Mariners' Alerting and Reporting Scheme

MARS Report No 333 July 2020

MARS 202038

Slip and splash

➔ A tanker was at anchor and undertaking ship-to-ship discharging operations outside a port. Crew changes had been planned at this stop and boarding arrangements had been made using a service boat. The on-signing crew boarded via the combination pilot ladder and gangway.

The first four seafarers boarded safely. As the fifth crew was boarding, he stepped from the pilot ladder onto the lower platform of the accommodation ladder but then slipped and fell two metres into the sea. The crew onboard immediately activated the man overboard (MOB) emergency procedure and a life ring was thrown to the victim. He was wearing a life jacket and, with the use of the rescue boat, he was quickly recovered without injury.

It was found that the lower platform of the embarkation ladder was fitted with anti-slip protection but was nonetheless somewhat slippery due to water on the surface.

Lessons learned

- The importance of wearing a life jacket while boarding from a small boat is plain to see. In this case the seafarer came through the incident without consequences.
- Even though the accommodation ladder's lower platform was treated with an anti-slip coating, the crew member still lost his footing.
- A close watch must always be kept on personnel as they board from the sea in order to react with speed and efficiency should they encounter difficulties.

■ **Editor's note:** Important lessons can be learned from all manner of accidents and incidents, whether the consequences are deadly or, as in this case, benign. Be sure that all close calls are analysed by your vessel's occupational safety team and any lessons learned incorporated into existing procedures.

MARS 202039

Small job leads to overboard fatality

Edited from official DMAIB (Denmark) report January 2016

➔ A deck crewmember went to the bridge to make a telephone call with the ship's internet phone. While walking about on the bridge with the cordless phone, he went to the open outer door on the starboard side bridge wing, where he saw a slipper lying on the grating by the lifebuoy release station. Realising he had not seen the OOW when he came to the bridge, he concluded something was wrong. He immediately hung up and raised the alarm. The Master and others arrived on the bridge and the general alarm was activated. A Williamson turn was initiated while a search of the vessel was undertaken.

A pan-pan message was transmitted from the ship's VHF by voice and DSC (distress call). Shortly after, the local coast radio station replied and informed the vessel that the Rescue Coordination Centre would be notified of the situation. Approximately two hours and a half after hours after the victim was reported missing, a helicopter based rescue swimmer recovered the OOW from the water. The OOW was already deceased.

The investigation determined that the slipper that was found beside the starboard side lifebuoy release station belonged to the OOW. The other slipper was not found. The light cap on the lifebuoy was partly unscrewed. One of the light caps and two O-rings from the port side lifebuoy were found on the chart table on the port side of the bridge. The light bulb was mounted on the smoke signal and showed no sign of being defective.

The guard rail at the lifebuoy release station was 103 cm in height with two intermediate bars set at a distance of between 20 and 30 cm below. The buoy was mounted on a steel bracket by the passageway on the outside of the guard rail stanchion, which made it inconvenient to access. The only way to get a complete view of the lifebuoy was either to lean over the guard rail or to kneel on the grating to look between the intermediate bars.

The OOW was 173 cm tall, which would make it difficult for him to lean over the guard rail without stepping up on the intermediate bar. It is therefore likely that the OOW stepped on the intermediate bar and leaned over the guard rail in order to loosen the light cap to inspect the light. In doing this he most likely lost his grip and fell overboard.

The investigation found that there was no readily available way to check the functioning of the buoy without dismantling it from the bracket. The lack of instructions or guidance from the preventive maintenance system meant that the OOW had to use his own judgement to carry out this task. The OOW presumably decided to inspect the light and smoke signal in place as removing it involved a certain risk of dropping the lifebuoy overboard, particularly when working alone.

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Lessons learned

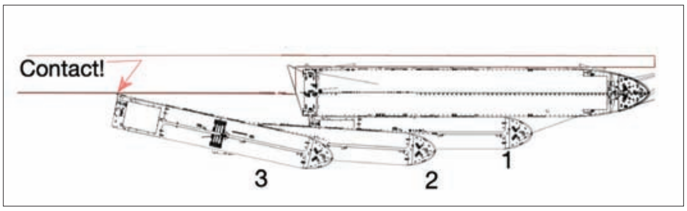
- As a matter of course, all maintenance tasks should be the subject of a risk assessment and the actions necessary for such maintenance should be documented in a procedure.
- Never work alone if there is even the slightest chance of falling overboard.
- Wearing slippers while on watch is not a best practice. Not only do they give less than adequate traction and protection, but an emergency could be declared at any time and a watchkeeper should be properly dressed and ready to respond.

MARS 202040

Easy, sweet manoeuvre turns sour

➔ A small tanker was port side to, secured alongside another larger berthed vessel (position 1). The tanker was to shift to the berth just aft of the larger vessel under the guidance of a pilot, a manoeuvre the vessel and crew had performed numerous times in the recent past. On the bridge at the time were the Master, helmsman, lookout, cadet and pilot. As the manoeuvre began, the vessel remained on the bow spring, with the rudder hard to port and the engine dead slow ahead in order to open the stern from the other vessel.

Once a gap astern was established the bow spring was released and the vessel started to go astern with the bow thruster running at 50% to starboard with engine dead slow astern and rudder midships (position 2). Suddenly, a gust of wind arose from the starboard side and the tanker's bow was pushed towards the berthed vessel. In reaction, the bow thruster was put to full to starboard and the engine slow ahead and then half ahead with rudder 20° to starboard. However, the vessel's stern was now too close to the pier and contact was made at about one knot (position 3).



To think about:

How would you have avoided this incident?

- Use of tug?
- Allow more of a gap to develop between the vessels before coming astern?
- Less speed astern?

Lessons learned

Hindsight is 20-20. Try and envision your manoeuvre before you undertake it, be conservative and expect the unexpected.

MARS 202041

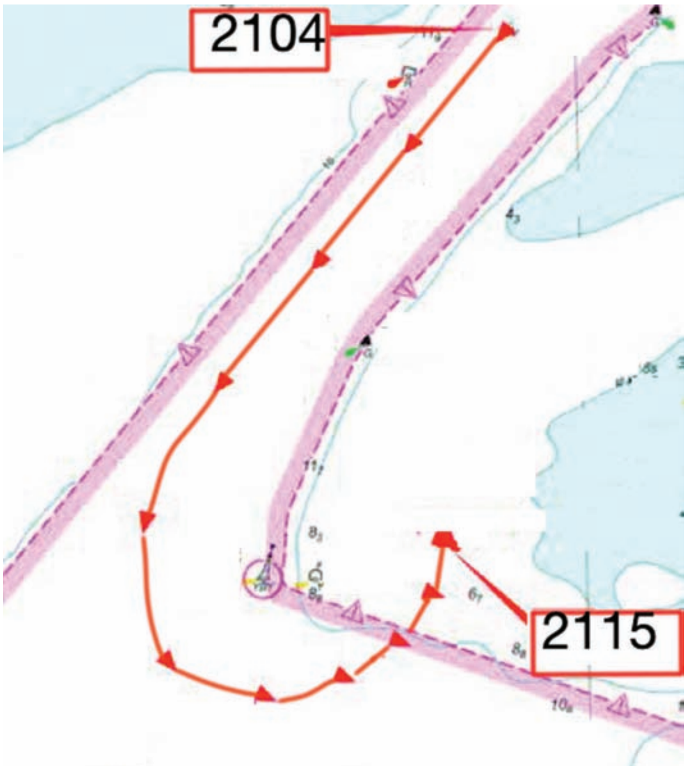
Car Carrier kerfuffle

As edited from official MAIB (UK) report 6-2016

➔ A pure car-truck carrier (PCTC) was in port loading vehicles. The chief officer (CO) was in the ship's control centre using the ship's ballast system to ensure that the vessel remained stable throughout loading and maintained a favourable trim. Previous calculations indicated that the ship would have a metacentric height (GM) on departure of 1.46 metres. This was acceptable, but smaller than was usual.

As the loading progressed, arrangements were made to load some additional high and heavy cargo that was on the reserve cargo list. Neither the ship's duty deck officer nor the CO were advised of the additional cargo before loading.

Later that day, cargo operations were completed and draughts forward and aft were read and reported to the CO, who then made a standard adjustment to the reported aft draught that allowed for the stern ramp still being on the quay. This gave departure draughts of 9.0 metres forward and 8.4 metres aft. However, these were mistakenly reversed when recorded on the bridge noticeboard and on the pilot card. A pilot embarked and the final cargo tally and stowage plan was delivered. The stern ramp was lifted in preparation for departure and the ship listed to starboard. The pilot commented on the list, which was estimated at 7°, well in excess of the 1° or 2° normally experienced when the ramp was lifted.



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The CO went to the ship's control centre and transferred ballast water from the starboard heeling tank to the port heeling tank, bringing the ship upright. He then proceeded on deck to supervise the unmooring operation. The Master, pilot, third officer and helmsman were on the bridge.

About 20 minutes after departure, the CO and the deck cadet went to the ship's control centre to commence departure stability calculations. Due to a large number of changes between the planned load and the actual load, the CO decided to re-enter all of the cargo figures rather than amend the departure stability condition that he had used for his calculation earlier in the day.

As the vessel proceeded outbound from the port, the Master telephoned the CO and told him that he thought the ship 'did not feel right'. The CO replied, 'I'm working on it'. Within minutes, the pilot gave the first helm order, which was to starboard, with the ship making good a speed of 10 knots.

The first turn was completed without incident, the ship heeling to port and returning upright as expected. Shortly afterwards, the vessel entered a channel and the pilot requested that the ship's speed be increased. Meanwhile, the CO became concerned that the newly calculated GM was less than his earlier departure stability calculation had predicted. Since the automatic sounding gauges were out of order, he sent the cadet to take soundings of the three aft peak tanks in preparation for loading additional ballast water. The CO then began setting up the ballast system using the mimic panel in the ship's control centre. He anticipated that he would require an additional 300 tonnes of ballast in the aft peak tanks.

The vessel was now making good a speed of 12 kt. The pilot gave a sequence of orders to the helmsman to execute a port turn: 'Port 10', then about a minute later, 'Port 5', followed by 'Midships'. He observed that the vessel was behaving uncharacteristically during the turn and noted, 'She's very tender, Captain'. The ship then progressively heeled to starboard and the rate of turn increased rapidly.

The pilot ordered 'hard a starboard' and 'stop engines'. He inquired about the vessel's GM but it was already too late. The vessel blacked out and the starboard list continued to increase as the ship swung to port and grounded, (top left) its rudder and propeller now clear of the water (bottom left). Rescue and salvage operations were subsequently undertaken.

Some of the findings of the official report were;

- The vessel had inadequate residual stability to survive the port turn at 12 knots and did not comply with IMO stability requirements.
- The vessel's actual cargo weight and stowage were significantly different from the final cargo tally supplied to the ship.
- Several unsafe practices or pre-existing conditions contributed to the vessel's inadequate sailing stability, including;
  - Cargo unit vertical centres of gravity (VCGs) were not considered when calculating the stability condition;
  - Ballast tank quantities were estimated and differed significantly from actual tank levels;
  - Most of the cargo weights supplied by the shipper were estimated rather than actual values. In reality, there were significant differences between the two for several cargo units;
  - The vessel's stability was not determined until after departure, which was routine practice on this vessel;
  - The company's port captain saw little value in involving the chief officer or the Master in any decision-making processes;
  - The company's operations manual provided no guidance on the role of the port captain, nor how the chief officer and port captain should cooperate to best effect;
  - The process of applying estimated figures to previously estimated figures, and to adjust those figures to compensate for draught readings compounded to allow a ballast condition for departure that bore no resemblance to reality;
  - The chief officer's familiarisation on joining the vessel had not included instruction on the use of the loading computer;
  - The need to accurately calculate a ship's stability condition for departure and voyage did not feature in the company's two-day training course for newly assigned senior officers to its PCC/PCTC fleet.

Lessons learned

- The investigation uncovered evidence that suggests sailing without a finalised and accurately calculated GM is a practice that extends to the car carrier sector in general.
- Without proper training it is likely that unsafe practices will become the norm.
- When unsafe practices become the norm, it is only a matter of time before an accident occurs.

■ **Editor's note:** Ballasting operations and stability calculations (before departure) are particularly important for car carriers and roro vessels. A number of major casualties have resulted with these vessels, which must, in the final analysis, be related to less than adequate training and procedures in these areas, not to mention commercial pressures that normalise unsafe practices. A partial list of these casualties include the accident under review here (2015), the *Cougar Ace* (2006), the *Finnbirch* (2006), the *Dany F II* livestock carrier (43 crew lost, 2009), the *Riverdance* (2008), the *Modern Express* (2016), and more recently, the *Golden Ray* (2019).

When these vessels make turns of 45° or more, the extreme potential negative consequences, in lives, material, and damage to the environment, are astonishing. It is baffling why the companies involved are not more stringent in their training, practices and procedures, to say nothing of their audit processes.

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