



Mariners' Alerting and Reporting Scheme

MARS Report No 339 January 2021

MARS 202101

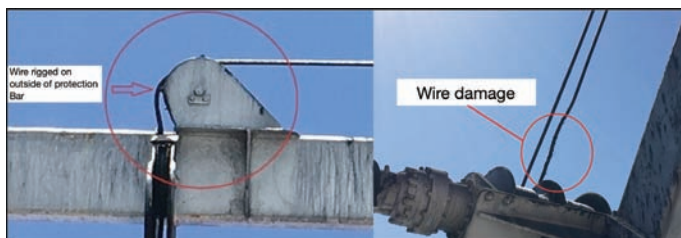
Lifeboat close call

→ The vessel was at anchorage and a lifeboat drill was scheduled. The boat was lowered to the water and completed manoeuvres, the boat crew exited the lifeboat and recovery commenced. As the lifeboat was raised an officer noticed damage to the davit wire near the port side upper sheave.

The operation was immediately stopped and the condition of the damaged wire was investigated. It was found unsafe to use under load so a port crew boat was called. The lifeboat was lowered back to the water and brought to a berth while investigation and repairs were undertaken.

The investigation found that the davit's wire had been incorrectly fitted to the davit sheave. It had been fitted on the outside of the sheave protection bar instead of between the protection bar and the sheave. This defective rigging had caused the wire rope to rub against the bar, which resulted in damage.

The lifeboat davit wire ropes had been installed two months earlier in dry dock. The defect had gone undetected during the load-test after installation and the boat had not been lowered since the test.



Lessons learned

- As lifeboats are raised or lowered it is always prudent to sight the wires and check for defects.
- During dry dock maintenance many projects are often in progress simultaneously and at a rapid pace. In many cases, jobs are undertaken by shipyard crews who have less experience than vessel crews. These factors increase risks, so extra prudence is needed on board in the weeks and months after a dry dock.
- To minimise risks during drills, lifeboats should be raised without crew whenever possible.

MARS 202102

Misapplication of force leads to facial injury

→ A berthed tanker was discharging cargo and a deck crew member was assigned valve operation duties at the manifold. While applying force using an 'f-spanner' on one of the valves he slipped. His face hit the valve spindle with some considerable force causing an injury to his upper lip.



Opening the valve



Slipped

The company investigation found that, among other things, he had not assumed the proper position for the task. This was linked to his lack of experience and inadequate training for this particular job.

Lessons learned

- When investigating for cause, always go deeper than the unsafe act. In this case the unsafe act of not being properly positioned was linked to the unsafe condition of inadequate training.
- All hazards related to a particular task should be explained to new crew. Proper training would include the execution of the task while under supervision.

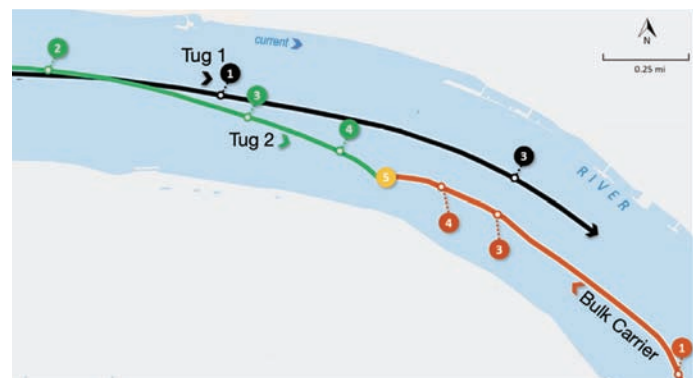
MARS 202103

Assumptions and poor communication lead to collision

As edited from NTSB (USA) report MAB-20/30

→ In daylight and good weather a bulk carrier was in ballast and up-bound in a river. A down-bound tow vessel's operator called the pilot of the bulk carrier to arrange a starboard-to-starboard meeting. This was as per local regulations that require the down-bound vessel, with the current astern and with the right of way, to contact the up-bound vessel and propose the manner of passage. The vessels agreed a starboard-to-starboard meeting and met without incident, but another down-bound tug was approaching and had not yet made meeting arrangements.

On the bulk carrier, the pilot assumed the second down-bound tug would require the same meeting as did the first, that is starboard-to-starboard. However, this was not the intention of the tug operator and he did not call the bulk carrier to make his intentions clear. For the next



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85 seconds the situation continued to develop in an ambiguous manner until the bulk carrier pilot called the tug to confirm what he thought would be a starboard-to-starboard meeting.

The tug operator was taken by surprise by this suggestion, as he had assumed a port-to-port meeting. In his opinion the vessels were now too close to execute a starboard-to-starboard meeting safely. He initiated an emergency avoidance manoeuvre to starboard without informing the bulk carrier's pilot. About 30 seconds later the two vessels collided.

Lessons learned

- This is one more example of a vessel operator making an assumption about the intentions of another vessel operator which has led to a bad outcome. To reduce risk in this sort of situation, clear and unambiguous communication is essential.
- Follow the rules! In this case the operator of the second tug should have called the up-bound bulk carrier and confirmed the manner of passage. Had he done so in a timely manner the collision would have been avoided.

MARS 202104

Poor risk analysis for stuck anchor results in fatality

As edited from TSIB (Singapore) report MIB/MAI/CAS.013

➔ A bulk carrier in ballast weighed the port anchor and departed the anchorage for a sea passage. As the anchor came into view, it was discovered that the flukes were not positioned properly. Heaving was stopped, but not before one of the flukes entered the hawsepipe and became stuck. The anchor was secured in that position and the vessel left the anchorage for the sea passage.

The next day work started on trying to free and reposition the anchor. Several attempts were made to free it by lowering and heaving the anchor, but without success. Next, under the Master's instructions and over the objections of the chief mate, a crew member was tasked to go over the side on a rope ladder while the vessel continued to make way. He was instructed to pass a mooring rope over the crown of the anchor, with a view to using the winches to pull the anchor free. This method also proved unsuccessful.



Top: stuck fluke
Bottom: Crew member pinned in hawsepipe

The next day, a support was welded inside the hawsepipe so that a hydraulic jack could be used to move the chain in the hope of dislodging the anchor fluke. A crew member entered the hawsepipe to position the hydraulic jack against the anchor chain and started operating the jack to move the anchor chain. Suddenly, the anchor chain moved with a jerk and pinned the man against the wall of the hawsepipe.

The victim was retrieved from the hawsepipe and found motionless. First aid was administered but the victim could not be revived. The vessel deviated from its passage in order to disembark the victim's body.

Lessons learned

- The early plan of sending a crew member over the side at the bow while underway was a clear signal that improvisational and unsafe practices were being employed.
- Stand your ground. In this case the chief mate was not in agreement with the practices used and refused to participate. The Master, uninhibited by the chief mate's warnings, continued the various attempts that eventually cost the life of a crew member.
- When a new challenge arises it is best to use cool heads to analyse all risks and benefits. In this instance it would have been evident that sending a man over the side at the bow while underway or having someone enter the hawsepipe were dangerous acts that could not be justified.

MARS 202105

The handrail's tale

As edited from Woodside HSEQ Event Alert WELEV19040105

➔ Two pilots had taken an LNG vessel outbound from a port and were now disembarking using the port side combination ladder (accommodation ladder + vertical pilot ladder). The first pilot safely disembarked the vessel on to the pilot boat without incident. As the second pilot was descending on the lower section of the accommodation ladder, at approximately 10 metres above sea level, the handrail released from its securing point and collapsed to knee height. The pilot was able to recover and was uninjured.

The ensuing investigation found that a securing pin intended to hold a portion of the multi-sectional accommodation ladder handrail system in the upright position had not been correctly installed.

Handrail section not secured correctly

Correct installation

Collapsed handrail



Lessons learned

- Handrails are an essential safety element of an accommodation ladder and should be given the utmost attention when installing.
- Embarking and disembarking at sea is an activity that comprises many risks with potential grave consequences. Give tasks related to these activities your best attention.

MARS 202106

Deadly fall into unprotected hold

As edited from TSIB (Singapore) report MIB/MAI/CAS.028

➔ A container vessel was in the process of loading. At one point, a crew member was seen walking on the raised catwalk adjacent to number 4 cargo hold, which was open and empty. It was early morning and a fine dew had wetted most of the steel surfaces of the vessel.

Suddenly, the crew member was seen to trip backward and fall into the empty hold number 4, a distance of about 14m. He remained motionless at the bottom of the hold and an evacuation procedure was initiated. Later that day he was pronounced dead at the shore hospital.

The ensuing investigation was unable to establish why the crew member was walking on the raised catwalk near the open hold. However, it was found that there were no barriers to prevent falling and that the narrow (70cm) catwalk was littered with loose securing gear that made walking on that surface hazardous.



Lessons learned

- A combination of wet and cluttered surfaces and a lack of fall barriers resulted in a very hazardous work area. Then, the crew member made his fatal decision to enter that area without fall-arrest equipment.
- We do not always make the best and safest 'on-the-spot' decisions. This is why strong procedural integrity and a robust safety culture are important safeguards against negative outcomes.

MARS 202107

Fatigue and weak bridge practices contribute to expensive accident

As edited from NTSB (USA) report MAB 1908

➔ A partially loaded bulk carrier was inbound in a port channel under pilotage. A rudder angle indicator was lit and, because the bridge had been darkened for night vision, it could easily be seen by the bridge team. The pilot conned the vessel from the centreline windows, the helmsman was directly behind him and the OOW was near the engine order telegraph just to the helmsman's left.

Upon reaching a planned course alteration point the pilot gave a port 20-degree command to start the turn. The helmsman answered, 'Port 20', but instead put the helm 20 degrees to starboard. About 11 seconds later the pilot saw that the wrong helm direction had been applied so he ordered 'midships' then repeated the port-20 order. Combined with a full-ahead burst of speed the vessel's swing to starboard was arrested about 38 seconds after the original command to port had been given and the vessel regained the required heading.

Following the helmsman's error and recovery, the pilot and OOW had a brief conversation about the mate's duty to watch the helmsman. The second mate agreed to double-check the helmsman with each command. The Master was not on the bridge at the time. The OOW offered to call him, but the pilot declined. Although the OOW did not understand conversational English, he told investigators he understood the pilot's orders.

Some 90 minutes later the vessel approached a major turn to starboard. By now the Master was on the bridge. The pilot planned to turn wide, intending to stay to the south side of the channel to pass a working dredger. The pilot gave a port 20-degree command to bring the ship slightly left, ahead of the turn to starboard, and the helmsman answered accordingly. The pilot's next order to make the turn to the

right, 24 seconds later, was 'hard starboard'. The helmsman repeated the pilot's order but instead put the rudder hard to port.

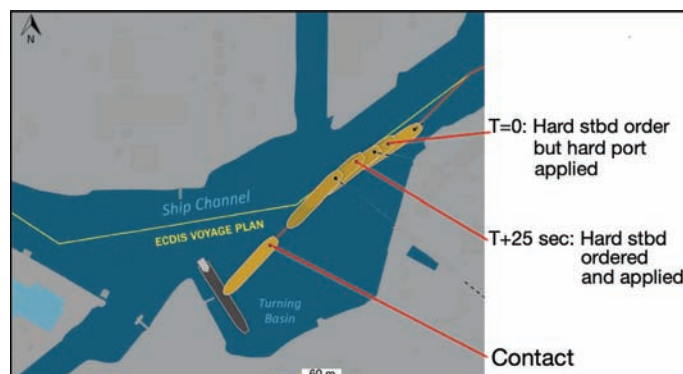
Ten seconds later, the pilot recognised the error and ordered midships while tapping with his fingers on the rudder angle indicator above his head to get the helmsman's attention. It took the steering gear 15 seconds to shift from hard port to midships, and then the pilot repeated his original hard-starboard order. The rudder reached hard starboard 12 seconds later, although the ship's heading was still falling to port at about 12 degrees per minute. The pilot now realised an emergency manoeuvre was needed.

The pilot ordered 'Stop engines; let go anchor' and seven seconds later, 'full astern'. The vessel's whistle was sounded. At this point the vessel was making about 6 knots and its heading was still falling to port. The pilot estimated that increasing the engine speed to power through the turn, as he had done earlier, would not work so he chose instead to attempt to stop the vessel.

With the port anchor and two shots of chain deployed, the vessel nonetheless collided with the port side of a berthed tank barge while making almost 4 knots.

Although there were no fatalities or injuries as a result of this accident, the two vessels and the shore facility suffered damage that amounted to more than \$21 million in total.

The investigation found, among other things, that the helmsman had probably been fatigued by carrying out extra duties the day before and that this contributed to the accident.



Lessons learned

- When in restricted waterways the helmsman's actions should always be verified by same-time sighting of the rudder angle indicator. A wrong rudder application may be irrecoverable if left for even 10 seconds.
- The OOW was apparently not sighting the indicator at all and, if he was, he did not indicate the wrong rudder application to the pilot. The pilot was sighting the rudder indicator but only after a 10- or 11-second delay. In the first instance they were able to recover, but not in the second.
- The work-rest log did not indicate the helmsman's extra duties the day before. When collecting data for fatigue, investigators should not restrict themselves to looking at the work-rest logbooks, but should also question each person in detail about their previous 72-hour, or preferably 96-hour, work-rest routine.
- **Editor's note:** See the July 2013 *Seaways* article about investigating for fatigue. The article can be found online at: http://safeship.ca/uploads/3/4/4/9/34499158/investigating_for_fatigue_-_seaways_july13.pdf

Seaways editor's note: Unfortunately, due to constraints of space and format, it is not always possible to post diagrams in MARS at full size, particularly complex diagrams taken from official reports. We always provide full reference to such reports, and the diagrams may be viewed in full there.

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