

Mariners' Alerting and Reporting Scheme

MARS Report No 342 April 2021

MARS 202118

Passenger ship touches the rocks

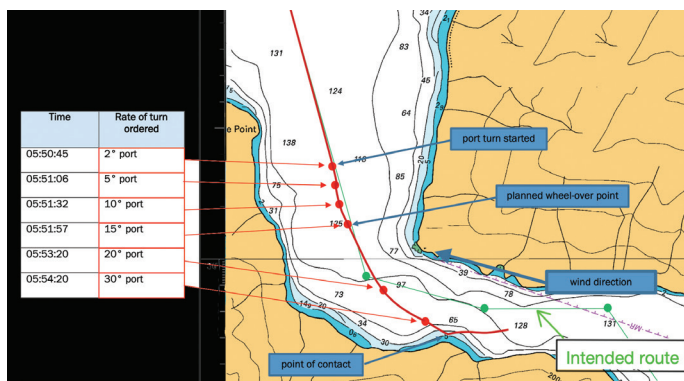
As edited from the TAIC (New Zealand) report MO 2017-202

➔ In darkness, a pilot boarded a passenger ship to assume the con through a restricted waterway. The pilot discussed the speed and rate of turn (ROT) required with the OOW. When the Master arrived on the bridge the three conducted their information exchange and agreed on the passage plan for the transit. The vessel's speed was increased to 12 knots, and the pilot took the con.

About 14 minutes after assuming the con, the pilot ordered a turn to port into the restricted waterway. A 2° ROT to port was ordered to begin. In the following two and a half minutes the pilot ordered successive increases in the ROT through 5°, 10°, 15° and 20° to port. The vessel was by now well to the south of the intended course. The pilot, realising this, ordered a 30° degree ROT to port.

At this point, the OOW became aware that the vessel was close to the shore. He moved to the starboard bridge wing and looked aft to see if the stern of the vessel was clearing the shoreline. The Master joined him on the starboard bridge wing and when he realised how close the vessel was to the shoreline he warned the pilot. Shortly afterwards, the vessel's stern touched a stony bank that extended from the shoreline. As the vessel cleared the bank, the pilot ordered amidships on the wheel and then 20° to starboard in an attempt to carry the stern away from the rocks.

The vessel was brought to the middle of the channel while the Master and the remainder of the bridge team followed a vessel-grounding checklist. While this was happening the pilot continued to con the vessel to a safe anchorage. Inspections confirmed that the hull had not been breached although the dive survey revealed that the vessel's hull was indented along the starboard side for about 65 metres.



The investigation found, among others, that although the tracks were clearly displayed on all of the bridge equipment, at no time was a challenge voiced to the pilot until it was too late. Also, it is likely that the pilot became overly focused on the ROT thus losing situational awareness of where the ship was, where it was heading, and what other factors were influencing its progress.

Lessons learned

- Darkness changes everything! Ask yourself, would this event have happened in daylight and good visibility?
- Correctly executed blind pilotage means using all instruments at your disposal as well as all senses. Why wasn't a parallel index used here as a backup check on the adherence to the planned track?
- Rate of turn is an excellent manoeuvring tool but under certain circumstances it is not a substitute for helm orders.

■ **Editor's note:** The BRM as practised by the crew was strikingly light, as it has been in several other incidents. Notwithstanding clear visual indications on the ECDIS that the vessel was running into danger, not to mention accompanying alarms, no challenge was forthcoming from them as the pilot conned the vessel too far to starboard of the planned route. These accidents and many others can serve as case studies of how BRM still often appears to be but a theoretical concept in the maritime industry even after many decades of efforts to change the paradigm.

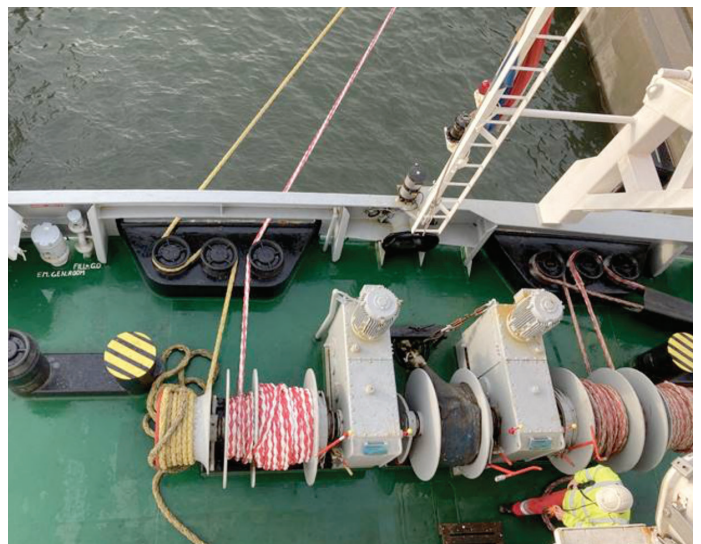
MARS 202119

Mooring morass

➔ A vessel was at berth and a MARS reporter who was not a member of the crew noticed some possible mooring arrangement problems. Below is a photo taken at the time.

Some of the possible problems are:

- Improper leads of the mooring ropes around rollers including full turns and chafing situations.
- Ropes left on warping drum ends instead of being transferred onto mooring bitts.
- Too many turns on the working part of the split drum winch.
- No SWL marking on mooring bitts.
- Different types of ropes (so different breaking limit) working in same direction.



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Lessons learned

- Once again, new eyes can see hazards that may not be apparent to crew who are desensitised to the hazard.
- Unfortunately, poor design is also often at the basis of improper mooring patterns; something which is often overlooked during building.

MARS 202120

Fatal fall into hold

As edited from the Dutch Safety Board report published in 2020

➔ A small multi-functional cargo vessel was at anchor and crew were preparing the holds for the next cargo. Earlier in the day, tween-deck pontoons had been removed from hold 1 and the hatches closed. The deck crew discovered there were insufficient stacking cones. One of the men told his colleagues he would look for additional stacking cones because he knew where several were located.

The deckhand searching for the stacking cones descended into the entrance of hold 1. The area lighting, controlled from the bridge, was not switched on, so he was using a torch to see by. Suddenly, two other crew members nearby heard loud screaming coming from hold 1. One of the crew contacted the bridge to have the lighting turned on while the other went to investigate.

The victim was found at the bottom of hold 1 and appeared to be in great pain. It was established that the victim should be transferred as quickly as possible to a shore hospital. Some time later the victim was lifted on board the port authority boat by crane. Throughout this period the victim was conscious and responsive.

Once on shore, the victim was transported to the local hospital but subsequently succumbed to fatal internal injuries.

The investigation found, among others, that the victim had entered through one of the door openings in place for use with the tween-decks – even though he knew that hold 1 was now without a tween-deck. Because there was no tween-deck, he fell about 12 metres into the hold. At the moment of the accident, the lighting in the hold was not switched on and, because the hatches were closed, hold 1 was in complete darkness. The lighting in the stairwell was also not switched on and the victim was using a small torch light.



Lessons learned

- On ships with multiple hold configurations, great care and failsafe precautions must be taken with doors leading to the hold. If these are not fully closed and locked prior to the removal of the pontoon decks, then grave accidents can occur, even to crew who are aware of the danger.
- We often become preoccupied with the task at hand. In this case the victim walked through (or fell through) a door that he knew was unsafe but had probably not stopped to think, too engrossed in his present task of search for stacking cones.
- Working in dark areas presents extra risks; always have local lighting illuminated for your work area if possible.

MARS 202121

Collision in a river waterway

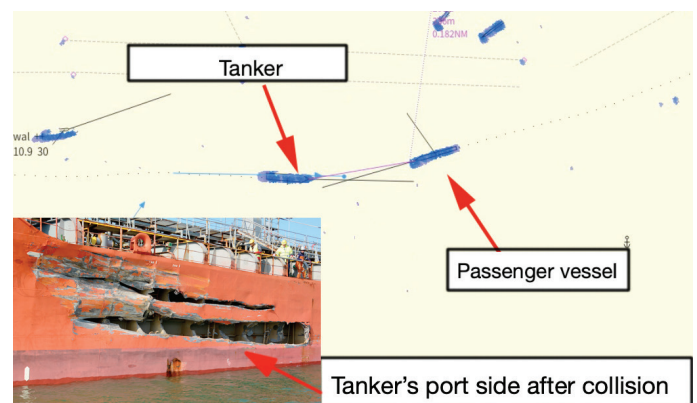
As edited from the Dutch Safety Board report published 1 April 2019

➔ A chemical tanker was up-bound in a river waterway in darkness and under pilotage. As the tanker made way upriver the pilot contacted Vessel Traffic Services (VTS) to propose meeting arrangements with a down-bound passenger vessel, suggesting to VTS that the tanker deviate to port, so that the passenger vessel would maintain its course and pass in front of the tanker, green-to-green. The traffic controller rejected this proposal and requested a standard red-to-red meeting, requiring the tanker to maintain its course and the passenger vessel to alter to starboard.

Some time later, as the tanker and passenger vessel approached each other, the pilot on board the tanker called the passenger vessel via the traffic channel and requested confirmation of the red-to-red passage. The bridge team on the passenger vessel failed to respond to the pilot's call, maintaining their course instead of keeping to the starboard side of the channel. VTS then called the passenger ship. This time, the crew replied. The VTS controller explained that the plan was a red-to-red passage for the ship heading in the opposite direction, referring to the tanker.

The captain of the passenger vessel replied that he had not understood, and asked for the message to be repeated. VTS repeated the red-to-red passage, at which point the Master of the passenger vessel replied affirmatively. However, the vessel failed to change course to starboard. Meanwhile, the tanker had also maintained its course and speed, and the two vessels were now rapidly approaching each other.

About 30 seconds before the collision (time of diagram), the pilot on the tanker issued a warning via the VHF and shortly afterwards ordered the helmsman to turn hard to starboard so that the tanker would not hit the river cruise ship amidships, which might cause catastrophic damage. In the meantime, VTS called the passenger vessel twice to turn to starboard, but without effect. Shortly afterwards, the passenger ship and tanker collided.



The investigation revealed that the crew of the passenger vessel had seen the tanker, but that based on their understanding of the communication, they believed that vessel would make a turn to port ('red side turn') resulting in a green to green passage. They had not understood that this plan had been refused earlier by VTS. The investigation also found that the English communication skills of the passenger vessel's bridge team were quite rudimentary. This may have contributed to their miscomprehension of the situation.

Lessons learned

- Good communication is critical for safety.
- Meeting arrangements should ideally be made in good time and directly between the two vessels concerned, not through a third party.
- When in doubt, slow down.

MARS 202122

Gantry crane crush fatality

As edited from MAIB (UK) report 18/2020

➔ A general cargo vessel finished loading a cargo of cement in the early morning hours and the deck crew were cleaning cement dust from the top of the cargo hatch coamings. This task had to be completed and the hatch covers replaced prior to sailing. At about 0900, the Master was informed that the berth was required for another vessel and the vessel's sailing time had been brought forward by about 2.5 hours. When the Master told the C/O of the revised plan, the C/O advised that he would need all available hands to complete the cleaning operation and requested that the 2/O, who was resting, be called back on deck.

The 2/O arrived on deck at about 0930 and commenced sweeping cement dust from the hatch cover landing surface on the starboard side of the aft cargo hold coaming. One of the vessel's two ABs was sweeping cement dust from the top of one of the aft hold hatch covers. The other AB and the deck cadet were working on the port side walkway, sweeping dust from the top of the forward hold coaming. The C/O was on the gantry crane, moving various hatch covers as required for the work.

At one point, the C/O stopped the crane just short of a stack of hatch covers at the forward end of the aft hold and started to raise the crane's lifting bar. The 2/O arrived at the forward end of the hatch cover stack. The 2/O climbed onto the cargo hatch coaming and stepped towards the gap between the crane and the stacked hatch covers. The C/O could not see the 2/O was in a dangerous position, and drove the crane aft. The 2/O screamed out in pain as he was trapped and crushed between the hatch covers and the crane's ladder access platform.

The C/O stopped and then reversed the crane. As the crane moved forward, the 2/O was rolled between the crane's ladder platform and the hatch covers and then fell off the coaming onto the walkway below, striking his head on the guardrails on the side of the walkway.

The deck crew immediately commenced cardio-pulmonary resuscitation. About 20 minutes after the accident, two emergency medical teams, including a doctor, arrived at the scene and took over the resuscitation efforts. Later, the victim was declared deceased due to internal bleeding from organ rupture.

The investigation found, among others, that:

- The victim was crushed because he attempted to walk between the vessel's gantry crane and a stack of cargo hold hatch covers. The C/O did not know that the victim was under the crane or what his intentions were because he was focused on raising the crane's lifting bar.
- The toxicology report showed that the victim had more than twice the legal limit of alcohol in his bloodstream. Almost certainly the consumption of alcohol was a significant contributory factor in this accident.



Simulation



Overview simulation

- The safety culture on board the vessel was weak. Personnel were working close to moving equipment and unprotected edges, and were not wearing adequate levels of PPE. Also, alcohol consumption on a ship cannot usually go undetected. If this behaviour is tolerated then the conditions are set for a major undermining force in the safety culture on board.

Lessons learned

- Severe accidents involving gantry cranes are unfortunately not uncommon. The lessons learned from the past can be reviewed in MARS 201525, 201460 and 98058 for example.
- It goes without saying that alcohol consumption above the limits set for all mariners via STCW is to be condemned. Many companies have now adopted 'dry-ship' practice in order to help in the practical management of this norm.
- A strong safety culture is not a guarantee of zero accidents, but it is a bulwark against many potential bad outcomes.
- In this instance it was found that emergency stops for the gantry crane were not in sufficient number and those that were installed were badly positioned.

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