Mariners’ Alerting and Reporting Scheme

MARS Report No 321 July 2019

MARS 201940

Breast line breaks – a warning

An LNG vessel was at berth and loading under some sea swell conditions. Sixteen lines had been used to secure the vessel. One of the aft breast lines (line no 13, shown in red below), a galvanised steel wire rope, parted. The incident was without consequences and the line was replaced with a spare.

The company investigation found that:
- There was corrosion under the area covered by the seizing wire near the socket type fitting.

Lessons learned
- Seizing wires can prevent proper inspection and lubrication of wire rope mooring lines.
- The company decided to replace the socket type fittings with swaging/mechanical eye splice type at the upcoming dry dock.

MARS 201941

Stevedore fatality in enclosed hold ladder space

Edited from official SHK (Sweden) report RS 2019:01

A bulk carrier was in port. A safety and unloading meeting was held between the port production co-ordinator and the ship’s crew, and the stevedores began to discharge the cargo of coal. During the meeting, the Master pointed out that the vessel had enclosed ‘Australian’ hold access ladders (i.e. with intermediate platforms at certain points), so there was a risk of oxygen deficiency in these spaces. It was stated that stevedores should access the holds via the unenclosed straight ladders, which could be accessed via booby hatches that would be opened by the crew.

Unloading proceeded all day. In the evening a new stevedore gang was brought on board. The handover between the two stevedore gangs was unstructured and the information that the stevedores were not to use the Australian ladders went unmentioned. Stevedore A was to drive the loader in hold 7. He proceeded to enter the hold through the Australian ladder access. When the supervisor did not see stevedore A come into the hold he tried to radio him, but there was no answer. He went to the Australian ladder entrance and saw the victim laying on the first platform below the hatch.

The supervisor entered the enclosed ladder space to help the victim and called on the radio for help. As he came near the victim he felt weak and dizzy; as he tried to escape he fainted. Another stevedore arrived and was able to extricate the supervisor. He then descended to try and help the first victim, but this time he too fainted. A third stevedore arrived with an emergency escape breathing device (EEBD) and, after speaking with the recovering supervisor, entered the space and extricated the second victim.

As word of the emergency spread, ship’s crew arrived with breathing apparatus (BA) equipment and the first victim was extricated using a rope. CPR was administered, but he was later declared dead.

Some of the official findings within the report were as follows:
- The stevedores did not use personal gas meters.
- No gas measurement was made in the cargo spaces before unloading began.
- Handovers from one stevedore gang to the next were not sufficiently structured, so some safety-critical information was not passed on.

Lessons learned
- Workers in any enclosed space should have personal gas meters with them. Those spaces should also be tested prior to entry.
- All access points to holds should be controlled by ship’s crew and kept locked when their use is unauthorised.
- Never go into an enclosed space to save a victim unless you are part of a team and equipped with full BA equipment (not EEBD).
**MARS 201942**

**Vessel roll causes fall**

The OOW was undertaking his usual duties at sea in heavy weather. At one point the vessel rolled even more than usual. The OOW was standing near the chart table, then suddenly lost his balance and fell on the deck, heavily impacting his left shoulder.

He required first aid and medication and was placed on light duties until arrival at the next port. After an examination at the local hospital it was discovered he had fractured and dislocated his left shoulder.

*Lessons learned*

- In rough weather a vessel’s roll pattern can be amplified from time to time. Never let your guard down.
- ‘One hand for yourself and one for the ship’ is sensible advice.

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**MARS 201943**

**Vessel drags anchor causing multiple collisions**

*Edited from official MAIB (UK) report 18/2018*

A vessel was in ballast and at anchorage at night, awaiting better weather before taking fuel and continuing the voyage. Five shackles of cable had been used to anchor the vessel and the OOW had set the variable range markers on the radar display to a head of land to the east and to vessel ‘A’, which was anchored three cables to the northwest.

The OOW remained on the bridge completing chart corrections and other tasks and fixing the vessel’s position on a paper chart every 30 minutes. The helmsman was sent below to do fire and safety rounds. The vessel began to drag anchor in a north-westerly direction, but the OOW only noticed this nine minutes later, when he saw on the radar that the distance to vessel A had decreased. He called the Master and ordered the engine as well as instructing the rating on duty to go forward and check the anchor cable.

Soon, the ship’s speed had increased to 0.9kt, dragging in the direction of vessel A. The OOW on vessel A now contacted the first vessel to ask them their intentions. Vessel A’s OOW ordered main engines and also alerted the Master to the developing situation. Before any other actions could be undertaken the stern of the vessel dragging anchor collided with vessel A’s bow. By the time the main engine was available, the Master was unable to manoeuvre clear because his vessel’s stern was fouled on vessel A’s anchor cable.

The two entangled vessels were now set by the wind and tidal stream, at over 3kt, towards vessel ‘B’, which was anchored two cables to the north-west. Vessel B’s OOW had been monitoring the radio exchanges and had called the vessel’s Master and crew. Although the Master of vessel B soon engaged astern propulsion this did not prevent contact with the oncoming vessels. All three vessels began to set to the north-west.

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**MARS 201944**

**Barbed wire while berthing – a prickly problem**

A low-freeboard vessel arrived at port with barbed wire on the ship’s side as an anti-piracy precaution. While docking, the barbed wire came into contact with the dock fenders and was in close proximity to the dock surface.

This situation could be dangerous for crew or linesmen as entangled fencing may suddenly come free from the fender or break, resulting in serious injury. It could also lead to a potential claim from the port if port fenders are damaged.

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**Editor’s note:** See MARS reports 201464, 201616 and 200921 for more anchoring mishaps and lessons learned.

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Lessons learned

- Check with the port about the distance of the top of port fenders from water line at low tide. It may be possible to adjust the ballast so that the barbed wire remains above the fenders.
- If no solution is possible with the barbed wire in place, consider removing the wire before docking.

Ballast exchange leads to unexpected inflow
Edited from official ATSB (Australia) report 340-MO-2018-003

A self-unloading cement carrier was underway in ballast. The OOW began a routine ballast water exchange as required under the ship’s ballast water management plan, using the ballast control panel in the wheelhouse. Additional assistance was provided by the duty rating who operated manual ballast valves, sounded tanks and removed tank access covers in various locations around the ship. The OOW and the duty rating used handheld UHF radios to communicate with each other and verify the valve status.

At one point, the OOW contacted the duty rating and asked that the two after peak manually operated valves be closed. This action was not carried out. The OOW did not confirm with the rating that the message had been received and actioned, so he was unaware that these valves had not been closed.

As the ballast exchange continued, an engine room alarm (aft bilge well high level) activated and the engineer of the watch (EOW) responded. He noticed water flowing over the doorstep through the open steering gear room door. This water drained to the aft engine bilge, activating the alarm. The EOW discovered the water was coming from a scupper pipe in the steering gear room. He noted that it was salt water but could not find an obvious source in the adjacent spaces.

The ballasting operations were stopped and tanks sounded. Water levels in the after peak tank were found to be higher than normal and an investigation found both valves to this tank to be open instead of closed. Continuing investigations then found water coming up the scupper line from the CO2 room on the outboard side of the pipe just below the tank top. The tank was rarely filled to a depth which covered the holed section of pipe. However, when the starboard ballast tank was full to overflowing, the open valves to the after peak tank allowed this tank to fill as well. As the tank neared full, water covered the hole in the pipe, drained into the steering gear room bilge well and overflowed.

Following this incident, procedures were amended to require the OOW to keep a log of all manual valve operations. Ballasting of the after peak tank was to be conducted only during daylight hours. In addition, a status tracking board was made for the manual valves with moveable pegs showing the status of each valve.

The findings of the official report included:

- The after peak tank filled to a level sufficient for water to leak into the holed scupper line within the tank and drain into the steering gear room bilge well. This overflowed and flooded the steering gear room.
- There was no structured or formalised system to track the status of manually operated valves in the ballast system. Thus, there was no record at the ballast control panel to show the status of the valves when closure of the after peak valves was not actioned or confirmed.

Lessons learned

- Although ballast water exchange may seem a mundane, everyday task, taking in and exchanging large quantities of seawater can have serious consequences if something is not right.
- Use closed-loop communications for safer operations.

Leaking fire main isolation valve

While in port the vessel was inspected by flag state authorities. They noted a deficiency related to the fire main isolation valve; the valve was leaking. A plan was made to open the valve to verify its condition and a risk assessment was conducted on that plan. The plan included blanking the line at the valve side and keeping the deck line available for firefighting while the maintenance work was underway.

Once opened, scale and dirt were found within the valve. The valve stem and the disc were re-buffed and cleaned and the valve refitted in position. The valve was then pressure tested and found to be holding well. Port state authorities boarded to confirm the valve was repaired and closed the deficiency.

The company investigation found, among other things:

- The valve position is inverted at an angle for operation, which caused accumulation of scale and dirt in the bonnet of the valve.

Lessons learned

- Check the functionality of the main fire isolation valve during every fire drill.
- After considering the design and position of the valves the company decided to change the maintenance schedule for this equipment. Opening, inspection and overhauling of all fire and foam isolation valves were revised.

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