April 2017 www.nautinst.org

Seaways

The International Journal of The Nautical Institute

Supporting DPOs

Our new revalidation scheme **p12**

The Nautical Institute

Captain John Lloyd AFNI Chief Operating Officer

Focus

Join, be heard and make a difference

> The Nautical Institute continues to play an important part in encouraging the momentum of improvement. This is important to the industry we serve and important for each and every member.

The 50th Anniversary of the grounding of the *Torey Canyon* with resulting pollution and damage to the environment reminds us how far we have come with improvements to safer ship operations and more effective ways of protecting our environment.

Better regulation, training and technology have all played a part in creating safer working conditions for seafarers. The Nautical Institute continues to play an important part in encouraging the momentum of improvement. This is important to the industry we serve and important for each and every member.

Our representation at the International Maritime Organisation gives us a high level influence at the regulatory table and readers can hear the latest from the IMO in the article written by our permanent representative Captain John Dickinson FNI.

Equally important is the engagement of professional discussions at a local and regional level and I welcome the reports of branch activities around the world. These highlight important issues for our members, generate an improved understanding of the industry, help us to engage professionally with our peers and encourage wider discussions with others committed to safety at sea. The branch meetings also provide opportunities to engage with new members and I recognise the particular efforts made at a local level to encourage participation, debate and support within The NI 'family'. Do check out for forthcoming events in the What's On diary section.

Speaking of what's on, the first event in the Command Seminar series is approaching. The series focuses on *Navigation Accidents and their Causes* and provides another opportunity to engage in the safety debate and to meet members and others from across industry. I am sure we will have excellent support in both Singapore and Cape Town. I look forward to discussions of the proceedings and to the Seminar and AGM to be hosted in London during May. Initiatives to encourage Cadets and younger participants are especially welcome and we look forward to engaging with their views and thoughts on how the industry will evolve in the coming years.

Please make every effort to attend one of the seminars if you can.

The Nautical Institute is continuing with initiatives to enhance the career prospects of our members and the Seminar Series will also see the re-launch of our revised Command Scheme. This rigorous professional development programme helps those aspiring to Command to prepare for the role and to understand the complexities and responsibilities of Masters. The programme is delivered through a series of five modules above and beyond STCW and will help raise professionalism in support of our core mission – developing maritime excellence. If you would like to know more about the scheme then please contact us here at NIHQ. We will heavily discount participation of members in support of your career development and to increase your opportunities for promotion and recognition.

Seaways this month continues to raise important matters of safety with valuable contributions that examine issues on the safe carriage of bulk cargoes, Rule of the Road in action, navigation techniques and quality management.

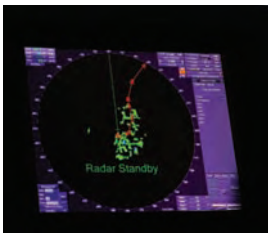
Your involvement in these deliberations is very important and I look forward to the discussions continuing through publications, letters and our online forums. Join a group, be heard and make a difference.

Finally, and to return to the original point, responses to pollution incidents require an understanding of the hazards involved and the proper training of the personnel to be deployed in case of a spill.

The Nautical Institute is proud to be making a contribution in this area too with all training courses in the UK accredited by our organisation under an agreement with the Maritime and Coastguard Agency (MCA) and the Department for Business, Energy and Industrial Strategy (DBEIS). As well as approving 15 training providers in the UK we have visited, inspected and approved another 19 organisations around the world.

If you would like further details of these activities then check out the website or contact me at sec@nautinst.org.

Captain John Lloyd AFNI
Chief Operating Officer



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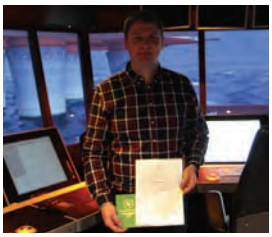
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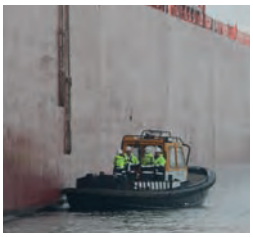
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Mariners' Alerting and Reporting Scheme

MARS Report No. 294 April 2017

MARS 201724

Darkened workspace and an unprotected hazard lead to fatality

As edited from Accident Investigation Board of Norway report 2016/08

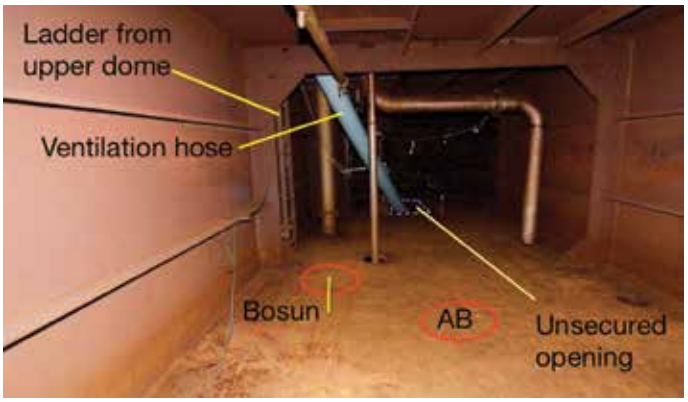
➔ A gas tanker was moored at a shipyard and crew and shipyard personnel were busy preparing for maintenance. The shipyard had issued permits to enter tanks which, in theory, meant the tanks were adequately ventilated and illuminated. During a preliminary inspection it was found that a maintenance hatch cover had become dislodged from the deck in the lower tank dome and had fallen 17 metres to the bottom of a cargo tank, leaving the maintenance hatch open and unsecured.

Work inside the tank started the next day. One of the tasks was to recover the maintenance hatch cover. Instructions were issued to the crew to be extra vigilant on account of the unsecured open hatch in the lower dome; none of them had entered this tank before but the bosun and AB had previously entered similar tanks.

The bosun, the AB and an OS began by lowering equipment to recover the hatch cover into the lower tank dome. The AB then went into the lower tank dome. He was not sure where the maintenance hatch was located so he used his torch to get an overview. When he had located the hatch, he started to rig the recovery equipment about 3 metres from the opening.

The bosun followed close behind. He looked around to locate the opening in the deck then joined the AB. No lighting had yet been rigged up in the tanks but both men carried portable lights and felt comfortable that these would provide sufficient light for the time being. Both men were working on preparing the equipment, with their backs to the entrance ladder.

The OS followed a few minutes later carrying a hand-held torch. The bosun heard the OS as he started to climb down the ladder but after one or two minutes he realised the OS was not with them. He shone his light around the space to locate the OS but he was nowhere to be seen. The bosun then went over to the open hatch and looked into the tank. He then saw the OS lying immobile at the bottom of the tank 17 metres below.



Lower dome compartment

Within 10 minutes the victim had been brought out on deck and first aid was administered. The victim was brought to a nearby hospital but he was subsequently declared dead.

Lessons learned

- Even if the paperwork is done, as in this case, the permits to enter tanks were completed, always ensure the required safety measures are actually in place before starting the work. Proper lighting and a barrier around the open maintenance hatch would have prevented the fatality.
- Often, we tend to get on with the work without first analysing the workspace for possible hazards. Before starting a task ask yourself, 'What needs to be done here to make the workspace safe?'
- The ordinary seaman was apparently aware of the open and unsecured maintenance hatch when he entered the tank, but he did not know exactly where in the tank the hatch was located; he had never been inside a cargo tank before. Familiarisation with the space and the hazard would have helped him avoid the accident.
- Hand held lights are no substitute for cluster lighting arrangements. When possible, always work in a properly illuminated space.

MARS 201725

Grinder injury causes repatriation

➔ The vessel was about to heave up anchor, but due to a problem with the windlass the crew were unable to do so. Work started to rectify the problem: welding followed by grinding. An engineer was carrying out the grinding using an electric grinder but the work area was confined and it was hard to control the angle of attack of the grinder.

The grinding disk failed, and pieces of the disc went flying away at high speed. As there was no guard on the grinder and the engineer had no face protection some of the pieces hit the engineer in the face causing a large laceration. First aid assistance was quickly administered and shore assistance requested. The victim was evacuated to a nearby hospital and thereafter repatriated.

Lessons learned

- In this case, there was a sense of urgency to get the job done in order to weigh anchor. Whenever you feel this sense of urgency in your work, slow down and ask yourself 'Am I doing this work as safely as possible?'
- Always ensure safety guards are in place for any machinery that requires it.

- Always wear appropriate personal protecive equipment (PPE).
- Always use the appropriate tool. In this case the angle of attack of the grinder was difficult to control due to the restricted space. Maybe a grinder was not the appropriate tool for the task?

■ **Editor's note:** Electric grinders spin at very high speeds and grinding discs have been known to shatter while in use, causing serious injury to the face, as in this instance, or other parts of the body such as the hands. For other examples of this type of occurrence see past MARS reports 201624, 201243 and 200831. Past MARS reports can be found at http://www.nautinst.org/en/forums/mars/search-all-mars-reports.cfm

MARS 201726

Elevator maintenance injuries

➔ An engineer and an oiler were undertaking maintenance on the ship's elevator. They had opened the inspection cover to the reduction gear of the elevator winch and were inspecting the gears while turning them manually using the turning handle.

At one point, other crew enquired via UHF radio whether the elevator work had been completed as they wanted to use the elevator. Since the inspection had just been finished, the engineer responded in the affirmative and requested the assisting oiler to switch on the breaker of the elevator. The oiler saw that the turning handle was still inserted in the gearbox, and asked the engineer to confirm whether it was OK to switch on the breaker. The engineer said yes and accordingly the oiler switched on the breaker of the elevator.

At about the same time, the elevator was activated by the other crew, causing the turning handle to quickly turn; it hit the engineer in his face and arm causing injuries.

Lessons learned

- The engineer made an error; he had a lapse, forgetting to remove the turning handle before having the elevator motor energised via the breaker. Everyone makes errors but teamwork and procedures should eliminate single point failure and reduce the consequences of an error. For example, had the oiler specifically pointed out to the engineer that the turning handle was still in the gearbox, rather than just asking for confirmation that it was OK to turn on the breaker, the engineer would surely have removed it.
- Always follow procedures when undertaking specific jobs. In this case, allowing activation of the elevator while still in the elevator machinery room was most certainly against procedures.

MARS 201727

Improvised work method causes injuries

As edited from Marine Safety Forum Safety Alert 16-20

➔ During deck maintenance a roller on a winch fairlead was found to be seized. The crew decided to attempt to loosen the roller by using a pallet lifting strop, wrapped several times around the roller, and then fastened to the rail crane fitted on the vessel. When the crane driver applied tension the pallet strap hook broke. The resulting snap-back of the strop hit one of the crew in the back causing severe injuries.

The pallet strop hook was incorrectly secured to the crane hook, making it much weaker than the Safe Working Load (SWL) of the lifting strop itself.

Lessons learned

- A critical examination of the hook-up before tension was applied would have revealed the hazard; the strop hook is not meant to have tension applied in that fashion. Always do a mental risk assessment when trying new work methods. Ask yourself 'What can happen here?'
- When tension is applied to a system, always stand well clear of the potential snap-back zone.

MARS 201728

Mooring boat crushed and sinks

➔ A chemical tanker was manoeuvring starboard side to berth with tug assistance. No currents were acting on the vessel and winds were very light. Two tugs were in position on the port side and a mooring boat was assisting with lines on the starboard side. The forward spring lines were delivered to the mooring boat but as the boat manoeuvred toward the berth to deliver the lines it came between the jetty and the tanker and was snagged by a hole in the berth wall.

The two tugs were now pushing the tanker toward the berth and the distance between the mooring boat, the tanker and the berth was quickly closing.

The Master became aware of the situation with the mooring boat and informed the pilot. The tug boats were ordered to hold the vessel off the jetty and the bow thruster was also engaged to push away from the berth. Unfortunately, these desperate measures were too late as the mooring boat was pinched between the vessel and the jetty. The mooring boat operator, who was alone on the boat, was safely evacuated but the mooring boat sank.

The company investigation found, among other things, that:

- The level of communication and coordination between the mooring boat and the pilot was inadequate.
- The mooring boat was operated by a single person (both operating the boat and handling the ropes) and this could have led to the loss of precious time in warning the pilot and vessel.

Lessons learned

- While berthing, always keep a sharp eye on your surroundings to ensure an unimpeded and safe manoeuvre.
- As the crew of an assisted vessel, we are powerless to influence how assisting vessels are operated. Yet, if we remain vigilant and maintain a robust situational awareness serious consequences may be avoided.

MARS 201729

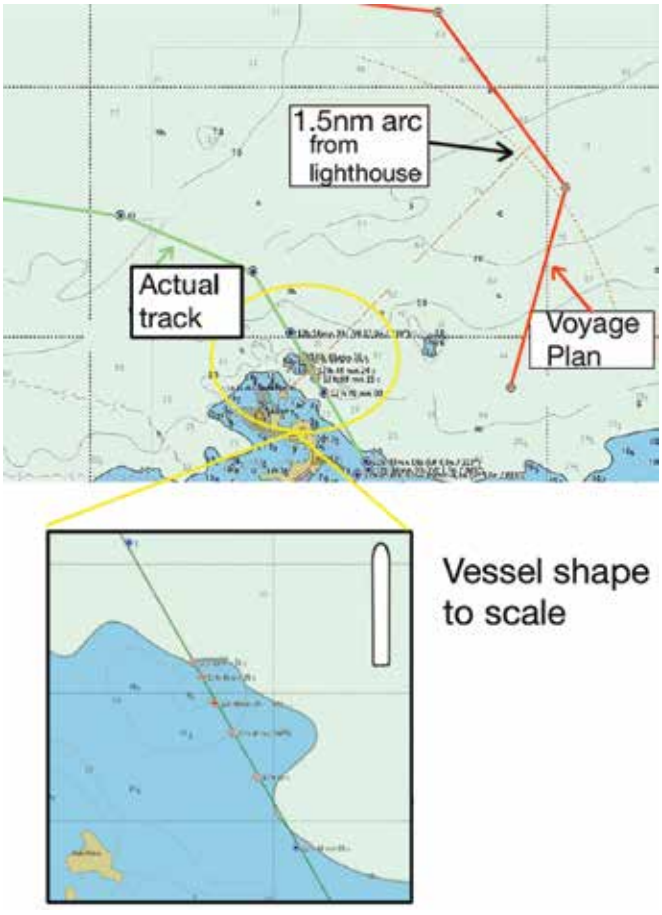
Voyage plan ignored – vessel scrapes bottom

Edited from BEA-mer (France) official report published May 2015

➔ A ro-ro ferry had just left berth and was on a heading of approximately 330° in order to drop the pilot on the port side so that he would be sheltered from the prevailing north-easterly wind. Before the pilot disembarked he apparently warned the Master to pay attention to the nearby shoal but the Master did not recollect this advice. The vessel's voyage plan took it some distance away from the shoal. Port access rules also specify that such vessels as the ro-ro must pass at least at 1.5nm to the north-east of the lighthouse near the shoal. In fact, the ro-ro was not following the voyage plan, and passed only 0.33nm from the lighthouse.

Once the pilot had disembarked, speed was increased but the heading was kept at 330°, bringing the vessel over the shoal, indicated as having a depth of 6.5m. The vessel was drawing 6.49m and was now making over 16 knots. Some vibrations were felt and, as the vessel continued its voyage, crew investigated but found no immediate evidence of water ingress.

The vessel made several more local voyages over multiple days with passengers and vehicles before an underwater inspection revealed bottom damage that was eventually linked to the earlier vibrations.



Lessons learned

- As mentioned in past MARS reports 201610 and 201716, if you hear shuddering noises accompanied by vibrations throughout the ship, you should suspect you have touched bottom even if all else appears normal.
- Voyage plans are made to keep the vessel in safe water – follow your plan.
- Squat increases with vessel speed and can easily increase a vessel's draft by a metre or more. Check your vessel's squat characteristics.

MARS 201730

Tug tug-of-war

➔ The vessel was departing and the line had been passed to the forward tug. As the tug moved away from the vessel the tug operator asked the vessel to 'Slack - slack' the line. Then, still moving away, the tug operator instructed to 'make fast'. All communications between the tugs and the pilot were in the local language, a language not understood by ship's crew.

Lessons learned

- Making fast the tug line while the tug is moving away is a dangerous practice.
- When possible, a common language should be used between tug operators, pilots and crew when berthing or departing.

MARS 201731

Improvised work method proves dangerous

As edited from Marine Safety Alert 16-22

➔ The deck crew were bringing mooring lines up on deck in preparation for port arrival. The operation included transferring a mooring line from the starboard locker storage spool to the aft deck winch. In order to expedite the work, a crew member held a crow bar in place to act as an improvised fairlead. This was intended to deviate the line around a pillar while the line was tugged directly from the storage spool to the deck winch under power.

During this operation the crow bar slipped; the deck crew member holding the crow bar caught his fingers between the bar and roller. Severe injuries to three of his fingers resulted.

Lessons learned

- Improvised work methods are rarely safe.
- There should never be undue haste when undertaking a task. This leads to unsafe practices which can cause negative consequences.
- Normal operating procedure in this instance was to first remove the mooring line from the storage spool and then bring it onto the winch without having to angle around the pillar. This procedure was not written down, nor was it communicated to the new crew member undertaking the job.

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