



Mariners' Alerting and Reporting Scheme

MARS Report No. 318 April 2019

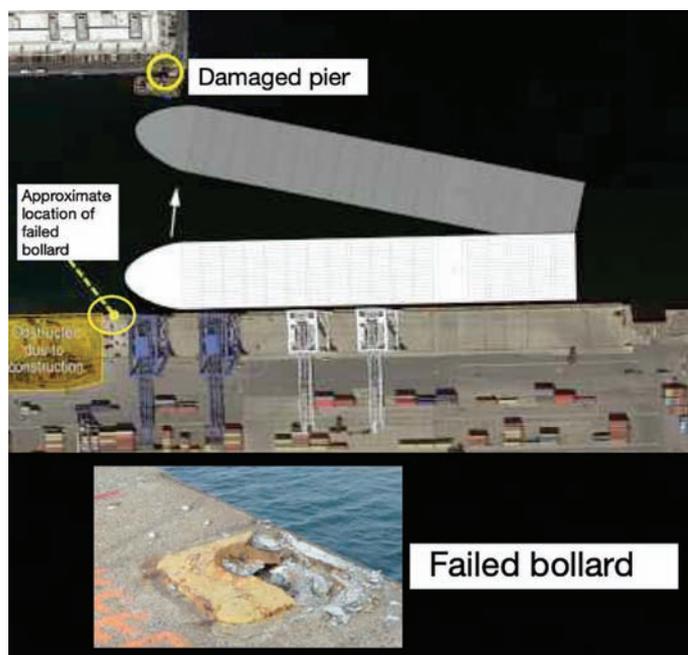
MARS 201923

Vessel goes adrift as forward bollard fails

Edited from NTSB report DCA18FM006

➔ Crew were berthing a container vessel that had just arrived in port, and linesmen ashore were placing the mooring lines on bollards. Strong winds were forecast, so the Master and pilot agreed to use 14 lines in total, including five headlines. Some of the bollards could not be used because they were forward of a construction fence, so all five headlines were placed on the same bollard just forward of the bow.

Later, as the vessel was discharging cargo, winds increased as expected with peak gusts near 40 knots. The bollard forward with the five headlines was torn from its base. The forward spring lines parted followed in quick succession by the seven remaining lines. The vessel drifted off the wharf and the bow struck a nearby pier. An anchor was walked out, bow thruster and main engine were brought on line and the uncontrolled drift of the vessel was stopped some 30 minutes after the bollard failure. Shortly afterwards, tugs arrived and assisted the container vessel to anchorage.



Lessons learned

- Mariners can never be sure of the holding power of a particular shore bollard. In this case, all forward headlines were on one bollard. Best practice is to spread the load to several bollards.
- Once one part of a mooring arrangement fails, there is a high probability of the remaining parts failing in relatively quick succession. Loads can be distributed in a way that is beyond the design capacity of the system.
- If high winds are forecast it may be necessary to take extra precautions, such as an anchor outboard, having engines and bow thruster ready, or having tugs on standby.

MARS 201924

Incandescent cargo hold lights a hazard

As edited from TAIC (New Zealand) report MO-2017-205

➔ A general cargo ship was in port loading timber packs, machinery and containers. Once the holds were loaded with the timber pack cargo, the stevedores loaded machinery on the main deck. Finally, dangerous goods containers were loaded on top of number four hatch cover. The deck cargo was then lashed secure for sea.

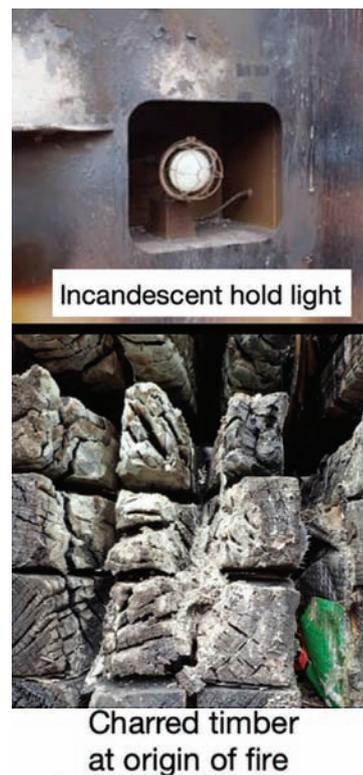
About 90 minutes later the number four cargo hold smoke detection alarm sounded throughout the crew accommodation. When the access hatch to number four cargo hold was lifted a burning smell was detected.

The general alarm was activated to summon any crew who had not already mustered on first hearing the smoke alarm. The ship's crew began to prepare the firefighting equipment and the fire team returned to the access hatch and prepared to enter number four cargo hold. This time when the access hatch was opened, smoke could clearly be seen coming from the cargo hold. The first fire team entered the cargo hold with the intention of locating and fighting the fire. They soon found that their access was blocked by containers and that visibility was limited due to heavy smoke, so they exited.

The port authorities were advised and assistance from the local fire service was requested. Once all crew members were accounted for and the cargo hold sealed, 48 bottles of CO₂ were released into the hold. Boundary cooling now took place and the temperature on the bulkheads of number four cargo hold was monitored. Some time later it was decided to release the remaining 24 bottles of CO₂ into the hold and discharge the dangerous goods containers on the hatch. About four hours later the incident management team, made up of vessel and shore personnel, agreed to open the hold. No smoke was present in the hold and the fire appeared to have been extinguished.

Some of the findings of the official report were:

- The fire was caused by heat radiating from an incandescent cargo hold lamp. The lamp set fire to packs of timber that had been stowed within 45–50mm of the lamp.
- The ship had no written procedure or checklist for ensuring the cargo hold lights were switched off before flammable cargo was loaded against cargo light recesses, or when loading was complete and hatch lids were closed.



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Lessons learned

- For a fire in a cargo hold, fixed CO₂ is usually your best option. Release, wait and boundary-cool. Monitor temperatures and do not open hatches too soon.
- The responsibilities of command structure when shore firefighters are on board should be clearly documented and understood by the various authorities involved in responding to the fire.
- High-temperature-producing cargo lamps are inherently more risky than LED lamps, which are now available at affordable prices.

MARS 201925

Thumb caught while hooking on

➔ On a large yacht, the beach lander was to be recovered at the port-side shell door. The beach lander was positioned under the davit hooks and secured fore and aft. The forward hook was lowered and a crew member attempted to attach the hook to the strop. At the same time, an unusually big wave that had lifted the beach lander up now was moving to its trough and the small craft descended rapidly, crushing the crew member's left thumb between the hook and the lifting strop.

The crew member was escorted to another location on the yacht and first aid was administered.



Lessons learned

- When hooking on in a seaway, ensure there is enough slack in the hook line to accommodate the rise and fall of the boat before attempting the manoeuvre.
- Proper work gloves might have mitigated the extent of injury.

MARS 201926

Wet floor causes hard fall

➔ A crew member had gone to the common toilet. After stepping out from the cubicle, he slipped on the wet floor. As he fell backwards his head hit the handle of the cubicle door and he fell unconscious. Shortly after the incident another crew member saw the victim sitting in a



dazed state on the floor and noticed substantial amounts of blood.

As the victim did not respond to questions, the assisting crew member raised the alarm. The injured man was helped out of the bathroom and first aid was administered. He was then sent to shore hospital for further medical attention.

Lessons learned

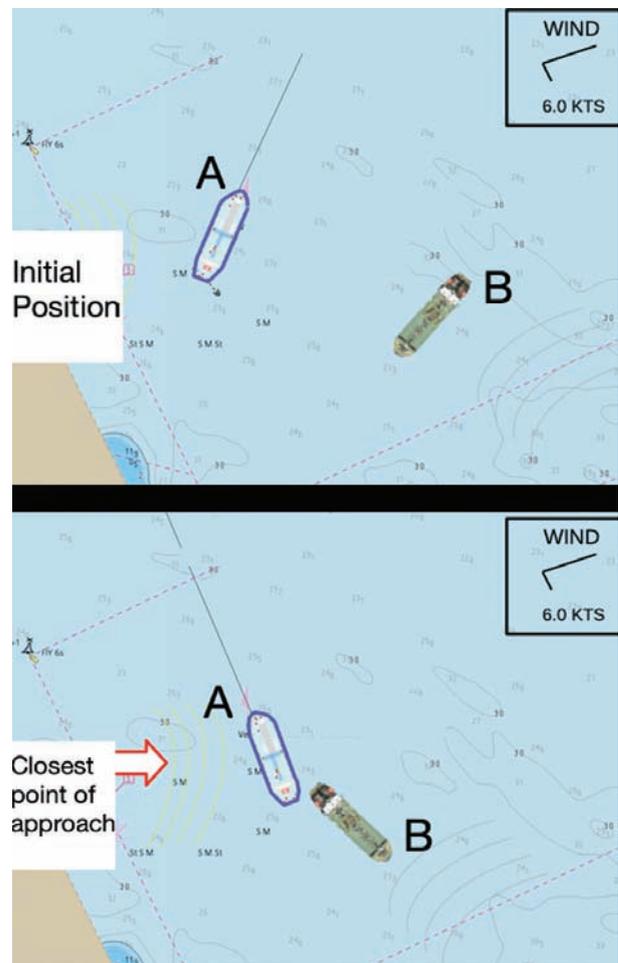
- Keep washroom floors clean and dry.
- Some lounge shoes or 'flip-flops' have very slippery soles when wet. These should not be used in areas that are likely to become damp.

MARS 201927

Swinging at anchor – close call

➔ A large oil carrier was anchored in an area reserved for these vessels when another large tanker anchored about 0.3nm away at the same anchorage. Some time later, the vessels began to swing about their respective anchors due to the shifting tidal stream, but the effects on each ship were slightly different. The vessel's sterns began to approach one another. Concerned about a possible collision, the OOW on vessel A repeatedly attempted to communicate with vessel B but received no response.

The Master was called to the bridge. With the vessel still receiving no response on VHF from vessel B, the anchor party was made ready and the main engine brought on line for manoeuvring. Only 25 minutes had transpired since the vessels began to swing from their initial positions, but they were now less than 0.15nm apart. Dead slow ahead was ordered and the anchor was heaved up simultaneously, increasing the distance between the vessels.



Lessons learned

- When going to anchor, place your vessel in a position that allows for a 360° swing on the anchor chain and still provides a safety margin with other anchored vessels that may also swing 360°.
- At anchor, just as when underway, it is important to maintain close monitoring of your position and of those vessels around you.
- If you have concerns about traffic, weather etc while at anchorage, keep your main engine available at short notice to help prevent any risk of collision.

MARS 201928

Missing out on the LOTO ticket

→ While at sea in good weather conditions, two crew members were detailed to grease the mooring winches, a job they had done in the past. Before starting the work, a tool box meeting was carried out and a job plan agreed. The greasing was to be carried out with the winch in slow running mode. After greasing, the winch control lever was put to neutral and they began to wipe away the excess grease.

Although crew member A had started the job with gloves on, the gloves became soiled while cleaning the excess grease and were difficult to work with so he removed them. He continued cleaning the excess grease without gloves.

The winch lever safety locking mechanism had not been engaged and at one point, crew member A accidentally touched the winch control lever with his back, which caused the winch to move in the heave-up direction. His hand got stuck in the winch gear engaging assembly and he shouted for help. Crew member B immediately stopped the winch and, after checking with crew member A, slowly moved the winch in the opposite direction to clear his hand from winch.



Lessons learned

- Tool box meetings are serious affairs and should account for all known risks and reiterate PPE use. In this accident it is hard to imagine that the tool box meeting accomplished this end.
- If machinery is running, as in the greasing phase, at no time should parts of your body be close to the moving parts of the machinery.
- If body parts are to be close to machinery that can potentially move, as in the excess grease cleaning phase of this report, lock out – tag out (LOTO) procedures should be employed. In this case, the power supply to the winch should have been locked out before the grease clearing began.

MARS 201929

Incomplete re-assembly causes serious injury

→ While at sea, two deck crew were occupied with the maintenance of the emergency towing arrangement (ETA). This job was routine maintenance and was described in the company's job-specific procedure for the ETA. The crew were new to this task, which included the lubrication of the ETA, the dismantling and maintenance of the air-driven motor and, as a last step, the operational test of the motor in its mounted position.

Before work started, the job was discussed and recorded via a toolbox talk. The two crew reviewed a risk assessment. However, this assessment covered only the lubrication aspect of the work and not the testing of the motor.

The motor, which weighed about 50kg, was dismantled and transferred to the engine room for lubrication and maintenance. Once completed, the motor was brought back on deck and re-installed using the three mounting bolts. The bolts were inserted but, for reasons unknown, were not tightened up completely.

The air supply valve of the motor had been closed and properly tagged during the maintenance, but now the valve was reopened to proceed with the test. As the air pressure turned the motor a strong torque developed and the motor began vibrating rapidly and unequally due to the unsecured bolts. The motor quickly came away from its mounting and struck the two crew members. Both were injured severely enough to require shore treatment and repatriation.



Lessons learned

- Humans are fallible and a slip, lapse or mistake can happen. Always review and cross-check your work before testing a newly installed or maintained piece of machinery.
- Risk assessments should be completed for all aspects of a job and safeguards established against all identified risks.

■ **Editor's note:** For our readers' information, please see the following definitions:

Slip, an unintentional action where the failure involves attention (or lack of attention).

Lapse, an unintentional action where the failure involves memory.

Mistake, an intentional action where there is an error in the planning process but no deliberate decision to act against a rule or procedure.

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