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Seaways

The International Journal of The Nautical Institute

Handling ULCVs

Learning from a live exercise p8

The Nautical Institute

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Focus

Manning practices, training & competence

> True competence comes with experience and time is needed to acquire that

At the end of November the Command Seminar 2014 series came to an end with the final one taking place in Manila, which will be reported next month. It was also used to relaunch the Philippines Branch, which has been re-formed under the leadership of Filipino officers. We wish them well in their endeavours to further expand the membership and deliver a useful programme of professional development activities. It will be interesting to see if their view of navigational competence gels with that of the attendees at the Command Seminar in Limassol, Cyprus earlier in November, who came largely from the ship management community (see report pp 5-7). The international range of speakers set the scene expertly for robust debate and a clear set of conclusions covering competence, technology, manning and training. A recurrent feature in these seminars is that true competence comes with experience and time is needed to acquire that.

Sadly, changes to manning practices (short term contracts) and training requirements (reduction of sea time) over the past three decades or so plus the increasing pressures of the work at sea have conspired to undermine the value placed on experience and hence the level of competence within the industry. As Captain George Oommen points out, this is a self-inflicted wound and one that requires real commitment from the leaders of the industry, commercial and regulatory, to address (see p 14). There is at least some evidence that good shipowners and ship managers are beginning to revert to longer term employment contracts, if only to get a return on the large amount they are investing in their own training centres – and this may be at least partly due to their distrust of the results produced by statutory training. However, there is more to do on this front, particularly in building more sea time back into STCW and not just at the cadet level. Research on this subject and barriers to flexibility in the maritime career is being carried out by the Seafarers International Research Centre (SIRC) in cooperation with RMIT University in Australia (see p 16), so it is hoped that they will help to propose solutions.

A key element of competence is the ability to assess risk and, in so doing, knowing when to call for assistance. Captain Trevor Bailey makes a simple but compelling case in encouraging watchkeepers to call the Master whenever they are unsure of handling a situation and sooner rather than later (See Captain's Column p 4). However, to assess risk you first have to perceive that it exists and Alexander McDonald takes a look at this aspect (see pp 11-12). Again, no fancy mathematical models to navigate your way through and wonder how to find the time to use them in the dynamic world of shipping, just some pointers of things to think about and watch out for as your daily work continues. Nevertheless, there is a place for a more scientific and carefully constructed risk assessment, as illustrated by Captain George Livingstone in reporting an exercise to prepare for towing to safety a disabled Ultra Large Container Vessel (see pp 8-9). There is a place for well designed and programmed simulators in training for new classes of ship entering a port, but real life exercises are even better.

Membership engagement

It is excellent to have a bumper crop of Branch reports this month showing the high level of activity that is common through this time of year. They indicate the geographical scope of the Institute and the rich diversity of the professional subjects our voluntary branches consistently address. If you have not found time to take part in these activities up to now, or do so rarely, please make a New Year resolution to do so. You will find them enriching professionally and socially. Equally, there are many ways to contribute to the Institute's work and contributions to *Seaways* or *The Navigator* are always welcome. Sometimes, members may feel the Institute's work is off course and, if that is the case, we want to hear from you with your suggested solutions. The letter on CPD from Captain Shridhar Nivas is an example (see p 33) and it has been considered by the Professional Development Committee. We hope that their response and Tom Field's views on CPD will help to reassure Captain Nivas that CPD need not be daunting or an undue burden.

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Mariners' Alerting and Reporting Scheme

MARS Report No. 267 January 2015

MARS REPORTS

From the editor

➔ In the August 2014 issue of *Seaways*, our team made a heartfelt plea for **more** reports from readers; MARS was clearly at risk as the number of reports was sinking below sustainable levels. MARS appears to be highly appreciated by a great number of readers – but it can only continue with your support and contributions. A few paragraphs is all that is needed, and preferably a few photos too. No names will appear nor identities be revealed. Reports can simply be emailed as text or you can use our simple reporting form to help guide you. Both email address and reporting form can be found on the MARS web page here: http://www.nautinst.org/en/forums/mars/submit-a-report.cfm

MARS 201501

Mis-communication leads to collision

As edited from The Swedish Club Monthly Safety Scenario September 2014

➔ Two officers (of different nationalities) on a container vessel were engaged in the watch handover. At the time there was a bulk vessel on the port bow at a range of 14 miles. The container vessel was crossing the bulker's track with a CPA of more than 1½ miles ahead. A group of fishing vessels was on the port side of the container vessel at a range of 6 miles – the closest had a CPA of 0.1 mile to starboard. The relieving officer reduced the radar range to 6 nm and focused his attention on the fishing vessels, making several small alterations to starboard.

Since the departing officer spoke the local language of the fishing vessels, the relieving officer asked him to call the fishing vessels to request they stay clear. The officer on the bulker, who also spoke the local language, heard this and made his own call to the container vessel in the local language, asking if the container vessel could go astern of his vessel. The departing officer replied but the relieving OOW did not understand what had been agreed as the arrangements had been made in the local language. The departing officer told the relieving OOW, in English, that the bulk vessel had agreed to a port-to-port passing. The relieving officer was still confused and questioned the departing officer if a port-to-port passing arrangement really had been agreed. The departing officer said 'yes', but suggested that it may be better to go astern of the bulk vessel.

A couple of minutes later, the relieving OOW told the lookout to take the wheel and ordered 'hard-to-port' but changed his mind to 'steady' and then 'hard-to-starboard'. The bulk vessel was now very close and collision could not be avoided; the bulk vessel struck the container vessel amidships on the port side.

Lessons learned

Even 14 nm advance warning was not enough for the ships to avoid collision. The OOW's attention was diverted to other details, and miscommunication on the bridge set the stage for bad decision making.

Clear, unambiguous communication is an important factor for any crew but especially so for multicultural crews that use their second language as a common means of communication.

MARS 201502

Discharging tanker hit by runaway vessel

➔ A tanker was moored and discharging a load of fuel oil when another tanker was noted to be approaching in a dangerous manner. The Master of the moored tanker tried to contact the vessel underway on VHF radio but received no reply. Shortly thereafter the moored tanker's general alarm was sounded and the crew mustered at their stations. The discharging operation was suspended, manifolds closed and the terminal informed. Within a few minutes the approaching ship collided with the berthed tanker, causing serious hull damage.

It was later discovered that the vessel underway had lost main engine power and her crew had tried, unsuccessfully, to arrest their forward movement by using anchors.

Lessons learned (Editor's note)

While the reason for the main engine failure of the vessel underway is not known to the reporting party in this instance (berthed vessel), readers should note the appropriate and timely action taken by the berthed vessel to reduce risks prior to the collision.

Although the vessel underway attempted to slow their speed using anchors, mariners should be warned to exercise extreme caution when attempting such a manoeuvre. As reported in past MARS and other accident reports, anchor gear is not designed nor constructed to withstand such forces and injury or death could result to crew members nearby.

MARS 201503

Check your lead or lose your anchor

➔ While preparing to depart anchorage and heaving the port anchor it was discovered that the end shackle pin was protruding from its normal position. The anchor wash was shut off to get a better view of the end shackle arrangement, and it was confirmed that the anchor was supported only by a small portion of the end shackle pin. The Master and Pilot decided to return to the anchorage area and lower the starboard anchor while awaiting further investigation.

A spare end shackle and tapered pin was located onboard with certificate. The next day, a tug and barge came alongside and the vessel's crew met with the foreman of the barge to determine a plan to replace the end shackle. A risk assessment and toolbox meeting was conducted and the job undertaken. A statement including pictures regarding the end shackle replacement was sent to Class.

The company investigation found that it was most likely that the lead seal of the tapered pin had worked itself loose and went missing. The pin securing the shackle bolt was then able to work itself loose. Although the company's managed vessels had a procedure in their planned maintenance system for checking the integrity of the anchor joining shackle tapered screw and seal, it did not include any direction as to what the check should include or why it was required. Nonetheless, this job had been carried out annually without any discrepancies noted.

The practice developed onboard provided for sighting the anchor and joining shackle from the main deck. However, given this incident,

the practice was deemed insufficient to meet the requirement. In order to accurately check the security of the lead seal an up close physical inspection would need to be arranged. Company procedures were changed accordingly.

MARS 201504

The biggest ship gets the right of way?

➔ In the open ocean and in darkness, a large private vessel (49m) was making way at about 11.5 knots on a heading of 099 degrees. The proper lights were lit and the AIS was correctly programmed. A cargo vessel was noted on radar about 60 degrees off the port bow and was acquired as an ARPA target. The vessel was observed to be heading roughly SSW, at approximately 202 degrees, at about 13 knots.

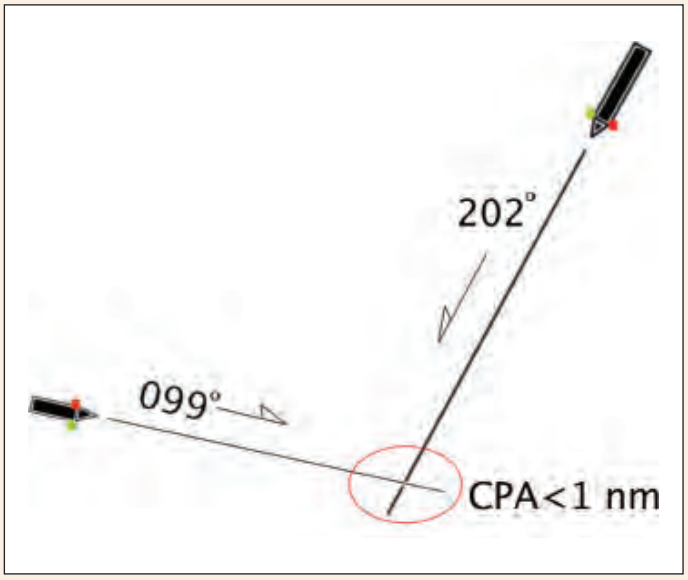
When the vessels were approximately 10 nm from each other, and now in sight, the private vessel received a VHF radio call from the cargo vessel requesting that the former alter course so that the cargo vessel could stand on. The Master of the private vessel took the call, politely declining and suggesting the cargo vessel alter course to starboard, as per the collision regs; the radar was showing a CPA of less than one nm. They were in open seas with no other conflicting traffic.

About five minutes later, with other vessel at five nm, the Master of the private vessel called the cargo vessel to warn that the CPA was still less than one nm. The OOW of the cargo vessel replied that he 'was watching'. At about two and one-half nm the cargo vessel made a significant alteration to starboard and passed about one nm astern of the private vessel.

Lessons learned

A game of 'chicken' on the open seas is never a good idea and, if pushed to the limit, the smaller vessel will always lose.

The unprofessional attitude of the cargo vessel's OOW is evident here; at 10 nm he was aware of the crossing situation with a small CPA but he apparently assumed that since he was on the larger vessel he could 'bully' the smaller vessel into changing course instead of assuming his responsibilities under the collision regulations.



This unprofessional attitude is again evident by the lack of proper communication. The OOW of the cargo vessel never confirmed his actions, saying vaguely he was 'watching'; and only within minutes of the CPA did he abruptly alter course to starboard without warning.

At 10 nm, an alteration of course of 30 degrees to starboard for a relatively brief period by the cargo vessel would have cleared the situation with minimal consequences to their schedule.

n **Editor's note:** In any encounter where the behaviour of one vessel appears ambiguous or counter to the Colregs, it is most important that clear, unambiguous communication be used and a mutually acceptable agreement be reached in a timely manner in accordance with the Colregs.

MARS 201505

ECDIS unassisted grounding

Edited from official UK MAIB report 24-2014

➔ During the early morning hours a tanker was transiting a heavily used waterway under VTS control at a speed of about 12 knots and using autopilot control. In the early morning hours there was a handover of OOWs. The new OOW was joined by the deck cadet who was assigned lookout duties. The intended route had been prepared using the ship's electronic chart display and information system (ECDIS) and the OOW selected the scale on the ECDIS display that closely aligned with the 12 nm range scale set on the adjacent radar display.

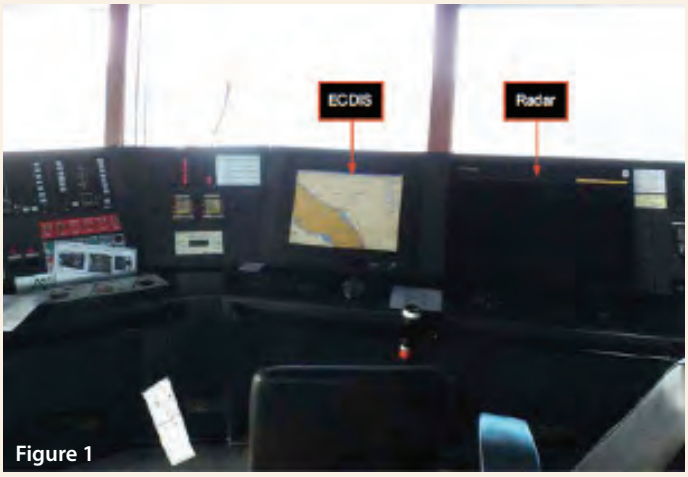


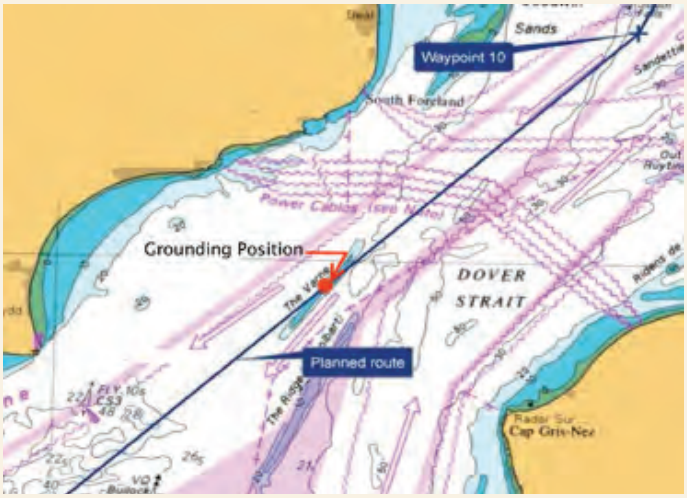
Figure 1

The safety contour had been left at the factory default value of 30m even though the vessel's draught was only 7.9m. The OOW then sat in the port bridge chair where he had a direct view of both radar and ECDIS displays (Figure 1).

As the vessel approached the Varne Bank the deck cadet became aware of flashing white lights ahead but he did not identify the lights or report the sighting to the OOW. At approximately 0417, the vessel passed close by the Varne Light Float; 15 minutes on the ship's speed slowly reduced until the vessel stopped when it grounded on the Varne Bank two minutes later.

At this point, the OOW did not yet realise that the vessel was aground. Three minutes after grounding an engineering alarm sounded and the OOW placed both azipod control levers to zero. He then informed the Master of the alarm and also rang the engine control room to request they check the engines. Within a few minutes the engineer telephoned the bridge and informed the OOW that ahead pitch was available on the starboard azipod. Accordingly, the OOW moved the starboard azipod control lever to pitch ahead but the ship remained stationary. This led him to assume that there was still a problem with the ship's engines.

A few minutes later, after having been contacted by VTS, the OOW zoomed in on the ECDIS display and realised that the vessel was aground. He placed the starboard lever back to zero pitch and called the Master, who came to the bridge.



During this period the general alarm was not sounded and the crew were not mustered, although ballast tanks were checked for internal leaks and a visual search was made around the ship for pollution. The vessel was refloated on the next rising tide and subsequently berthed at a nearby port to enable the hull to be inspected by divers.

Some of the findings and lessons learned from the official report are as follows:

1. The passage plan had the vessel pass directly over an area of water with less depth than the draught of the vessel.
2. The passage plan was not properly checked for navigational hazards using the ECDIS 'check-route' function, nor was it verified by the Master.
3. When taking over the watch, the OOW did not check the ship's intended track relative to any dangers to navigation that would be encountered on his watch. Additionally, the OOW monitored the vessel's position solely against the intended track. Consequently, his situational awareness was poor.
4. Although the lights from the cardinal buoys marking the shallow water were seen by the lookout, they were not reported.
5. The ECDIS audible alarm was inoperative. Although the crew were aware of this defect, it had not been reported.
6. ECDIS training undertaken by the ship's Master and deck officers had not given them the level of knowledge necessary to operate the system effectively; among others the route was not properly checked, inappropriate depth and cross track error settings were used, and the scale of ENC in use was unsuitable for the area.
7. The SMS bridge procedures provided by the managers were comprehensive and included extensive guidance on the conduct of navigation using ECDIS. However, the Master and deck officers did not implement the ship manager's policies for safe navigation and bridge watchkeeping.
8. The serious shortcomings with the navigation on board the vessel had not been identified during the vessel's recent audits and inspections. There is a strong case to develop and provide tools for auditors and inspectors to check the use and performance of ECDIS.
9. The ECDIS display for the voyage had the safety contour set at 30m, which was the manufacturer's default setting. The preferred safety contour for the vessel should have been obtained using the formula in the vessel's SMS ({Draught + squat} x 1.5, or about 13m in this instance). The ECDIS would then have defaulted to the nearest deeper contour on the chart in use, the 20m contour. This in turn would have given a much better indication of the dangers and hazards along the route (Figure 3).

n **Editor's note:** Some may wish to call this an ECDIS assisted grounding. My preference, given the poor and misguided use of the equipment, would be to call it an ECDIS unassisted grounding. But navigating a vessel is more than sitting in a chair and looking at screens. Even though the ECDIS was setup incorrectly and misused, proper navigation and situational awareness techniques were not part of the OOW's routine during this voyage.

Visit www.nautinst.org/MARS for online database

MARS 201506

Painted capstan/windlass drum ends = danger

From Marine Safety Forum – Safety Flash 14-29

➔ Many recently audited ships have been found to have painted capstan or windlass drum ends (rounded contact surface) and some crews and Masters are adamant that there is nothing wrong with this practice. The problem, however, is that the paint itself is the hazard. As the rope is surged on the drum, it creates friction which melts the paint. As soon as the surging is stopped, the paint solidifies and glues the rope to the drum. The rope will then not surge and cannot be slacked until the bond is broken, usually with a corresponding jump in the rope. This jump is easily capable of breaking a wrist or worse.

Photo from The Nautical Institute's *Mooring and Anchoring Ships*, Vol 2, page 105