Mariners' Alerting and Reporting Scheme

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MARS 202143

Safety culture in action

➔ A small coastal vessel had just berthed. After coming alongside it was found that the state of the tide would not allow the gangway to be positioned ashore for another three hours. The low tide combined with the gangway arrangements on the vessel made it impossible to carry out the operation. The Master needed to go ashore in a timely manner so he instructed the Mate to deploy the fast rescue boat and bring him to the base of the jetty ladder which he would climb.

The Mate was concerned about the safety of this option as the jetty ladder appeared in poor condition. Without invoking a safety concern, the Mate suggested bringing the Master to the floating pilot jetty some distance away as an 'easier' way ashore. The Master assured the Mate he was capable of climbing the seven metre ladder and instructed him to continue to the base of the jetty ladder. Wearing a life-vest, the Master climbed the ladder without incident.

The next day, the Mate met with the Master and expressed his concern for the actions the day before. He explained that he felt climbing the jetty ladder was an unsafe act because of the apparent poor state of the ladder and the height involved. The Master thanked the Mate for his professional attitude and honesty and added that he was very happy that the Mate came forward in this way. He explained to the Mate that we are responsible for our own safety but we are also responsible for our shipmate's safety. The Master concluded by mentioning that had the Mate framed his concerns in terms of safety as opposed to offering an 'easier' way ashore, he would have been much more likely to comply.

Lessons learned

- If you have concerns about a manoeuvre, express them in terms of safety and call a 'Stop Work' order if need be.
- Keep yourself safe but also help your shipmates be safe by intervening on their behalf.
- A safety culture will flourish if all crew believe they can influence the course of events and that their questions and contributions will be taken seriously and without retribution or scorn. Interested readers can find more details in this past *Seaways* article: http://safeship.ca/uploads/3/4/4/9/34499158/safety_culture_pauldrouin.pdf

MARS 202144

Pilot saved from the water

➔ The pilot had boarded our vessel to con the ship to a safe anchorage near the port. Once anchored, the pilot, who was not a young man, was escorted to the pilot ladder. As chief officer, I stood on the upper deck to monitor the operation, about five metres away from the disembarkation point.

The small pilot skiff (seven metres long and one metre freeboard) came alongside and the pilot descended the ladder – about five to six metres. As he put one foot on the skiff, and the other still on the pilot ladder, the skiff moved away from ship's side due to waves. The pilot lost his balance, released his grip from the ladder and fell into the sea.

Within seconds I jumped into the sea from the upper deck. Being a good swimmer, I reached the pilot and helped support him. The ship's crew threw a life buoy as well. The pilot said he was a good swimmer too but he appreciated my help. I supported him as we swam together and we were brought on the pilot skiff within five minutes.

Lessons learned

- Pilots and crew helping a pilot to the ladder should all wear lifejackets.
- In this case there was a happy ending. But resist the urge to jump into the water even if you have a lifejacket. It could then cause two victims.
- What is your plan if a person falls into the water from the pilot ladder?

■ **Editor's note:** This true, first-hand account was sent to MARS for dissemination. You too can send us reports, long or short. Pictures are appreciated but drawings, as here, are also accepted. Help others learn not to make the mistakes you did.

MARS 202145

Rescue boat needs rescuing

As edited from official DMAIB (Denmark) report of 1 April 2020

➔ In calm seas a vessel was stopped while underway to allow crew to undertake boat drills. While the lifeboats were tested, the rescue boat was launched and manoeuvred close to the ship by a three person crew. The rescue boat trials lasted for about an hour before the crew brought the boat alongside for recovery. Once the hook and painter line were fastened, the crew in the boat sat on the floor in a stable manner and the hoist was started. When the boat reached the boat deck, the winch was stopped. Suddenly, the wire failed and the boat fell 17 metres, hitting the water upright. The engine was torn off its foundation, the

bottom hull cracked, and the boat slowly drifted alongside the ship's port side. All three crew members were still in the boat, but seriously injured. The alarm was immediately raised.

It was quickly decided that the best option was to use the main deck crane to hoist the boat back on board with the crew inside. It seemed that the only option was to have a crewmember jump into the sea and swim to the rescue boat to retrieve the painter line, which had been lost over board when the wire broke. One crewmember volunteered to don a life jacket, climb down the combination ladder and swim to the boat. Once the painter line had been retrieved, the crew on deck pulled the boat forward below the deck crane. The volunteer swimmer had climbed into the boat ready to fasten the deck crane hook to the boat. After the hook had been fastened, he swam back to the combination ladder and climbed up on deck.

Approximately 20 minutes after the boat fell into the sea, it was hoisted up to the main deck. The injured crew members were assessed and given first aid. One victim needed immediate treatment and was taken to the ship's hospital. The next morning the vessel arrived at a port anchorage where disembarkation of the injured crewmembers was arranged.

The official report found that the rescue boat davit's wire rope parted because it was corroded to the extent that its load bearing capacity was exceeded when the rescue boat was hoisted. However, the parting of the wire rope was an 'accident event' which could not in itself explain why the rescue boat system failed. Even though the company's Planned Maintenance System (PMS) instructed the officers to inspect and maintain the wire rope, they did not act upon the deteriorating condition of the wire rope. Neither did any of the other officers who continuously inspected, maintained and operated the rescue boat system even when the wire rope was readily visible.

The reason the poor condition of the wire rope was not recognised earlier was a combination of at least three factors:

1. The manufacturer's manual and PMS did not specify how to assess the condition of the wire rope.
2. An absence of training in assessing the wire rope's condition.
3. The PMS activities were compartmentalised. This meant that in practice only one person was assessing each component. All these factors were compounded by the thorough examination performed by service providers which gave the officers a blind trust in the system as a whole.

Lessons learned

- Assessing the viability of a wire rope is not an intuitive process. Some wire rope may appear good but be unsafe while others may appear outwardly poor but still be very good. Special training is needed to properly inspect wire rope.
- A wire rope inspection checklist should be used for this task and the checklist should have viability criteria listed as a reminder for the person doing the inspection.

■ **Editor's note:** In the 'old' days, before rescue boats and covered lifeboats, we had lifelines to hang on to as the open lifeboat was lowered or raised. During one of my drills, the wire rope on the forward tackle snapped and all the personnel that were holding the knotted line were safe, albeit dangling from their line. The one crew that wasn't holding the line fell down with the boat and was injured. Covered lifeboats have had many dropping accidents as well, but measures to reduce these accidents have seen some success. What additional safety precautions do we need to put in place for rescue boats that are suspended by a single wire?

MARS 202146

Anchors away

As edited from MAIB (UK) Safety Bulletin SB1/2021

➔ In early 2020 the Covid-19 pandemic forced many cruise ship companies into an operational pause, resulting in many cruise ships anchoring in various locations for long periods of time. Several incidents have occurred since October 2020 where cruise ship anchors or anchor cables have failed, often while trying to ride out winter storms. One cruise ship lost both its anchors within a week.

The strength of anchoring equipment is defined by ship Classification Rules and it is intended for temporary mooring of a ship within a harbour or sheltered area. In good holding ground, the anchoring equipment should be able to hold the ship to a maximum wind strength of 48 knots in flat water, but this reduces to a maximum of 21 knots wind strength in seas with a significant wave height of two metres.

According to classification rules, anchoring equipment is not designed to hold a ship off exposed coasts in rough weather or to stop a ship that is moving or drifting. In these conditions the loads on the anchoring equipment increase to such a degree that its components may be damaged or fail due to the high energy forces generated, particularly with ships with high windage.

Failures have occurred in joining links, anchor chain common links, D-links and across the anchor crown causing the flukes to be lost. Of the failures reported so far, the most frequent has been failure of the joining links connecting two shackles of cable, often when a significant amount of cable was out, in some cases as much as 11 shackles on deck. Although the additional weight of the cable can prevent the vessel dragging anchor, in adverse conditions it will also increase the forces acting on the cable and anchor. When combined with the significant yawing caused in high winds, and cable lying unused in a chain locker since the last time it was turned end for end, it is unsurprising that several anchor equipment failures have occurred. The issue is further exacerbated when the scope of cable remains constant, causing a single point of loading and wear, for example, where the cable is in contact with the hawse pipe. The indications are that anchor equipment has been failing due to operational issues rather than fabrication defects.

Lessons learned

- Operational limits for anchoring must be sufficiently cautious to ensure weighing anchor is not left too late, risking overloading anchor equipment. If strong winds are forecast, proactive action should be taken to seek a more sheltered anchorage in good time or

proceed to sea and ride out the weather.

- To minimise the wear on the anchoring equipment as far as possible, the anchor in use should be rotated and the scope of cable varied on a regular basis to minimise single point loading. An appropriately experienced crew member should also carry out regular checks on the windlass brake condition and areas where the cable is in contact with the ship.
- While at anchor for significant periods, ensure all watchkeepers are confident in the actions to be taken in the event of dragging or losing an anchor, and that there is a contingency plan ready for implementation in the event of having to proceed to sea or re-anchor. Watchkeepers and senior officers must be aware of the reporting requirements to the coastal state in the event of losing an anchor so that mitigation measures can be put in place if required.

MARS 202147

MSDS: read it and apply it to protect yourself

➔ In drydock, a crewmember was tasked with painting cargo tanks as part of the regular maintenance. He was briefed on the work to be done and, according to the company, about the risks of skin contact with acetone, which was due to be used in the process. However, the crewmember stated he had not been shown the Material Safety Data Sheet (MSDS) for the paint and other products to be used (i.e. acetone), nor had these been discussed with him before the start of the job.

The spot painting in the tanks took the crewmember an entire week; initially preparing the surface and then painting it. He used the prescribed safety gloves and a boiler suit, but was not adequately protected at the wrists so acetone eventually came into contact with the skin causing irritation.

A few days after the drydock the vessel sailed. During the transit the crewmember informed the Master that there were signs of irritation on his wrists. The Master immediately notified the company of the event and the victim was advised to apply ointment on his wrists and keep them bandaged during the day. Once in port the victim was sent ashore for further medical examinations as his wrists still showed signs of irritation.

Although the company investigation found 'improper use of PPE' as the direct cause of the injury (lack of adequate wrist protection which allowed contact with the acetone and consequent skin irritation), it is worth noting that the victim worked an entire week in this condition. Under normal conditions of supervision the PPE slip should have been corrected within the first few hours if not minutes of starting the job.

Lesson learned

- Employers are responsible for adequately informing employees of the risks of particular substances, but employees are equally responsible to inquire and comply.
- Easy and ready access to MSDS information as well as employee requests to review this information is a sign of a strong safety culture.
- Inadequate supervision is a huge contributing factor in many accidents. Are your crew briefings and supervision up to scratch?

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