Mariners' Alerting and Reporting Scheme

MARS Report No. 311 September 2018

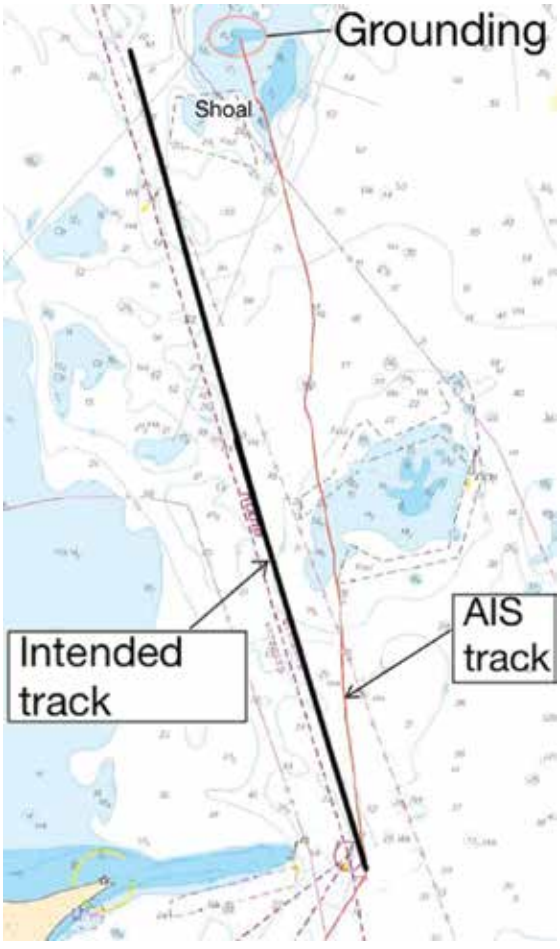
MARS 201853

Grounding on a charted shoal

Edited from official report RS2016:07e, Swedish Accident Investigation Authority

➔ A loaded bulk carrier was underway in coastal waters in good visibility. The bridge team was an OOW and a helmsman steering manually. According to the OOW, at one point a course alteration was undertaken to 340(G), although AIS recordings reveal the actual COG following the course change averaged 353(T). The vessel was not equipped with any sort of electronic chart nor an ECDIS and, according to crew, the radar was not helpful for position fixing due to clutter. The vessel's GPS was used as the primary position fixing tool.

After the course alteration, the OOW took a meal break and was replaced by another navigation officer. Having finished his meal, the OOW returned to the bridge and was informed by the other officer that no course changes had taken place and he had not put a position on the chart. About an hour and 50 minutes after having altered course the vessel ran aground on a charted shoal at a speed of about 12 knots. The vessel was severely damaged and needed lightering of fuel and cargo to be refloated.



The official investigation found, among other issues, that;

- No position fix had been taken for almost two hours before the grounding.
- The OOW was likely to have been fatigued and was attending to other duties while also navigating the vessel.

Lessons learned

- As with other such groundings and collisions, a lack of attention to the primary duty of navigation was a main contributing factor.
- A radar can be adjusted for clutter and should be used as a primary fixing instrument or as a check on GPS fixes.

MARS 201854

Heavy lift hurts back

➔ A trainee electrical officer was attending to some assigned tasks in the engine room. He needed to move a gas cylinder to another location, and decided to attempt the task alone. He tried lifting the cylinder by wrapping his arms around it but immediately experienced a sharp pain in his back.

First aid was administered and bed rest was prescribed. He was assigned restricted work for a period of time to assist in his recovery.

Lessons learned

- Always evaluate a task beforehand and think about the risks. Do you have the necessary tools? Personal protective equipment (PPE)? Can you safely do the task alone?
- Young trainee crew are very susceptible to a power difference with more senior officers. They should not hesitate to ask questions and ask for help.
- Senior officers should be open to questions and sensitive to the power difference.

MARS 201855

Detached hose under pressure injures crew member

➔ A chemical tanker was underway and tank cleaning operations were being carried out with a mobile tank cleaning unit. A deck crew member was standing near the unit ready to close a valve during changeover from one cargo hold to another when the cleaning hose suddenly detached from its coupling. The loose hose hit the back of the deck crew's left leg. First aid was promptly administered and the victim was sent to rest.

The company's tank cleaning procedures and check list only described generic hazards arising from the use of mobile tank cleaning equipment. The specific risk of a sudden detachment of the tank-cleaning hose had not been clearly identified and assessed. The company investigation found that the type of hose used, with split type

coupling secured by bolts, was inadequate and that no whip check device was being used.

During the investigation on board it was also ascertained that a best practice is to reduce the working pressure of the hose to up to 1-2 bar before handling any valves. At the time of the event, the crew member manually operated the valve when the working pressure was at normal working pressure of 10 bar.

Whip check

Lessons learned

- Hazard identification and subsequent risk assessment are key to reducing accidents and incidents.
- A 'whip check' device is an effective risk mitigation tool for hose connections under pressure.

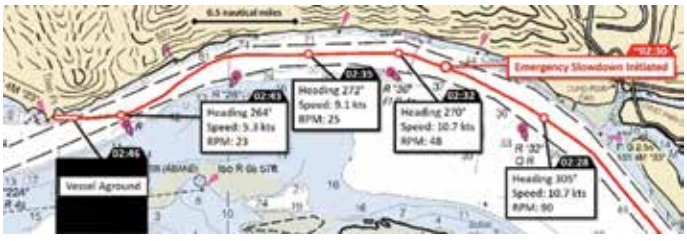
MARS 201856

Loss of power and inadequate communication contributes to grounding

As edited from official US NTSB report MAB-18/01

➔ A loaded bulk carrier was outbound in a river channel, in darkness and under pilotage. An OOW, helmsman and Master were also on the bridge. The vessel was stemming a 1 knot flood tide and making way at near 11 knots. At one point the engine RPM decreased from 90 to 48 under an automatic programme. The pilot asked what was happening. The Master spoke to the engine room personnel and responded that there was an engine problem, but they were fixing it.

For the next 10 minutes the pilot tried to keep the vessel in the channel using the reduced RPM while the Master talked to the engine room personnel on the phone in his native language, which the pilot did not understand. At one point the Master asked the pilot if they should anchor. The pilot responded that the location was not good as the current was reversing direction due to the ebb tide.



The Master continued to talk with the engine room personnel, with the vessel now slowing to about 6 knots. With no answers to his questions about the main engine, the pilot ordered both anchors away and emergency full astern. The vessel drifted nonetheless and grounded on the channel side. Damage to the vessel was estimated at approximately $4 million.

The investigation found that the engine failure was due to a cracked main engine cylinder cooling jacket that initiated an automatic reduction in engine speed.

Lessons learned

- In restricted waters, quick decision-making is necessary if the main engine is at fault. In hindsight, a cracked cooling jacket could not be fixed in the time available; the pilot should have been informed immediately that the main engine was unavailable.
- If one must go aground, apart from letting go the anchors, look for a soft spot to put the bow.
- Check your Master-Pilot exchange checklist. If your vessel has main engine automatic speed reduction programs, include these on the information given to the pilot.

MARS 201857

Emergency hatch blocked

As edited from Marine Safety Forum 18-05

➔ During a general walk around on a vessel a heavy electrical transformer was discovered on top of an emergency escape hatch. After investigation it was found that the transformer had been left by an outside contractor who had placed it on top of an escape hatch because the cable was too short to reach a power socket – even though the top of the hatch was marked 'Escape'.

The extra weight on top of the escape hatch would have made it extremely difficult if not impossible to open.

Lessons learned

When contractors work on board;

- Conduct a full and proper toolbox talk at the worksite; understand the scope of work and how the contractor intends to carry out the task, what tools they are going to use and any other requirements they may have.
- Conduct impromptu inspections of the worksite.
- Responsibility ultimately stops with you!

MARS 201858

Scavenging space explosion

➔ A cargo vessel was drifting, but preparations to start the engine and proceed for pilot pick-up were underway. Engine room crew proceeded to do an 'air blow' but soon afterwards smoke was seen coming from the indicator valve. They were then unable to start the main engine.

An investigation found that the scavenging space had been severely damaged by an explosion, especially the non-return valve manifold box. Further investigation found that ship's personnel had cleaned the scavenging space while the ship was drifting. It appears they had used flammable materials for the cleaning task. The cleaning materials vaporised forming a combustible atmosphere in the scavenging space. When the combustion wave in the cylinder propagated to the scavenging space, an explosion occurred.

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Lessons learned

- Never use flammable materials such as kerosene or gas oil to clean areas with high operating temperatures, eg the scavenging space.

MARS 201859

Little finger caught in rotating winch

➔ While at anchor in fair weather some deck crew were performing maintenance on the mooring winches. A crew member had just greased one of the winches. He asked another crew member to start the winch and rotate it so he could wipe out the excess grease.

The assisting crew member started the winch, but almost immediately the greasing crew member cried out to him to stop the winch. His finger had been caught in the machinery and even though he had gloves on, his small finger was severely injured. After first aid was administered he was evacuated ashore where the tip of his small finger had to be amputated.

The company investigation found that in previous manoeuvres to remove excess grease a long flat paint brush had been used. In this incident the crew member used a small piece of cloth to wipe out the excess grease, bringing his hand close to a known hazard.

Lessons learned

- Never cut corners for the sake of expediency – use the right tools for the job.
- Running risk assessments should become a matter of habit, but common sense should also be used in everything we do.

MARS 201860

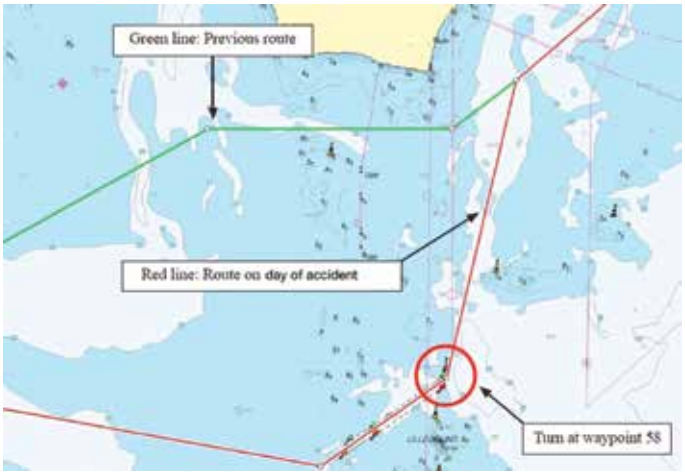
New route – new dangers

Edited from official 10 Feb 2017 Grounding Report from the Danish Maritime Accident Investigation Board

➔ A vessel was underway at about 16 knots in coastal waters and near darkness. The OOW was at the con with the Master present on the bridge and a helmsman at the wheel. The vessel was bound for a regular port of call but was using a different route from previous trips because of the vessel's draught.

At one point the OOW and the Master had a short discussion about the angle to the buoys at the entrance to the deepwater route, which was the next course change at waypoint 58. The channel was only approximately 0.2nm wide, with an area of shallow water north of the buoys. The angle of approach would make it difficult to execute a turn into the channel, from 192° to 237°.

They agreed to alter slightly to port to allow a larger turning circle, but the current and wind were affecting the ship in such a way that this slight alteration did not give the desired results. The vessel was still to the west of the planned route and coming close to a charted isolated danger near the buoys that marked the entrance to the deepwater



route. Although the vessel was equipped with an ECS and radar, the bridge team were now navigating primarily by visual means.

Suddenly, the ship started to vibrate violently, the speed dropped from 16 to 7 knots and the ship's heading changed from 195° to 204°. Within a minute, the vibrations stopped and the ship's speed increased. The crew quickly realised that the ship had touched the seabed. The bottom of the hull had been breached in several places along the starboard side damaging several fuel oil tanks. Some local coastlines were polluted as a result.

Lessons learned

- Use all available means to navigate your ship.
- When in doubt, slow down.
- It proved to be difficult to make that course change at a speed of 16 knots, in near darkness and with a westerly current of approximately 1 to 1.4 knots. When passage plans are modified check for appropriateness of course changes and proximities to hazardous areas. In this case the angle of approach to the deepwater channel was inappropriate.

MARS 201861

Immersion suit defect

As edited from USCG Safety Alert 3-18

➔ During a recent inspection a significant flaw was discovered on approximately 87% of a vessel's immersion suits. The glue used to attach the main zipper to the body of the suit had failed. This defect will prevent the suit from achieving a watertight seal and will present serious risk to crew members in a survival situation.

Lessons learned

- Regularly inspect immersion suits for this and all potential unsafe conditions. Do not wait to discover the problem during a real emergency.
- Any replacement immersion suits need to be approved by the vessel's flag state.

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