MARS

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MARS 202520

Rerouting risks – severe weather

In recent months, many vessels have rerouted around South Africa to avoid threats to shipping from Houthi attacks in the Red Sea. However, this comes with its own set of risks. Vessels spend more time at sea with more exposure to difficult weather and the attendant consequences.

The southern hemisphere winter of 2024 saw some severe weather conditions off the Cape of Good Hope with several incidents occurring. The area has a reputation for stormy confused seas, large swells and rogue waves, which pose extra risks for ships and their crews. Sadly, there have been fatalities among crew working on deck and who have been struck by waves in heavy weather off the Cape.

Cargo stows on container, bulk, vehicle and general cargo vessels are particularly vulnerable to more extreme rolling and pitching. Stowage failures can lead to more than cargo damage. They can result in structural damage, fires and may also cause the ship to list, compromising stability and potentially disabling the ship.

Cargo that falls overboard can also endanger other vessels at sea. There is inevitably an environmental impact from cargo that sinks or ends up washing ashore as debris. Gard has seen clean-up costs in several cases running into many millions of dollars, particularly if plastic nurdles (below, left) are involved.

Lessons learned

- It is a good investment to refresh and update the skills of navigators in storm avoidance, weather analysis, and routing strategies.
- Lashings may need checking as they may have slackened during the voyage. However, it is important that such checks are done in good time and safe conditions. If a stow failure does occur it may also be unsafe to send the crew into cargo areas to try and re-secure it until better conditions permit.
- Heavy seas can cause large movements in the lubrication oil tanks, such that the supply to the lubricating oil pumps stops. This can trigger a lubricating oil low level alarm, which in turn can cause an automatic shutdown of the engines.
- In case of a major casualty off South Africa, there are few ports in the area that have the necessary scale and infrastructure to accommodate the largest container ships. If something goes wrong, a large ship in distress will have few alternatives if a port of refuge is needed.

As edited from Gard at https://gard.no/articles/cargo-stowage-failures-on-the-rise-off-south-africa/

MARS 202521

Fire hose cabinet in poor state

An officer was undertaking an inspection of the exterior fire hoses and their protective cabinets. The securing bracket of one cabinet was found to be badly corroded. The fire hose was not secured within the cabinet, and it fell on to the deck when the cabinet door was opened.

A new rail was fabricated and a proper securing hanger for the hose installed.

Lessons learned

- It is hard to imagine how such deterioration can pass monthly inspections without being sighted. Once again this speaks to the importance of looking 'with new eyes' when you are on board your ship.
- Fire equipment should be kept in perfect condition. If a fire starts, it will not be the moment to effect repairs.

MARS 202522

Burning plastic on deck causes fatality

A deck crew member was tasked to clear the accumulated shipboard plastic waste by burning it in an empty 200-litre oil drum on the poop deck. He was told to use only wastepaper as an accelerant.

Between about 10:30 and noon, the crew member burnt several bags of plastic waste in the drum, then stopped for lunch. After lunch, he returned to this task.

At about 1420, an explosion was heard, followed by the activation of the fire alarm on the bridge's display panel, indicating a fire on the poop deck. The general alarm was sounded and an announcement made alerting the crew. The crew member who was burning plastic was engulfed in flames. Other crew members came to his assistance and the flames were extinguished. He was then taken to the ship's hospital.

The victim explained that he had placed plastic waste inside the empty drum in preparation for burning, poured paint thinner over it, and placed the uncapped paint thinner tin beside the drum. He then ignited the plastic waste from the access hole at the bottom of the drum with a lighter (as in the re-enactment photo), resulting in an explosion which covered him in flames.

The Master contacted the CIRM for medical assistance and was advised on how to treat the victim. The victim's condition deteriorated two days after the initial incident and the vessel was diverted to the nearest port. During the transit the victim's condition continued to deteriorate, and a medical evacuation was mobilised. Unfortunately, the victim was later declared deceased on board by an attending doctor.

The investigation revealed critical lapses in communication between the vessel leadership and crew. The Master's plan had been to dispose of the plastic waste at the next port. Although the Master had informed the Chief Engineer of this, other crew members, including the Chief Mate were not informed. The Chief Engineer had rejected a request to burn plastic waste using the shipboard incinerator, but did not provide a reason for doing so. The Chief Mate then felt obliged to find an improvised solution – by burning it on the poop deck in a barrel.

The burning of waste on an exposed deck was not approved by the Company's SMS. Despite this, the Chief Mate instructed the crew to carry out the task, revealing a gap in adherence to established procedures. The crew did not question nor challenge this instruction despite knowing that the company SMS forbids burning on the exposed deck.

Reconstruction: note yellow rectangle showing access hole and open can of paint thinner

Lessons learned

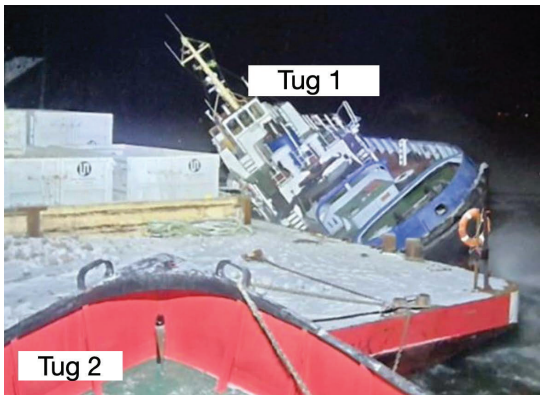
No subtstance should ever be burnt on an open deck. Always use the vessel's incinerator for such tasks or, if the incinerator is unserviceable, store on board for shore disposal.

This tragic accident exposes ISM weaknesses that are surely taking place on many vessels – particularly the difference between written rules and actual practices. The vessel's leaders must set the example, but also crew must be well informed

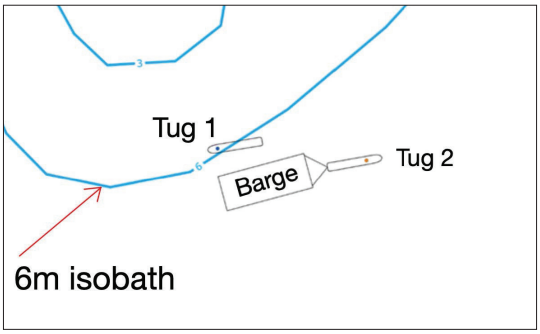
of ISM procedures to challenge a dangerous or unallowed practice.

Communication is everything! In this case the lack of proper communication from vessel leaders led to the death of a crewmember.

As edited from report TIB/MAI/CAS.150 (Singapore)



Tug aground and listing



MARS 202523

Loss of situational awareness leads to loss of tug

Two tugs were towing a barge in coastal ice-infested waters. At one point, tug 1 had to release the tow and go around the barge to clear the ice. Tug 2 remained attached to the barge. About 10–15 metres north of their position was a shoal area of less than 6 metres in depth. When tug 1 had turned around in open water, it was observed that the open water lead was closing behind them. To free the barge, the crew of tug 1 decided to make a pass 5–10 metres from the barge's starboard (southern) side before recoupling to the barge and continuing the tow.

As tug 1 made a full speed approach towards the barge, using the swell to break up the ice as much as possible, a last-minute decision was made to go to the port side of the barge instead (ie the north side).

Within seconds tug 1 ran hard aground at a speed of 11 knots. The grounding was violent, and the ship immediately listed heavily to port some 40 degrees. Both the master and the crewmember fell out of the wheelhouse and landed on the port bridge wing. To avoid being exposed to the cold water, the Master released the ship's life raft.

Unfortunately, the liferaft ended up upside down on the ice and could not be used. Fearing that the vessel might capsize, the crew crossed the ice to the barge, and hence to tug 2. Tug 1 was later deemed a total loss.

The investigation subsequently found that tug 1's ENC did not meet the standards for an approved electronic chart, and lacked information on the quality of the depth data. Additionally, the ENC's setup made use of the same colour palette for depths between 3m and 10m. Because the tug's draft was 4.2m, this setup gave no colour indication of the shoal danger. Another weakness in tug 1's ENC was that it had no limit on how far it could zoom in. Electronic nautical charts that are over-zoomed can lead a user to believe that the accuracy is increased to the same extent, which is not the case.

The investigators also found that the principal navigation method was to visually follow the ice channel illuminated by the ship's headlights and the deck lighting on the barge.

Lessons learned

- In this occurrence, the tug crew's concentration on one task, that of breaking ice and visually following the ice channel, blinded them to the impending danger. They ran aground at full speed.
- Situational awareness is the critical factor for a navigator. It cannot be repeated enough: Use all possible means to determine your position.
- The proper use of ENCs or ECDIS is critical to sharpen your situational awareness and risk appreciation. The correct safety depth and/or colour palette selection can make the difference in grounding your vessel, or not.

As edited from SHK (Sweden) report SHK 2025:02

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