



Mariners' Alerting and Reporting Scheme

MARS Report No 320 June 2019

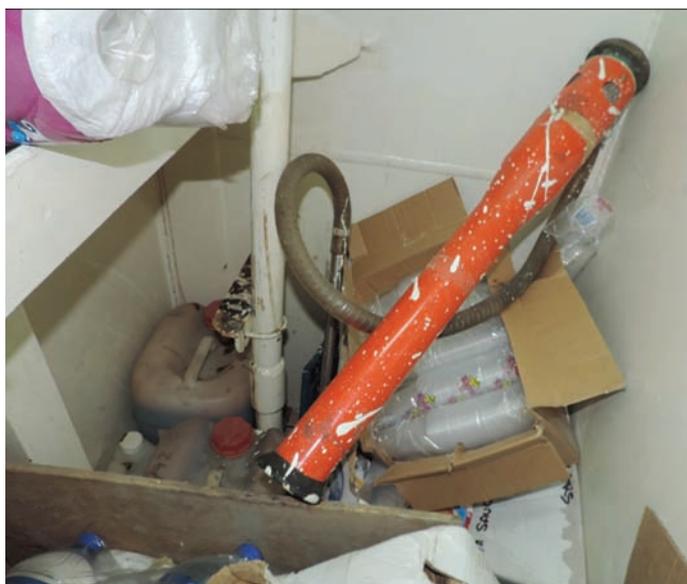
MARS 201935

Sloppy fire-fighting equipment storage

➔ An offshore support vessel had been recently acquired by new owners. Upon boarding, the delivery crew found several less than adequate situations, some of which directly affected safety. Below are photographs of the state of some of the fire-fighting equipment.



Fire extinguisher lashed and access hindered by other gear



Foam nozzle stored carelessly and amongst unrelated items

Lessons learned

- Are you joining a newly acquired vessel? Do the rounds and check the safety equipment.
- Keep fire-fighting equipment accessible and clear of all other gear.

MARS 201936

Work at height = heightened risk

Edited from official ATSB (Australia) report MO-2017-001

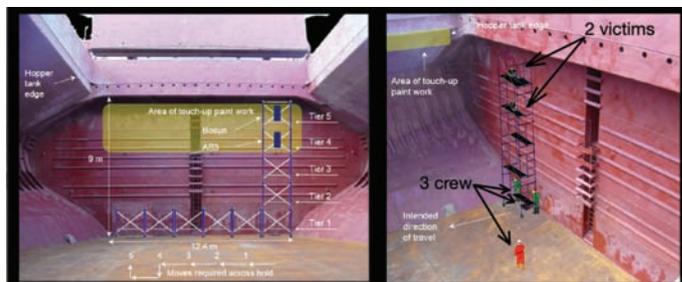
➔ While the ship was at anchor, crew members were painting in holds 1 and 4. Some of them were working aloft using the ship's portable modular scaffolding. The chief mate and five other crew started work in hold no 1. Five sections of scaffolding were used to allow access to an area of the bulkhead up to about 9 metres above the tank top. The scaffold tower was secured by two guy ropes that had been run up out of the hold and secured on deck.

The chief mate oversaw the work from the tank top as the supervisor while two crew painted from the scaffold tower. Both wore safety harnesses with the safety lines leading up and secured to the main deck. The remaining three crew members assisted with paint preparation, moving equipment and handling the security and safety lines.

As each area of work was completed, the scaffold tower had to be repositioned to access the next area. To do this, the safety lines of the two men aloft were released and they climbed down from the scaffold tower. The lines securing the scaffold tower were then released and the tower was repositioned and re-secured. The two men climbed back up the scaffold tower and, with their safety lines re-secured, continued the work.

This process was followed throughout the morning and painting touch-ups in Hold 1 were completed before lunch. After lunch, the same work began in Hold 4. This time, however, the chief mate was not present, because he was resting in preparation for his watch. Crucially, and in contrast with the morning's activity, neither of the two crew aloft wore safety harnesses or used the safety lines.

When the scaffold tower needed to be moved again, the two men stayed on the tower. The scaffold wheel brakes were released. As the three crew below moved the structure it suddenly toppled forward to the deck, taking the two men perched on tiers four and five with it.



First aid was quickly administered and port control advised. A helicopter was despatched and the two victims were evacuated to a shore hospital. Both men had suffered multiple serious injuries. They remained in the hospital for 19 days and eight days respectively before being repatriated.

- Some of the contributing factors listed in the official report were:
- Contrary to established procedures, two crew members remained on the unsecured scaffold tower in preparation for repositioning, rendering it top-heavy and unstable.

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- The lack of formal supervision in the afternoon, plus a desire to expedite the task in difficult working conditions, probably prompted the crew members to remain unsecured on the scaffolding as it was repositioned.
- The report also identified several factors that increased risk, such as:
 - The scaffold tower had several defects that reduced its stability.
 - Guidelines for the provision, care and use of the scaffold tower were not supported by suitable onboard documentation.
 - Neither crew member on the scaffold tower made use of the required safety harness and associated safety lines, which would have prevented them falling when climbing or working on the tower.

Lessons learned

- Where there is a strong safety culture, crew are likely to work safely, even when under their own supervision.
- Always wear fall-arrest protection when working aloft.
- Needing to get the work done is no excuse for skirting procedures.

MARS 201937

Settling tank overflows on deck

➔ During routine rounds while in port, the deck watch officer noticed oil on the poop deck. The alarm was raised and cleanup activities begun, as did the search for the oil source. It was found that the contents of a fuel oil settling tank had overflowed from the vent pipe located in the funnel. The overflowing oil then spilled on to the lower decks through the drain pipes and scuppers.

The company investigation into the factors contributing to the incident discovered that the settling tank was fitted with a float-type liquid level indicator. This had, among other features, a high-level alarm and an auto-stop function to assist in the automatic transfer of fuel to the settling tank. The tank level gauge became stuck while the transfer pump was running in auto mode. This caused first the auto-stop function and then the high-level alarm to remain inactive even as the tank filled to overflowing. It was also found that a final safety barrier had been disabled by crew during the last voyage. The settling tank overflow line to another fuel tank had been blanked off to mitigate the risk of contaminating low-sulphur fuel.

Lessons learned

- Vessels are fitted with numerous automatic systems. These are usually equipped with safety barriers that must not be disabled, otherwise negative consequences can arise.
- Notwithstanding automatic processes, crew members should conduct regular inspection rounds to maintain safety.
- Regular draining of tank level columns will help prevent clogging caused by sludge accumulation, which in this instance may have been a contributory factor in the gauge becoming stuck.

MARS 201938

Weak safety culture deals a crushing blow

As edited from official MAIB (UK) report 21/2018

➔ A general cargo vessel was berthed and stevedores were discharging the vessel's cargo of packaged timber from the holds. Once the discharging of cargo had been completed a dockside crane was used to lift the ship's cargo slings back on board. Deck crew, including the cook-deckhand who had come forward to announce that lunch was ready, decided to stow the slings in the fo'c's'le stowage space before eating.

Two officers, an AB and the cook-deckhand began the work. The cook-deckhand walked around the starboard side of the open stowage

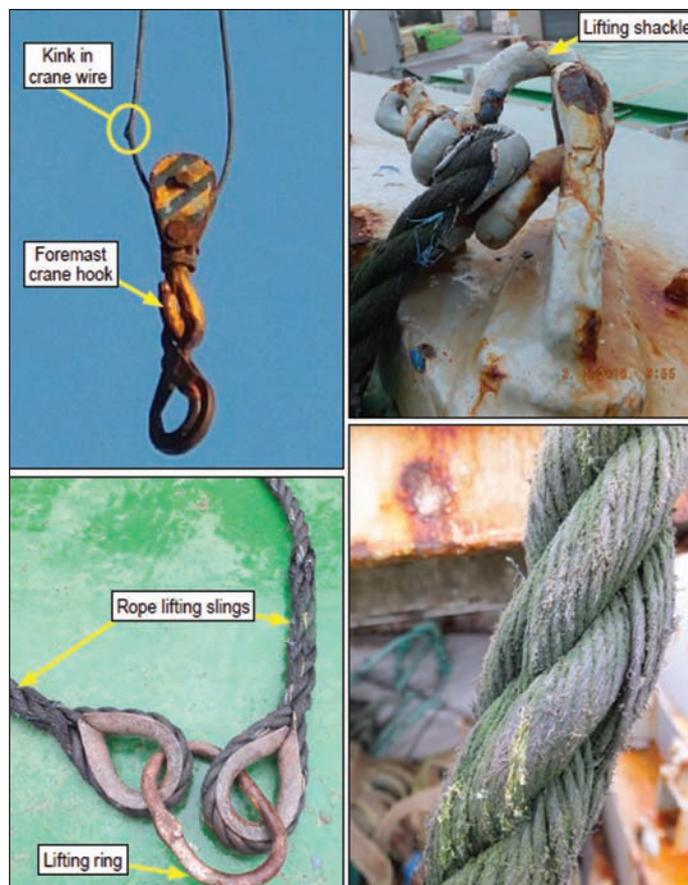
space hatch cover and the AB then walked around the port side. Each then removed the locking pin from the hatch cover hinge closest to them. Then, as the crane hook was being lowered, the cook-deckhand climbed up the inside of the hatch cover, using the framing as hand and foot holds, and reached up to grab the lifting slings. As he did so the hatch cover fell forward, trapping him between the hatch cover and the hatch coaming.

The other attending crew tried desperately to manually lift the hatch cover to release the victim, but it was too heavy. The alarm was raised and the dockside crane driver immediately swung his crane jib back over the fo'c's'le. The hatch cover was quickly raised by the dockside crane and the victim was lifted, unconscious, on to the deck where he received first aid.

Paramedics soon arrived on board, but were unable to revive the victim and he was declared dead at the scene. After the accident, the deck crew were subject to onboard alcohol breath testing by the vessel's Master, in accordance with the company's drug and alcohol policy. The results for each crew member were negative. However, a post-mortem toxicology test identified that the victim had a blood alcohol level of 75mg/100ml.

Some of the report's analysis and findings are as follows:

- It was not appropriate to require crew to climb on to hatch coamings and squeeze into tight spaces, or to walk across uneven surfaces and climb up the inside of the hatch cover when opening and closing the fo'c's'le stowage space. Had this operation been thoroughly reviewed, alternative solutions could have been identified and put in place.
- The stowage space hatch cover fell on top of the victim because he climbed on it after its locking pins had been removed. This action was the result of inadequate procedures.
- The vessel's SMS was immature. Risk assessments had not been conducted for some routine deck operations, a safe system of work



Poor SMS = poor maintenance

for opening and closing the stowage space cover had not been developed. Additionally, maintenance routines were not in place for lifting appliances.

- Factors that might also have influenced the victim's actions included a sense of urgency and the effects of alcohol.
- The practice of climbing up the inside of the opened stowage space hatch cover was inherently unsafe and reflected the weak safety culture that existed aboard the vessel.

Lessons learned

- Identify hazards for work routines and either 'engineer out' those hazards or establish procedures to mitigate risks.
- A strong safety culture on board takes many forms. They include zero tolerance for alcohol and an awareness that tasks must be performed in a timely fashion but without undue haste. Poor maintenance, on the other hand, is often a symptom of a weak safety culture.

MARS 201939

Boat's hook not quite hooked

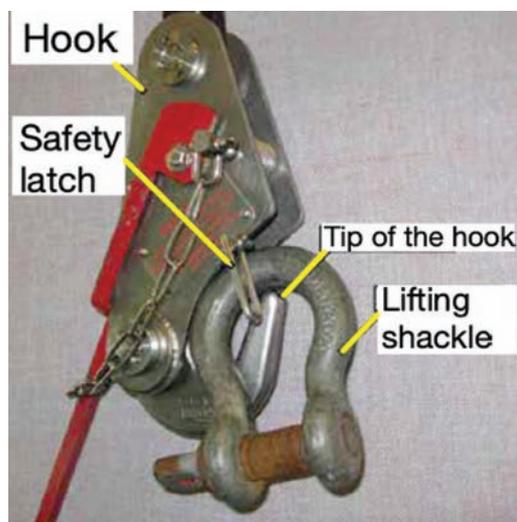
As edited from TSB (Canada) report M18P0144

➔ A ferry was at dock for the evening and a technician was on board to troubleshoot a problem with the rescue boat davit. To allow the technician to access the accumulator chamber of the davit the rescue boat was lowered to the water and the fall slightly slackened. The rescue boat, uncrewed, remained floating in the water while the technician charged the hydraulic accumulator with nitrogen, which took about 20 minutes. During this time the fall was slack, the lifting shackle and the hook resting on the rescue boat.

Once the davit accumulator had been charged, a crew member raised the rescue boat from the water using the davit while an engineer and the technician stood by and observed. From their positions on deck 6, the witnesses could see the rescue boat as it was being raised; however, they could not see how the hook and the lifting shackle were positioned.

The empty rescue boat was raised smoothly and when it was close to the davit's limit switch, the lifting speed was reduced as per operational practice. The rescue boat jerked slightly due to this change in speed and then plunged into the water, a drop of approximately 16 metres. The impact from the fall cracked the rescue boat's fuel tank in two places and caused minor damage to the hull. Some gasoline from the boat's fuel tank was also released into the environment.

After the incident, inspection of the hook showed that the spring-loaded safety latch on the hook was bent to one side, creating a gap



Lifting shackle positioned on the tip of the hook

between the latch and the tip of the hook. It could not be determined when or how the safety latch became bent.

The investigation also determined that the hook design is such that the lifting shackle can rest on the tip of the hook. The lifting shackle may have become positioned on the tip of the hook when the falls were slack while the rescue boat was floating uncrewed in the water, thus creating an opportunity for uncontrolled release.

Lessons learned

- Whenever lifting gear is left loose but still connected, the connection should be inspected before restarting the lift.
- Good practice for boat recovery is to lift the craft just high enough out of the water to be free of waves and swell and then verify the connection before completing the lift.
- Make a point of always checking the safety latches on the hooks, if equipped. They play a crucial role in safety.

MARS 201940

Small slip, now unfit

➔ A crew member was transporting a large quantity of provisions from the refrigerator room to the galley. The weight meant he had to hold the tray with both hands.

Condensation had made the metal cover of the refrigerator room door area slippery. As the crew member stepped on it, he slipped and fell. He put his right hand down to try to break the fall and severely injured his middle finger.

The next day, with his finger now swollen and sore, the crew member informed the Chief Officer about the incident. He was given first aid and assigned light duties. When he visited a shore clinic at the next port of call, his right middle finger was found to be fractured. He was classified as unfit for duty and repatriated for further treatment and recovery.

Lessons learned

- The adage 'one hand for the ship and one for yourself' reminds us to work with care.
- If you need to use two hands to carry something, ensure that the load is well within your physical limits. If necessary, make two trips instead of one.
- Never carry a load with two hands if you have to negotiate stairs; you should keep one hand on the handrail.
- Incidents and injuries should be reported immediately after they happen, however insignificant you may think they are at the time.
- Floor areas where moisture tends to accumulate should be treated with an anti-slip coating.

