



Mariners' Alerting and Reporting Scheme

MARS Report No 340 February 2021

MARS 202108

Unsafe safety lines

→ A pilot brought a large bulk carrier alongside. Once berthed, he descended to the main deck for disembarkation. The crew were in the process of rigging the gangway which was now swung out and some 15 metres above the wharf. The pilot saw two crew members on the gangway with safety harnesses on, but the safety lines from the harnesses to the ship were not secured to a strong point. Instead, they were being held in the hands of other crew members on deck. All of the safety lines appeared in poor condition (see photo) and would probably have failed if any load had come on the line.

The pilot immediately protested to the chief officer and Master and corrections were made. The issue was reported to the local maritime safety authority as a safety and crew competence issue.



Lessons learned

- Every mariner has a duty to report unsafe conditions. In this case a pilot spotted some obvious unsafe conditions and made a proper report to vessel and shore authorities.

MARS 202109

Close call with a submarine

As edited from MAIB (UK) report 13/2020

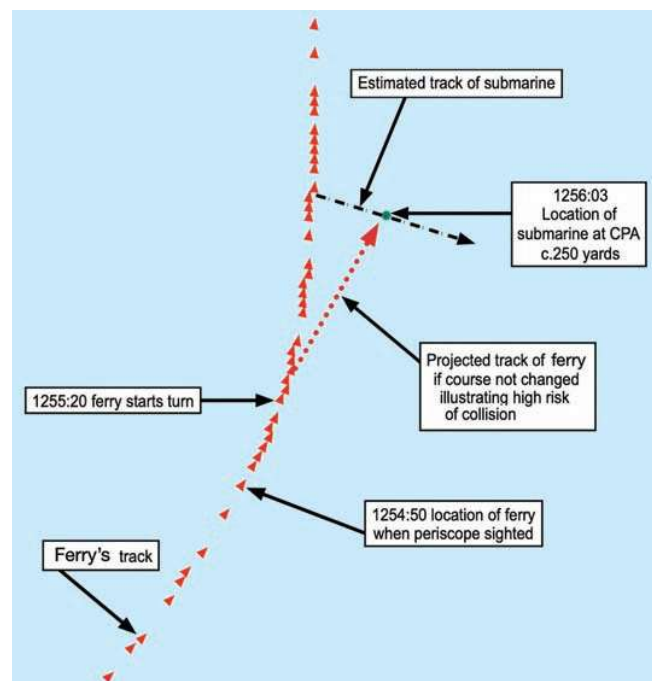
→ A fast ferry was underway at near 21 knots when the lookout saw a submarine periscope at close range on the port bow. He immediately alerted the OOW, who observed from the periscope's wake that the submarine was crossing the ferry's bow from port to starboard.

Given this information, and assessing that there was an imminent risk of collision, the OOW told the lookout to take hand-steering and to apply 10° of port rudder. Further port rudder was put on shortly afterward to increase the closest point of approach (CPA) from the periscope. The OOW alerted the Master, who came to the bridge immediately. About 45 seconds later, with the submarine's periscope passing close to starboard at about 6 knots, the ferry was brought to a steady heading.



Submarine periscope as seen from ferry

As it turned out, the submarine's command team had made several errors that each contributed to the close quarters situation. The approach speed of the ferry was under-estimated (taken as 15 knots instead of 21) and the ferry's range was overestimated. Both of these errors contributed to another critical error on the part the submarine's command team to remain at periscope depth instead of deep diving out of harm's way.



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Lessons learned

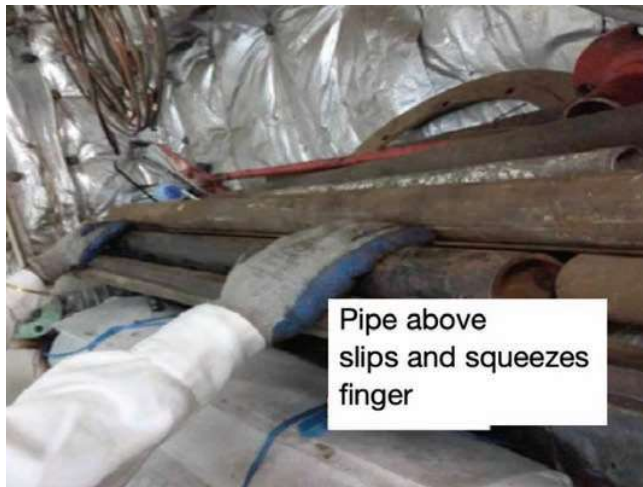
- This close call illustrates the importance of keeping a sharp lookout. Had the ferry's lookout not spotted the periscope, a high speed collision with the submarine was a distinct possibility.
- Turning to port to avoid a collision with another vessel on your port side is usually not the best choice of manoeuvres but given the speed of closure between the two vessels in this instance (27 kts), their respective positions and the good visibility, it proved to be the right one.

MARS 202110

Fingers crushed

→ An engine room crew member was in the vessel's workshop when he spotted an unsafe condition. One of the pipes stowed against the workshop bulkhead was protruding out sideways from the storage support.

He attempted to rearrange the misplaced pipe, but as he was doing so, another pipe stowed above slipped from the pile and crushed his index finger against the pipes below. Upon removing his gloves, the crew member found the fingernail had sheared off along with the skin from the index finger. He received first aid and was put on rest routine.



Lesson learned

- It should be second nature for crew to carry out on-site risk assessments to avoid unnecessary injury while accomplishing tasks: the mundane as well as the extraordinary.
- Seek assistance from fellow crew members for tasks involving lifting or shifting of heavy weights.

MARS 202111

Negative pressure in cargo tanks

→ In the early morning hours a tanker docked to commence unloading. Contrary to port procedures and best practices, there was a negative pressure in the cargo tanks of about 270 mm/wg. This was corrected by the addition of inert gas from the inert gas system (IGS) before unloading commenced. Unloading then proceeded without incident and once empty the vessel departed.

The company investigation found, among others, that;

During the vessel's approach to the berth, which lasted for about 2.5 hours, a constant rain was falling. This accelerated the cooling of the cargo and reduction of its volume, and hence the pressure inside the cargo tanks.

Although the IGS alarm sounded at the time of the low pressure, the crew were otherwise engaged in the tie-up procedures, and did not appreciate the rate of the pressure drop.

Lessons learned

- On a vessel you can sometimes be faced with conflicting priorities. By keeping your situational awareness you will be in a better position to react accordingly.
- This incident shows the importance of investigating close calls of all kinds. Find out why something happened in order to introduce corrective action so it doesn't happen again.

MARS 202112

Tug order mix-up

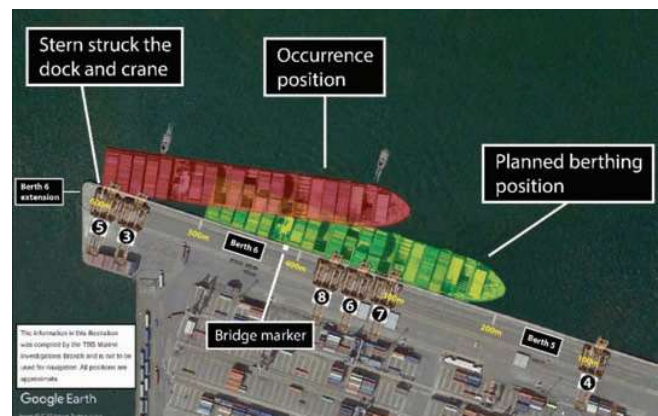
As edited from TSB (Canada) report M19P0020

→ A container vessel was inbound to berth under pilotage in the early morning, in darkness and light winds. Two tugs were secured fore and aft on the port side well before arrival. As a memory aid, the pilot had the tugs positioned alphabetically along the vessel's port side, securing 'F' tug forward and 'H' tug aft. The pilot was conning the vessel from the starboard side of the bridge and was gradually reducing speed.

The approach to the berth was as expected for a very large and wide vessel; nearly parallel to the dock at about 10 metres off with a speed of approximately 1.3 knots. There were no significant effects from the ebb tide. With approximately 200 metres to advance, the pilot ordered the engines dead slow astern in order to reduce speed to less than one knot.

In anticipation of the stern moving towards the berth due to the astern engine order, the pilot in error requested 'F' tug (forward) to back up on the line and take up the strain. As tension came on the line, the vessel's stern started moving towards the berth. The pilot ordered 'F' tug to increase power to maximum and 'H' tug (aft) to push maximum. This error in tug orders resulted in the vessel's stern pivoting rapidly toward the berth, the exact opposite of the intended action.

The Master attempted to alert the pilot to what was going on. At the same time, the pilot ordered the bow thrusters full to starboard, the engines dead slow ahead, and the helm hard to starboard. However, with the tugs still operating at maximum power in the wrong direction there could be no stopping the pivot. With the vessel now at an angle of about 10 degrees with the berth, the flared stern struck the quay and made contact with one of the shore cranes which collapsed inwards toward the terminal, the boom falling onto the vessel.



Although ultimately the collision was caused by human error, the investigation also found that there has been an increase in the size of container vessels berthing at the port over the last decade, and no corresponding upgrades to the terminal such as more appropriate fenders.



Lessons learned

- If effective bridge resource management (BRM) is not maintained by bridge teams, including pilots and tug Masters, there is a risk that errors will go uncorrected and cause unwanted consequences.
- Some port infrastructure has not kept up with increases in vessel size and mariners should be aware of these inconsistencies.

■ **Editor's note:** In this incident, the pilot actually made an effort to avoid tug order mix-up by assigning them alphabetically forward to aft, yet he nonetheless committed the very error he was trying to avoid. The bigger question would appear to be why hasn't the industry adopted the simple method of addressing 'forward tug' and 'aft tug' during manoeuvres? Not only would this nearly eliminate tug order error, it would also have the advantage of allowing the bridge team to better visualise and understand the movements and help correct if necessary (ie effective BRM), provided the tug orders are given in English.

MARS 202113

Soot blowing causes deck fire

➔ A vessel had just left dry dock and was underway to another port for bunkering. In the late afternoon, a fire broke out on the poop deck in the area used for garbage collection. Within minutes the fire party mustered and was able to extinguish the fire without further incident.

The company investigation found that a quantity of combustible material, such as craft papers and plastic covers used to protect the ship's alleyways while in dry dock, had been left on deck and not secured in closed containers. A soot-blowing procedure was undertaken while underway, and it is probable that hot embers ignited the loose garbage.

Lessons learned

- Loose garbage is always a hazard, for fires but also for safety and cleanliness.
- Certain activities, such as dry dock, can leave inordinate amounts of waste on board. Proper planning can alleviate this hazard.
- Soot blowing can introduce fire hazards on deck and company procedures should take this into account.



MARS 202114

Finger crushed in windlass

➔ A vessel was proceeding to anchor and some deck crew were forward at the windlass. One of the deck crew was removing the gear lever pin while another crew operated the hydraulic lever. Unfortunately, the victim's fingers were not clear of the lever pin as he withdrew it, and a finger got trapped in the space between the gear and frame, requiring first aid.

The company subsequently re-engineered the pin with a simple eye on top, enabling the pin to be removed from top of the lever without the operator putting their fingers between the lever and frame. This improvement was applied to all similarly equipped ships in the fleet.



Finger crushed

New Pin

Lessons learned

- Hazards in plain sight once again – and a simple solution to reduce risks was seen only after the incident. Why not take a walk around your ship with 'new eyes' and see if you can spot some hazards in plain view?
- Good communication and job hazard awareness are needed while operating machinery, whether alone or as a team.

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