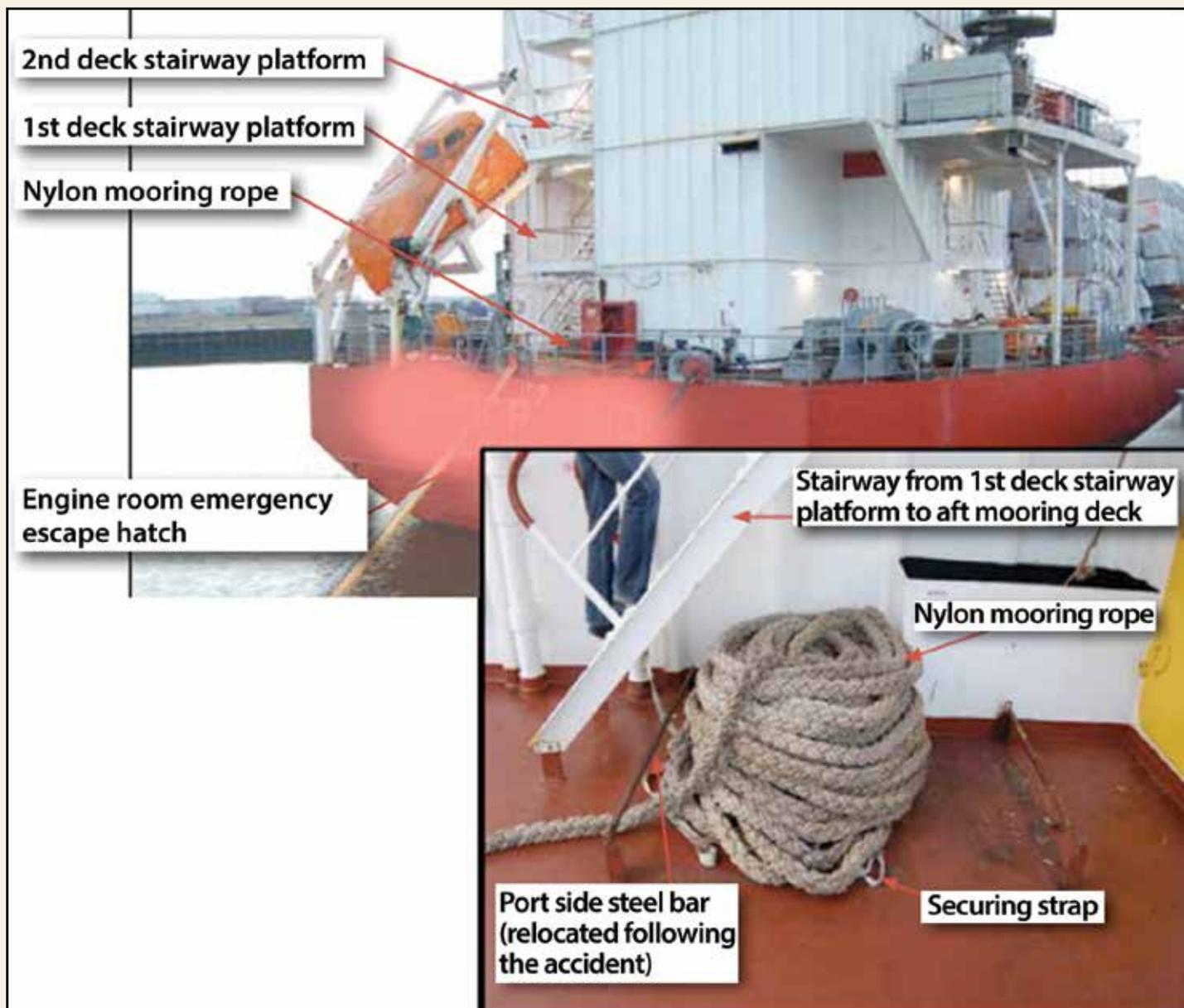
Crew washed overboard

Edited from official MAIB Report 11/2013

➔ As the vessel encountered force 9 winds with a 6 metre head sea, it was discovered that nylon mooring lines on the aft deck were becoming unsecured. These lines represented a danger to the ship if they were to be washed overboard since nylon lines will sink and could entangle the propeller. The plan was for two crew to access the aft deck, each wearing a lifejacket and a safety harness. One end of a fire-fighter's lifeline was attached to the safety harness securing ring and the other

secured to a handrail on the external stairway platforms. It was intended that any slack in the lifelines would be manually taken up by other crew positioned on these stairway platforms.

As the two crew began their work on the aft mooring deck a large wave was shipped, the force of which washed them overboard and caused the safety crew to release their grip on the lifelines. As the two crew were washed away, their lifelines parted. The same wave crossed the first deck stairway platform, forcing one crew member to the deck and causing another's lifejacket to inflate. Despite the best efforts of the vessel and search and rescue (SAR) services, the two men could not be recovered.



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Lessons learned

- 1 No heavy weather checklist was available and none was required to be completed as part of the vessel's safety management system.
- 2 Previous occurrences of the aft mooring ropes coming loose had not been formally recorded, possibly because there had been no adverse consequences.
- 3 The loose nylon mooring rope presented a significant risk of it fouling the vessel's propeller owing to its inherent tendency to sink.
- 4 The need for a designated enclosed means for stowing the coiled aft mooring ropes had not been recognised.
- 5 The vessel's safety management system contained no detailed requirements with regard to sending crew on deck in heavy weather.
- 6 The crew possibly underestimated the potential wave height that could have been expected in the prevailing weather conditions.
- 7 No designated lifelines were provided on board for use in sending crew on deck in heavy weather.
- 8 The crew overestimated the strength of the fire-fighter's lifelines and their ability to manually control their loading in the prevailing conditions.
- 9 The strength of the fire-fighter's lifelines was insufficient to withstand the loading exerted on them by the large wave that washed the crew members overboard.
- 10 Although both men had been wearing lifejackets that had inflated, neither was able to survive their exposure to the heavy weather conditions.

MARS 201358

STS oil transfer starts with STS contact

➔ A 16,500 dwt tanker was on timecharter as a bunker ship in United States waters. During mooring operations to effect a ship-to-ship oil transfer (STS) with another tanker, the starboard bridge wing came into contact with the port quarter of the other tanker. The ship sustained a minor deformation of the outer structure of the bridge wing while the other vessel reported several indents to the shell plating in the way of the port quarter above the waterline. There was no pollution or injuries.

Lessons learned

The assessment of risks inherent in an STS operation had not been fully completed, as factors such as the laden status of the target ship and the effect that contradictory wind and current can have on a ship at anchor were not included.

Action taken

The generic risk assessment for STS operations – which is also applicable to bunkering operations – was reviewed and revised to take into consideration the effect of wind and sea on the other ship at anchor. Risk assessment was distributed across the fleet and incorporated into senior officer briefings.



■ **Editor's note:** As this event indicates, STS transfers entail special risks and procedures. Every ship that undertakes these operations should have their own plans and procedures. A good reference publication is the 'Ship to Ship Transfer Guide' (Petroleum) 4th Edition by ICS/OCIMF.

MARS 201359

Premature reopening of fire area causes re-ignition

Edited from official NTSB report DCA-12-LM-014

➔ While underway a towing vessel with six crewmembers on board experienced an engine room fire. The chief engineer was in the engine room when the fire broke out. The only exit was an accommodation ladder which was in the path of the oil spray fire. The chief engineer exited through the fire, which ignited his clothing. The other crewmembers, who had also been alerted to the fire, discovered the chief engineer and extinguished the flames on his clothing. Nonetheless, the chief engineer suffered burns on more than 90 percent of his body.

As a first response, the crew released CO₂ from the vessel's fire suppression system into the engine room and extinguished the fire. After observing a noticeable reduction in heat and smoke, the Master reported that the fire was extinguished and crewmembers opened the doors to the vessel's superstructure and began de-smoking it. However, this action compromised the fire boundary by allowing CO₂ to escape and fresh air to enter the interior of the vessel, which caused the fire to reflash and rage out of control, consuming most of the tug's superstructure. The crew had to abandon ship and were later rescued by SAR resources.

The vessel's chief engineer was fatally injured, and the five remaining crewmembers suffered minor injuries.

Findings of the report

- The engine room fire was probably caused by the ignition of lubricating oil that sprayed from a fatigue-fractured fitting on one of the main engine's pre-lubrication oil pumps onto the hot surface of the main engine's exhaust manifold.
- Contributing to the extent of the fire damage was the crewmembers' compromise of the fire boundaries when they prematurely began de-smoking the vessel's superstructure.
- The inability to completely secure the engine room's fire boundaries also exacerbated the consequences of the fire.
- The abundance of flammable material throughout the vessel was also a contributing factor to the severity of the fire.

■ **Editor's Note:** This is but one example of how the premature opening up of a fire scene can be disastrous. In my past activities as an accident investigator I have come across this same phenomenon on several occasions, especially for fires in the cargo hold. Essentially, once the fire area has been closed down and CO₂ released, there is usually no overriding reason to open up until absolutely certain that all sources of heat have been eliminated. This can take time; up to 24 or even 48 hours. Another tip – if at all possible, do not open up until additional help can be mustered such as SAR resources or port facilities.

MARS 201360

Touch bottom event in fog

➔ A tanker, under pilotage, was inbound for port with light winds and visibility reduced to approximately one cable (183 metres) in fog. When the pilot boarded there was no discussion on how the actual berthing manoeuvre was to be performed apart from the fact that the vessel was

to execute a starboard swing and berth port side to under a backing manoeuvre once off the destination pier.

Two tugs had been ordered for the manoeuvre. One was secured aft while the second was in the process of securing forward when the manoeuvre was commenced. The vessel was still making way at over four knots when the forward tug was secured. The pilot began giving orders to the tugs in quick succession to turn the vessel, possibly giving an incorrect order that went unnoticed by the rest of the bridge team (even though all were native English speakers). Within two minutes of the forward tug being secured, the vessel touched bottom on an island off the intended berth. The vessel soon came off the ground and there was no pollution.



Situation as forward tug was secured

Findings of the company's report

- The speed at which the vessel was travelling during the final approaches to the pier was in excess of what was required. The vessel had little sea room to complete the turn, with no margin for error.
- The bridge team appeared to have lost situational awareness. The vessel's speed was such that the tugs were not able to connect in sufficient time nor was the bow thruster effective in assisting with the turn.
- There was also no time to analyse and question the (possibly) incorrect order given to the tug.
- Due to the incomplete Master-pilot exchange the planned approach speeds and turn initiation were known only to the pilot who was conning the vessel. Therefore the Master and OOW were not able to effectively monitor the pilot's actions. The pilot's decision-making became the weak link in a system prone to single-point failure; ie, in the absence of effective monitoring, there is little safety backup for the pilot in the navigation of the vessel.
- The bridge team had not identified or discussed an abort point, turn initiation point or the speeds required for the approach. While this information could have come from the pilot, it should have been included in the vessel's original passage plan based on the vessel's characteristics.

MARS 201361

Pilot ladder gives way

➔ A pilot was about to disembark from a small cargo vessel in benign weather conditions, with a good lee, and the pilot launch alongside and under control. The bottom rung of the pilot ladder was slightly above, and clear of, the deck of the launch.

The pilot inspected the ladder as best he could from the main deck to ensure it was properly rigged and secured and free of any obvious defects. All appeared correct.

As soon as the pilot committed his full weight to the ladder, the ropes on each side of the ladder parted simultaneously at the point where they went over the rounded fishplate at the sheerstrake (see photos). The pilot fell two metres to the deck of the pilot launch, bruising and spraining his right foot and ankle which took the impact of the fall. His injuries could have been much worse had the freeboard of the vessel been greater.

The root cause of the accident was the failure of the pilot ladder due to inadequate maintenance and inspection.



■ **Editor's Note:** Accidents due to inadequate pilot ladders or their installation, totally preventable, happen with alarming frequency. There really is no excuse for unsafe pilot ladders on board ships. Treat pilots like family – would you let your father climb an unsafe ladder?

MARS 201362

No safety barriers around an open hatch

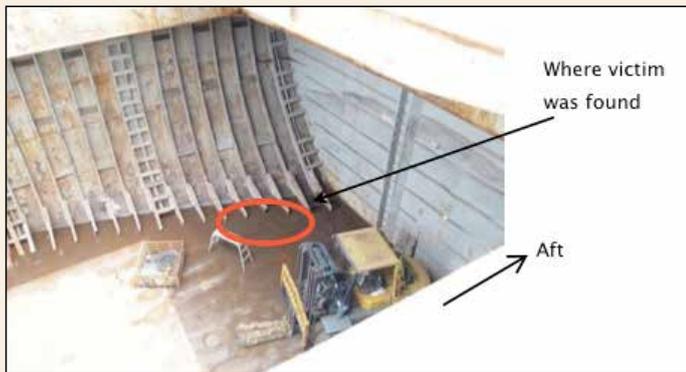
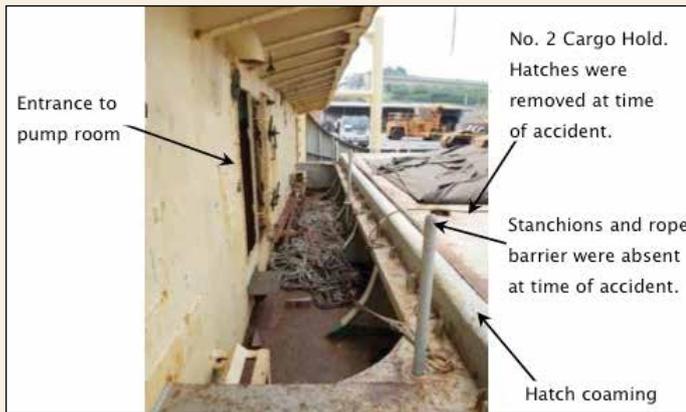
Edited from official Japan Transport Safety Board Report MA2013-7

➔ In ballast and after weighing anchor at about 1 am, the vessel proceeded to berth. It was the practice to remove the hatch covers before berthing when loading or unloading cargo at this port. This had been done prior to heaving anchor.

As the vessel made for the berth the second officer reported to the Master that he would stand by at the aft mooring station. Two crew, both on the main deck, saw the second officer pass in front of them and enter the pump room just aft of No. 2 cargo hold. Soon afterward they heard a scream and they raised the alarm. After the inside of No. 2 cargo hold was lit, the second officer was found lying and bleeding at the starboard aft end of the hold. He appeared to have fallen over the one metre high hatch coaming to the bottom of the empty hold, 8.5 metres below. The victim was later confirmed dead at the hospital due to a comminuted fracture of the skull among other injuries.

The official report cites the following factors that could have helped prevent this accident:

- Set up a safety barrier such as a fall protection fence while hatch covers are removed.
- Ensure that the crew move safely on upper deck passageways.
- Give the crew a warning when hatch covers are removed before berthing.
- Light up the cargo holds, to the extent that doing so will not interfere with safe navigation while sailing at night with hatch covers removed.



FEEDBACK TO MARS 201340

Risks of dropping the anchor underway

➔ From Mr. WJD Wright MNI (one of the founding members of The Nautical Institute).

"... I came close to losing my life in the same way. It was 1955 when I was 21..." "In the MARS report, in the first paragraph under lessons learned it is suggested that in such cases there should be consultation and assessment. I suggest that there would be no time for that."

"...the MARS reports are often very interesting and often demonstrate that for all the changes and modern methods many of the problems are essentially the same as they have always been."

■ **Editor's Response:** We always welcome readers' comments and were especially pleased to receive the comments of one of the founding members of The Nautical Institute, Mr. WJD Wright, who still follows the activities of the NI and MARS with interest. His comments are very much on point and I can only agree. However, as in this case MARS was re-publishing an official report, we cannot change the official findings. His observation that many of the same problems seem to re-emerge is also very true and hopefully with MARS we can do our bit to educate mariners and reduce accidents. As for using anchors to slow a moving vessel, I think everyone agrees that there is great risk for injury or worse to any crew working the windlass during such a manoeuvre.

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.

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