

Seaways

The International Journal of The Nautical Institute

Rescue at sea

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Tackling tugs

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Focus

Benefitting from practical advice

“ Branch meetings provide an important service to the membership in terms of the development of their professional knowledge and feed into the work of the Institute in the IMO ”

A key tradition of seafarers, and one that has subsequently been enshrined in law, is the responsibility to search for and rescue those in distress at sea. While ships are still lost at sea during the course of undertaking their normal business and their passengers and crew need rescuing, a particular feature of the late 20th and early 21st centuries has been illegal immigrants in small boats. Their motivation may be political or economic or both and many will be putting themselves in the hands of people traffickers. Many of these operations will be run by criminal gangs and in the majority of cases the craft used are wholly inadequate for the task.

Such was the case for our Captain's Column author who was sent to the aid of an overcrowded inflatable rib in the Mediterranean at the request of the Italian Coastguard. His article (see p5-9) is frank and full of sound advice which will be invaluable for anyone finding themselves in a similar situation. Happily, his rescue of 106 refugees went relatively smoothly both at sea and on arrival in Italy. It was also most timely as the condition of the boat was deteriorating and night was approaching.

The North of England P&I Club has also issued guidance on organising, reporting and managing large scale rescues at sea (see p8-9) which sets out the legal position covered by the UN Convention on the Law of the Seas (UNCLOS) and SOLAS before giving practical advice. The club is also issuing and updating advice on the Ebola virus outbreak in West Africa. Finally on the subject of search and rescue, the Hong Kong SAR Branch held a well attended and interesting meeting on the subject recently. For a variety of historical and political reasons, Hong Kong is responsible for almost the entire South China Sea area in terms of coordinating search and rescue operations and deploys significant assets itself, although improvements in satellite coverage is still required.

This is one of many branch reports as the meetings programmes resume after the usual summer break and we thank the pro-active committees of these and other branches for the service they provide to the membership. It is of great importance to many members in terms of recruitment and retention as well as the development of their professional knowledge.

Such meetings also feed into the work of the Institute in the IMO and other decision-making bodies within the industry.

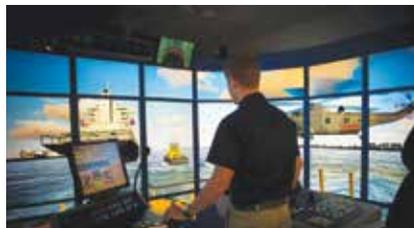
Specialised training

The need for two types of specialised training is covered this month. The first is Tugmasters who, in recent years, have had at least as fast a pace of technological change and reduction in manning as the rest of the shipping industry, and arguably even greater. In many parts of the world tugs are now highly sophisticated and manned by just three people – the Master, engineer and deckhand. The International Tugmasters Association (ITA) sets out the case for an international qualification for Tugmasters as well as for sub-specialisations covering different types of towage (see p10-13). The Institute is pleased to be facilitating their consultation with industry stakeholders on this subject and envisages assisting the ITA in managing the accreditation and certification scheme when it is agreed. In the meantime, it is important to raise the awareness of a broad range of stakeholders and users within the industry of the need for and advantages of such training. The ultimate aim is of course to improve the safety of tug operations and in so doing save lives of seafarers. One such death is too many and, as the examples quoted in the article show, there are many more than that each year as well as damage to ships and tugs.

Another area of specialised training that the Institute has been working on for some time is sail training. Steven Gosling, our Training & Quality Manager, started by reviewing the existing Square Rig Certificate scheme which has been in existence for many years. He found that it needed updating but also that there is now as much demand for fore and aft sailing in this sector and that a combined scheme would be useful. Working with Sail Training International, we are pleased to launch the International Sail Endorsement Scheme which we hope will also help to improve the safety of operations and the enjoyment of sailing in this vibrant sector. It is structured in a way to provide a professional development map for those who become involved in sail training, often initially as volunteer crew, and want to become qualified. 🌊



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Mariners' Alerting and Reporting Scheme

MARS Report No. 265 November 2014

MARS 201455

Pallet snagged – used parts gone

The chief officer instructed the deck staff to transfer 22 used P/V valves from the top of the midship store to the main deck. The deck crew proceeded to pick up the pallet containing all 22 used P/V valves using the midship crane. While swinging the boom of the crane, the pallet snagged on the hose rail. As a result, the pallet was damaged and all 22 P/V valves were lost into the sea.

Lessons learned

- Both competent supervision and adequate planning are necessary to assist in safe outcomes. This was all the more necessary in this case given the lack of experience of the crew who were actually undertaking the task.
- A Job Hazard Analysis was not consulted nor discussed with the staff prior to undertaking the task.
- Company Safety Management procedures were not followed.
- The practice of transferring all 22 units at one lift was flawed.

MARS 201456

CO₂ labelling mixup

During fire safety equipment verifications, the fixed CO₂ cargo hold line identified as number five hold was tested by blowing compressed air into the system line. Despite this, no air passed through to the other end located at the forward and aft hatch coaming of number five hold. The CO₂ line's air drain in the engine room was checked and found to be in order. The CO₂ pipe aft of hold five was dismantled to check for any clogging but none was found. Again, compressed air was blown through but there was no air arriving at the exit end.

Further investigation found that in the CO₂ room, the identification for the release valves for holds one, two, four and five were mis-identified. Only hold number three was correctly identified. As it turned out, the system was mis-identified upon initial installation from right to left instead of from left to right. Hence, only hold number three was correct, the others being in reverse order, and the error had not been caught.



Lessons learned

Testing for the proper operation of the CO₂ system is to be thoroughly conducted including physical check of outlets, not just cursory test or simply paper documentation for compliance.

Proper communication with personnel involved in the test must be established in order to confirm which valves are opened and that the release valve and lines match the labels on the information plate in the CO₂ room.

MARS 201457

Pointing the finger at careless work practices

Three crew were in the process of overhauling a tank cleaning machine for one of the cargo tanks. At the end of the overhaul the cleaning machine was being repositioned in the hold using a tripod winch. As the inlet housing of the cleaning machine was being lowered in a controlled manner using the tripod winch, one of the crew inserted his fingers under the flange to retain the O ring in its groove as it kept slipping out of position. The inlet housing was approximately five cm off its final resting place when the winch, clamped on tripod leg, suddenly and unexpectedly moved. This caused the inlet housing flange to drop on the middle finger of the crewman's right hand causing deep lacerations.



Report findings:

- Inadequate engineering; the clamp holding the winch slipped on the tripod leg causing the suspended load to trap the crew's finger.
- Retaining the 'O' ring in the groove using fingers is incorrect practice. In such cases, it is good practice to use Loctite (or similar) to maintain the correct position of the 'O' ring in the groove of the flange.
- Lack of thorough risk assessment prior to undertaking the job.

MARS 201458

Weakened wire leaves gangway hanging

When the vessel left port the accommodation ladder was left un-stowed in the horizontal position, hanging from the hoist wire, while crew were busy with departure tasks. Once away from berth, deck crew started



the procedures for stowing the accommodation ladder in its seagoing position. Suddenly the hoist wire broke, letting the shore-end of the ladder fall. The ladder was now only attached to the ship by the main ramp. The vessel's speed was reduced and the cargo crane was used to retrieve the ladder and place it on deck.

The wire was found to be in generally good condition and had been recently greased. Records and related photos indicate that inspection and maintenance intervals had been followed. The wire was almost two years old and was without indications of rust or defects along almost all of its length. However, it was observed that the point where the wire broke had more rust and less grease than elsewhere. After further investigation using the wire layout it was found that the break occurred at a point where access is difficult, thus rendering maintenance and greasing more arduous and less efficient. The wire at this particular point is continually exposed to sea/weather conditions yet can be less well maintained than the rest of the wire. Additionally, when the ladder is about to be stowed or deployed these same wire parts experience the maximum amount of tension.

Findings

1. The wire was already wasted at the roller positions, which are always exposed to sea and weather. Given their location, these two points are hard to access for verification and maintenance.
2. The ladder's limit switch may have been bypassed during the operation.

Lessons learned

1. All vessels' accommodation and pilot ladders should be checked for vulnerable points and wastage.
2. Instructions should be given to vessels on how to treat the wires on these accommodation ladders.
3. Crew should be given instructions on the use of limit switches and how they help protect the wire from excessive tension.
4. The accommodation ladder manufacturer should be informed of the weak design.

MARS 201459

Enclosed spaces claim another victim

The vessel had berthed and commenced discharging, with a shore crane, a load of 72,000 metric tons of steaming coal. When requested by shore personnel to draw samples of the cargo, the duty officer instructed the crew member to do so by entering hold number six through the trunk that housed the Australian Ladder.

After about ten minutes the officer noticed that the crew member had not come up from the hold. When he went to the trunk opening he found the crew member had collapsed and was lying on the Australian Ladder just below the first landing about three metres below the main deck level. Immediately he mustered assistance; the crew member was brought on the main deck and attended to. The port ambulance brought the victim to the nearby hospital but he was declared dead on arrival.

Unfortunately, the atmosphere inside the trunking was only checked some 24 hours after the accident; Oxygen and carbon monoxide levels were found to be normal.



Access trunking where OS was found

Investigation findings

- Enclosed Space Entry checks were not carried out.
- The entry was made without the knowledge of the Master and chief officer.
- The possibility of the carbon monoxide content being higher and/or oxygen content being lower than levels safe for human survival cannot be ruled out.
- The entry was not monitored by the duty officer.
- The crew member was on his first ship with only about 12 months sea time.
- The trunking does not have ventilation ports along the entire height except the entry from the main deck by the booby hatch.

■ **Editor's note:** Even though the victim was relatively new to the trade, it is reasonable to assume that even an experienced hand would have suffered the same fate in this instance due to the lack of procedural rigour. Masters and chief officers must be proactive in ensuring that these procedures are in place and are followed.

As many readers may already know, SOLAS has been amended; enclosed space entry drills and training once every two months will become mandatory as of January 2015. Hopefully these additional measures will save lives.

MARS 201460

Travelling gantry crane inflicts mortal injuries

Edited from official ATSB report MO-2013-010

The vessel was in port and routine 'travelling manoeuvres' of the vessel's gantry crane by a ship's officer were being undertaken. The assistant electrician, probably standing near the top of the hatch access ladder, was caught and fatally crushed between the hatch lifting hook and the guide beam of the moving gantry crane.

At the time of the accident, this hatch lid was double stacked on another lid. The little clearance between the guide beam on the aft leg of the gantry crane and fittings on the hatch lids is even further reduced when they are double stacked. Each gantry crane was fitted with warning devices that operated automatically whenever the gantry crane travelled along the length of the deck.

Warning lights were fitted on all four legs and a siren was fitted on each of the two forward legs.

An emergency stop button was fitted to each leg and emergency stop pull wires were fitted along the braces that ran between the two legs.

Some of the findings and safety issues of the official report:

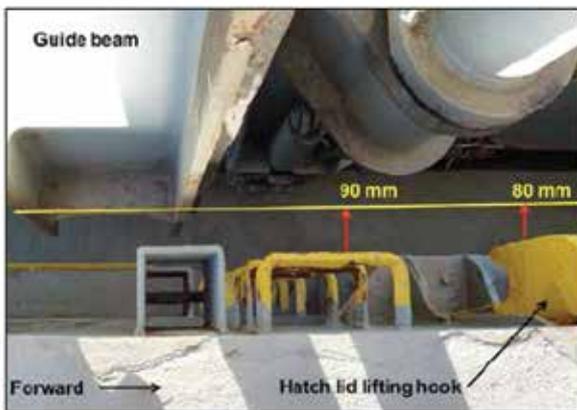
The assistant electrician did not comply with the requirements of the on board permit to work system. He did not gain the Master's approval to work on deck during crane operations (an on board requirement)

Hatch lifting assembly and guide beam shown next to a single stacked hatch lid



Source: ATSB

Guide beam shown next to double stacked hatch lid.



Likely position of the assistant electrician.



and he did not ensure that the gantry crane driver was advised and that the gantry crane's electrical power supply was isolated before he began working in the vicinity of the crane.

The gantry crane 'in motion' warning light nearest to the assistant electrician's location was not operating and the warning sirens were not audible from his location. As a result, he was not provided with either a visual or audible warning of the crane's movement.

The on board familiarisation process did not ensure that new crew members were informed of the precautions required when working on deck while the gantry cranes were in operation.

MARS 201461

Fatigue wake-up call for shore-based personnel

Fatigue, and its deleterious effects on judgement, often feature in MARS reports. Usually, these reports concern on-board operations, but I have long been concerned about fatigue amongst shore-based employees

of the marine industry. The marine transport industry works 24/7, 365 days a year, and the vessel's shore-based support team have to keep the same pace as the ships. Flag State/Port State Inspectors, pilots, agents, chandlers, repair technicians, classification society and P & I surveyors all work long, gruelling hours. And to get to and from the job-site, they usually drive cars.

On one occasion as a marine inspector, I was driving home at the end of a very long work day and I fell asleep at the wheel. Fortunately, the motorway was equipped with lateral rumble strips and the noise and vibration woke me before I crashed. I am personally aware of two other serious incidents. In one, a cargo inspector departed the job-site in the early hours of the morning after a long day loading a bulk-carrier. He fell asleep at the wheel and drove into a ditch; fortunately without injuries. In another incident, a classification society surveyor driving on a remote road in winter hit a patch of black ice. He skidded off the highway, down a steep slope, and crashed into rocks sustaining career-ending injuries.

I am concerned that the marine industry's shore-based support staff are subject to the same dangers of fatigue as mariners, but without comparable awareness of the risks of fatigue.

MARS needs you!

Reports from mariners' experiences of incidents and near-misses are one of the most valuable tools the shipping industry has to help prevent such incidents in future. But The Nautical Institute can only share these incidents if they are reported to us in the first place. www.mars.nautinst.org

Visit www.nautinst.org/MARS for online database

Making a difference to the shipping community

The Institute gratefully acknowledges the support of its Nautical Affiliate partners. Through their contributions, MARS saves lives, prevents injuries and contributes to a more effective and safer shipping community.



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How your organisation can benefit from our new scheme

The Nautical Institute has launched a new Nautical Affiliate scheme through which your organisation can demonstrate its support for our charitable work to improve safety, efficiency and best practice within the maritime industry. Your generous support will be used exclusively to fund our Mariners' Alerting and Reporting Scheme (MARS). The scheme replaces the Institute's previous Corporate Affiliate and MARS Sponsorship schemes.

For an outlay of just £500 a year, organisations that join us as a Nautical Affiliate enjoy a wide range of benefits, including:

- Public acknowledgement of the organisation's support for a key industry safety initiative – our Mariners' Alerting and Reporting Scheme (MARS).
- Heavily discounted membership fees where three or more employees become members of the Institute – in turn providing them with access to a robust CPD programme, networking opportunities, monthly members' journal, professional recognition, etc.

- A discount of up to 40% when buying our specialist books and guides.
- Sizeable reductions in delegate fees for leading industry conferences, thanks to the negotiating power of the Institute.

To find out more simply contact Nautical Institute Chief Executive Philip Wake MSc FNI at cpw@nautinst.org or call him on +44 (0)20 7928 1351. Further details can also be found online at www.nautinst.org/affiliate or through scanning the QR code.



For more information about our Mariners' Alerting and Reporting Scheme (MARS) please visit www.nautinst.org/MARS

MARS is only possible because of the support of our Nautical Affiliates.