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Seaways

The International Journal of The Nautical Institute

Seamanship and common sense

Learning from experience p14

The Nautical Institute

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Focus

Seamanship revisited

> This is your journal and thankfully we seldom, if ever, have to commission an article. Your opinions deserve to be known whatever your position or sector.

It is always good to get constructive responses to issues raised in *Seaways*, particularly so in the form of a substantive article (see pp14-15). Captain Gary Ritchie picked up on a Focus comment in February that some members find articles too academic or technical so that they do not equate to their practical work. While this is understandable, the thought processes behind such articles and the information they impart are still relevant and often explore concepts for the future (see VDES pp10-13) so should be considered by all maritime professionals as part of their knowledge development and questioning process.

Nevertheless, Captain Ritchie's key point is that there is a real need to refocus on the practical issue of seamanship skills, and we would certainly not disagree with that. Indeed, without knowing that this article was in the offing, seamanship was the theme of the Focus column in March and is an essential part of the new Strategic Plan, which contains deliverables on Shiphandling and Seamanship, Command, Navigation Safety, Competency and, to help bring all these about, Mentoring.

That we need the members to engage in the delivery of this Strategic Plan is equally true. This has been the case with previous plans, even though the Executive Board, Council and staff at Headquarters will be as dedicated as ever in ensuring it is implemented. The branches and their programmes of activities are an important component in seeking solutions to these issues, so it is good to see the resurgent Solent Branch discussing the manoeuvring of very large ships in confined waters, with highly skilled pilots giving some excellent presentations. While their traditional seamanship skills are clearly as necessary today as ever, the integrated use of the latest technology is equally essential.

Similarly, our sea-going members – some 50% of the membership – are key to raising the issues they have to contend with and proposing practical solutions. We are most fortunate that many do so in the pages of *Seaways* and, to an even greater extent, in the debates of our LinkedIn Group (more than 17,000 group members, of whom some 15% are NI members), which influence Institute policy. We greatly appreciate the contributors to our sea-going columns (Captain's, Pilot's, Mate's) and other feature articles from active sea-goers, but of course more would always be welcome. This is your journal and thankfully we seldom, if ever, have to commission an article. Your opinions deserve to be known whatever your position or sector.

The Trinity House-funded prize for the best Generation Y contribution to improving safety is just one way of encouraging such input. All Gen Y articles and seminar presentations are entered for this £500 annual prize, whether they are submitted under the scheme or not (see p36).

Captain Ritchie is right to plead for a return to common-sense seamanship and, above all, a reduction of the over-burdening procedures that can strangle initiative and the development of professional skills. Training is the essential first step in providing the foundation for these skills, but development of them comes through experience, learning from others (both good and bad examples, as he says) and, above all, from mentoring on board. The employer has a responsibility to put this development structure in place, support their staff in acquiring these skills, and reward achievement.

We have heard all too often at NI seminars around the world the complaint of sea staff that as soon as their colleagues move to a shore job they change from a fellow seafarer to a standard controlling shoreside manager. So let us begin the influencing process that Captain Ritchie requests with a plea to our colleagues in positions of responsibility ashore (company, flag state or port state) to remember their seafaring roots, trust their colleagues at sea and enable them to do the job they have been trained to do.

That includes not swamping them with paperwork, and being pragmatic in the assessment of whatever documentation does remain, as expounded by Captain Dimitar Dimitrov in his Captain's Column – which could as easily be entitled Pilot's Column (see pp 4-5). In essence that is what the leaders at Carnival have done in rethinking the bridge organisation (see pp 6-9), even though some may read this as procedurally based and irrelevant to their minimally manned vessels. Yet it is applied through thorough training and a cultural change for their people. Now they wish to ensure that the Pilot is fully included within this team-working environment, recognising the unique and essential skills they bring to the safe navigation and handling of the ship.

Finally, a plea of our own to our sea-going members and their managers – without creating any more paperwork, please share your SMS incident and near-miss reports with MARS (see p17). If you are a manager, authorise your Masters to send them to MARS direct or do so yourself. The lessons learned are an excellent example of remote mentoring for fellow seafarers to improve seamanship skills.

Mariners' Alerting and Reporting Scheme

MARS Report No. 282 April 2016

April marks the beginning of the second quarter of 2016 – and we would like to continue in the vein of our complementary initiative to invigorate discussions on safety and lessons learned. The first of these 'concentrated campaigns' (January-March) was Learning Through Safety Meetings. For April through June we would like to hear from you on Slips-Trips-Falls.

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 slips, trips or falls that have occurred on your ship and any risk reduction that was subsequently undertaken. Please send us your reports on Slips-Trips-Falls to mars@nautinst.org

On the theme of Slips-Trips-Falls, readers may remember the MARS report below from September 2015. A very mundane accident that brings to light hazards that are right under our nose. This teaches us that we should always have our 'safety eyes' on – continuously on the lookout for hazards in plain view.

While an oiler was on his usual rounds and near the air compressor the internal telephone system sounded. He quickly proceeded towards the engine control room to answer the call; as he stepped on the insulation mat in front of the main air compressor breaker panel the mat slipped under foot and he fell. After examination it was determined that his shoulder had become dislocated.

Reconstruction

The company investigated the incident and has since removed the mat from service as the underside was worn and not gripping properly. All other mats have been checked for their grip and wear.

■ **Editor's comment:** This incident is a good example of how consequences are not really a good indication of risk – and that even such a mundane event as this should be reported and investigated regardless of the consequences. In the case at hand, the consequences were moderate (dislocated shoulder). They could have been less (no injury) or much worse (hit his head and died). Only happenstance has intervened to make the outcome what it was. Would you have reported this incident had there been no serious consequences?

MARS 201618

Working alone and over the side

➔ The car carrier was leaving berth and the deck crew were at various tasks about the ship, securing lines and bringing in the gangway among other things. One crewman was at work securing the gangway. Working alone approximately seven metres above the water, without a life vest or lifeline, he secured the railing posts prior to bringing the gangway up to its stowed position.

No unwanted consequences were known to be forthcoming – but an unsafe working practice was observed.

Lessons learned

- Unsafe working practices can creep into our daily routine by the very fact of their commonplace nature.
- When working over the side one should always wear a life jacket.
- Working alone while over the side virtually guarantees your death if you should fall in the water as no one will know you are in the water.

MARS 201619

Dryer fries instead of dries

Edited from US Coast Guard (USCG) Safety Alert 11-15

➔ A small fire developed in a dryer onboard a cruise ship. The fire was quickly extinguished by the vessel's crew and caused no significant damage. Investigators suspect that a minor spark occurred due to a loose or disconnected wire, igniting lint in the spaces under the dryer and then the rags in the dryer drum.

Subsequently, it was discovered that a built-in fire suppression system, a component of the dryer designed to spray water into the drum in case of fire, had been disabled on all six of the vessel's installed dryers.

The investigation found, among other things:

- The processes and procedures related to the fire suppression systems were not included in the vessel's maintenance systems.
- Regular inspections and evaluations of this fire suppression equipment did not occur.

- The shared responsibility for inspection and maintenance of the laundry equipment by two sub-departments (galley service technicians and the electrical department) was ambiguous.
- Laundry systems and the normal production of dryer lint create significant fire hazards due to the flammability of the lint.
- Various sources indicate that the majority of dryer fires are caused by spontaneous combustion of residual soils, paint, edible oils, etc. Furthermore, they are also caused by human error or negligence such as leaving dried materials unattended in the dryer; not properly washing, rinsing and extracting clothes; not cooling down dryer loads for ten minutes at ambient temperatures; improper cleaning lint traps; and damaged lint traps.

Lessons learned

- Always keep 'safety components' such as automatic temperature controls, timing devices, cool down cycles and fire sensing/ smothering devices in top operating condition.
- It may be a good idea to re-evaluate the risks associated with industrial washing and drying equipment on board your vessel.
- Establish clear lines of responsibility for equipment inspections, maintenance and repair.
- Never override safety components.
- Consider the need for additional signage and instructions in the working languages of the ship.

MARS 201620

Improvised plan leads to grounding

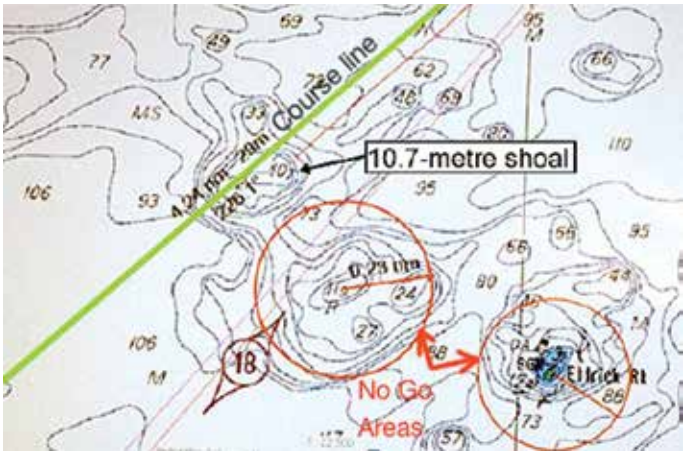
As edited from Canadian TSB official report M14P0150

➔ The Master-pilot exchange (MPX) was conducted prior to departure, including discussion of the passage plan. The bridge team consisted of the Master, the pilot, the third officer as the officer of the watch (OOW), and a helmsman. Shortly after completion of the MPX, and just before leaving the berth, the vessel's charterer directed the Master to a nearby anchorage, as there were some issues to resolve regarding the cargo before the vessel could commence its voyage. The pilot was advised of the change of plan.

The Master and the pilot identified the assigned anchorage on the chart and departed the berth with the assistance of two tugs. Once the vessel was on a steady course to the anchorage, the Master used the vessel's paper chart to plot a direct course line from the assigned anchorage back to the vessel's position. The course line passed between two navigational hazards that the bridge team had previously marked on the chart: some charted rocks and an 11.9 metre shoal, both of which were roughly 0.4 nm from the course line. The pilot verified the course the Master had plotted to ensure that the correct anchorage had been identified and that there was sufficient water depth along the course line. Both pilot and Master determined that the shallowest charted depth along the course line was to be 22 m. The vessel's draft was 13.3 m so all was considered safe.

Having set up his portable pilot unit (PPU) using a raster chart, the pilot was able to monitor the vessel's speed over ground and time of arrival at the anchorage. As they approached the anchorage the vessel's speed was gradually reduced. At one point, the OOW plotted a position on the chart using a range and bearing. The vessel was approximately 0.10 nm south of the vessel's charted course line on a heading of about 225° T. Five minutes later, the OOW plotted the vessel's position as 0.05 nm south of the vessel's charted course line. The vessel passed abeam of the charted rocks at a speed of approximately six knots and on a heading of nearly 227° T. A very short while later a shudder was felt and the vessel's speed decreased. After confirming that the anchor had not been accidentally released, the pilot ordered the main engine stopped and ordered the OOW to plot the vessel's position on the chart while he verified the position on his PPU. Shortly after, water could be heard entering the double-bottomed tanks through the deck vents.

Approximately 10 minutes later, after the Master and pilot had examined the chart in detail, it was confirmed that the vessel was aground on a shoal with a charted depth of 10.7 m approximately 140 m south of the plotted course line. Inexplicably, the pilot had made two no-go zones southeast of the intended course line on his PPU but not the 10.7 m spot much nearer the course line on which they eventually grounded (see chart).



Pilot's PPU screen (10.7m shoal annotated by TSB)

The official investigation found, among others:

- The vessel's destination unexpectedly changed upon departure, and the new route passed in proximity to a charted 10.7 metre shoal.
- The charted shoal was not detected by the bridge team either while planning the revised route or during monitoring of the vessel's progress.
- The pilot's PPU was not configured with all available route planning and monitoring features to assist in the detection of known hazards.
- The vessel, with a draft of 13.3m, ran aground when it passed over a charted shoal of 10.7m.

Lessons learned

- Whenever a plan changes at the last minute, it is worth your while taking a few extra minutes to examine all aspects of the situation.
- Always study the chart in detail and outline any no-go areas in the vicinity of your course line.
- In this case, the Master, pilot and OOW all missed the fact that the vessel was moving into danger, heading toward a shoal that presented less depth than the vessel's draft. All plans should be carefully reviewed, even those made on short notice.

MARS 201621

Small oil leak has major consequences

Edited from official UK Marine Accident Investigation Branch report 22-2015

➔ A ferry was entering port when the starboard controllable pitch propeller stopped responding to the controls. The shaft was de-clutched and the two starboard main engines stopped. The prevailing weather conditions were such that the Master was able to proceed using one propeller shaft and one bow thruster.

The starboard controllable pitch propeller system stand-by pump was subsequently started to maintain oil circulation. Shortly afterwards, a joint in the system's pipework ruptured, spraying oil onto the hot exhaust uptakes and turbochargers. The oil ignited, causing a significant fire in the main engine room, which was subsequently evacuated. The general emergency alarm was sounded and the passengers were mustered at emergency stations. The ferry berthed safely and the fire was extinguished using the ship's hi-fog system and a fire hose. The passengers and cargo were disembarked normally.

The investigation found, among others, that:

- The back pressure valve in the starboard controllable pitch propeller hydraulic system had jammed shut, causing the oil pressure in the return line from the oil distribution box to rise; a flanged joint in the return line from the oil distribution box was unable to withstand the high pressure that resulted, spraying oil onto hot engine parts.
- The joint that failed was not shielded to prevent a spray of oil in the event of failure. Although SOLAS now requires that, as far as practicable, oil lines should have the minimum of joints, be arranged as far apart from hot surfaces as possible, and be shielded to prevent oil spray onto hot surfaces, these control measures were not required at the time when the ferry was constructed. If an effective joint shield had been fitted, this would have prevented a spray of oil being released onto hot engine parts, thus no fire would have resulted.
- While the hi-fog system was able to tackle the fire in the immediate vicinity of the two main diesel engines, the fire was able to spread outside of this area. Combustible materials, including wooden packaging, that were located near the source of the fire were a contributing factor to the spread of the fire.

Lessons learned

- A specific risk assessment should be done in every engine room to determine the potential for, and protection from, oil under pressure reaching hot surfaces.
- Keep engine rooms as clean and neat as possible with combustible materials stored away from possible sources of ignition.

Combustible materials stored near source of the fire

MARS 201622

Unnecessary engine shut-down causes trouble

➔ The general cargo vessel had completed loading and the crew were undertaking the usual tasks prior to departure. Once the pilot was on board, the vessel left the berth with the assistance of one tug. Within ten minutes, the vessel was turned and the tug released. The vessel was then underway. About ten minutes later there was a sudden blackout. Both anchors were quickly dropped but the vessel came into contact with the harbour breakwater nonetheless.

The company investigation found that the engine was shut down automatically due to the main engine crankcase oil mist detector (OMD) having been activated. As it happened, the particular make and model of OMD on the vessel had only one operational mode: if oil mist was detected, it shut down the main engine. Other vessels under the same management had OMDs with two modes; 1) 'sea mode' where detection would shut down the main engine, as in this case, and 2) 'harbour mode' where detection of oil mist means the main engine RPM is reduced automatically and vessel manoeuvrability is maintained.

The investigation also found that in this case the OMD experienced a false alarm. While loading in port, the main engine stand-by heating had been switched off to allow maintenance, allowing a higher than normal humidity within the engine. The OMD detection was apparently triggered by the resulting water condensation.

Lessons learned

- Although it is tempting to free harbour tugs as quickly as possible, in the restricted waters of a small port their assistance can be invaluable should something go wrong.
- A well designed safety device such as an OMD should have at least two operating modes to better mitigate risks.
- When conditions are changed from normal operational values, such as in this case by shutting off the main engine stand-by heating, expect the unexpected. Take the time to think through whether any unwanted consequences may result.

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