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Anchor troubles

A vessel was picking up anchor after a stay of four days at anchorage, and the anchor chain was found tangled around the shank. A barge was arranged to cut and clear the cable. The incident cost over \$100,000, excluding the off-hire costs.

Similarly, a second vessel had her anchor chain tangled while she was picking up anchor with a pilot on board. The ship needed to be diverted to a port for repairs.

Lessons learned:

- While dropping anchor, ensure the cable is ranged on the seabed while there is sternway to avoid piling up of the anchor cable.
- Anchor swivels should be checked for free movement during maintenance of the windlass and the anchoring equipment.
- Ensure the anchors are well monitored, especially during the turn of tide.



MARS 202609

BRM AWOL

A fully laden tanker was making a berthing approach under pilotage in clear weather, light winds and in daylight. The Master, Chief Mate and a helmsman were all on the bridge. The bridge team and pilot were all very familiar with this berth.

The initial Master/Pilot Exchange (MPX), more than three hours prior to the berthing manoeuvre, was interrupted by radio traffic and somewhat perfunctory, probably due to this familiarity. The MPX did not include details of the final turn and approach to the berth. None of the bridge team were assigned tasks by the pilot to assist the manoeuvre, nor did they assume tasks and report to the pilot.

The pilot was using a Portable Pilotage Unit (PPU), in this case a tablet, connected to the ship so that the ship's characteristics and navigational information were available to the PPU. The PPU was also wirelessly connected to a portable exterior antenna that provided enhanced positional and rate of turn information. What could go wrong?

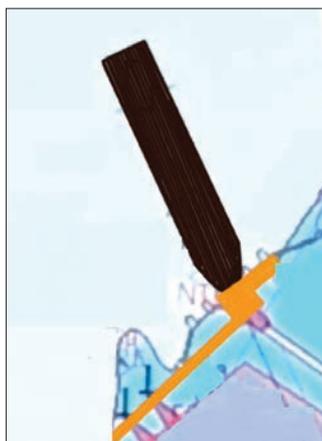
The plan was to dock port-side to, so two tugs were secured to the vessel's starboard side. The berthing consisted of approaching the dock parallel and, when about five cables off, executing a 180-degree turn to starboard, and then pushing alongside with tugs as well as bow and stern thrusters.

At some point during the turn to starboard, or possibly before, the pilot began to rely exclusively on the PPU information; there was no cross check with other instruments or other members of the bridge team. During the turn, it appeared to the pilot, fixated on the PPU, that the ship was too close to a shoal buoy astern. To provide additional clearance he gave tug and engine orders to slow

the swing of the vessel. The pilot explained the reasons for this action. The Master immediately verified the ECDIS and visually sighted the buoy. Although the Master found that the buoy was a considerable distance from their stern (400 to 500 metres away), he did not mention his findings to the pilot.

At various points of the operation the pilot, Master, and chief officer on the bridge, the second mate on deck forward (but not on the bow), and the operator of the forward tug, all noticed that something was not quite right with the approach. However, none of them signalled their unease. Soon the vessel struck the dock, bow on, at over one knot. Although damage to the vessel was relatively minor, resulting in a hole in the bow, damage to the unloading dock was major.

The investigation found, among other things, that the pilot had assumed his PPU 'recognised' the vessel as a frequent caller and that it had therefore automatically applied the antenna offset for this ship. In fact, the offsets were not loaded, which resulted in the displayed ship position on the PPU being more than 200 metres 'astern' of the true position. This error was not caught during the three hours + transit to the dock. By fixating on the PPU image, which was incorrect, the pilot was working on false assumptions.



Position at time of contact

Lessons learned

- Even with perfect weather conditions and in daylight, a well-maintained ship with tug assistance can still unwittingly be driven into a dock if BRM breaks down or is simply non-existent.
- Notwithstanding experienced officers familiar with the port and a pilot, there was no shared mental model of the berth approach among the bridge team.
- Frequent callers and repetitive operations can, paradoxically, cause a lull in standards and lower levels of vigilance.

- An over-reliance on a single data source, in this case the PPU, can lead operators astray sufficiently to cause an accident, even against what should be overriding visual evidence out of the bridge windows that they are running into danger.
- When setting up a PPU, it is good practice to validate the position of the vessel on the PPU as compared to the vessel's ECDIS, and to confirm all offsets if the pilot has installed a complementary portable antenna.
- With no one stationed on the ship's forecandle or on the berth assigned to monitor progress and call out distances the bridge team lacked another important data input source.

MARS 202610

Self-closing fire door

As a crew member was passing through a self-closing fire door into the engine control room, his left foot was caught between the closing door and the door frame. His forward momentum caused him to lurch forward, but his foot was caught and he lost his left shoe. The fire door continued to close and badly pinched his now exposed big toe. He was unfit for work for over a week.

Although the company investigation did not judge the door's closing 'latch speed' to be a factor, they nonetheless found that periodical verification of self-closing devices for all fleet vessels was a worthwhile addition to the vessel's planned maintenance system (PMS).

Lessons learned

- In machinery spaces and work environments, well secured protective boots are always recommended.
- Self-closing door mechanisms are adjustable and should be checked from time to time. Door closing speed should be just sufficient to ensure proper closure. Too quick can be a hazard and too slow could mean the door does not have enough energy to catch closed.



MARS 202611

Scrap metal fire

A general cargo carrier was loading scrap metal into its aft cargo hold when the Master observed smoke rising from the hold. He immediately activated the general alarm and called for the shore grab operator to discharge cargo in a bid to remove or expose the source of the fire. Meanwhile, the crew mustered and prepared firefighting equipment.

Two firefighting teams proceeded to the aft cargo hold to apply water from the port and starboard sides. Other crew members cleared the hatch coamings ready for the hatch covers to be closed if necessary. Ashore, the terminal supervisor called the emergency services.

Several shore fire and rescue service appliances arrived soon afterwards. After coordinating with the Master, they started firefighting. The crew evacuated the vessel, and the Master and chief officer monitored the vessel's draught from the quayside, checking that the vessel's stability was not compromised by water from the firefighting.

The fire was extinguished the next day. There were no injuries and there was no loss of life. Over several days, crew discharged the contaminated firefighting water from the hold into road tankers for disposal. The scrap cargo was discharged and surveyed to check its composition. The vessel had suffered significant heat damage to structural steelwork in the aft cargo hold.

The preliminary assessment found, among other things, that:

- The fire was likely caused by an undischarged battery or other ignition source causing a spark during loading, which then ignited combustible material in the scrap cargo.
- The scrap cargo had been collected from several sources. The recipient company expected its suppliers to screen their product to remove hazardous material such as combustibles and batteries, but this screening may have been less than adequate, or conversely, the expectations of the recipient company too high.
- Deliveries of scrap cargo were visually checked on arrival. There was no additional sorting and screening facility to ensure that contaminants were not present.
- The cargo had been classified as group C scrap metal under the IMSBC Code, which did not require the shipper to declare hazard identification and cargo composition. However, the scrap cargo contained hazardous impurities, including batteries, oil drums, and oily residues, which posed a fire risk.



Lessons learned

- Appointing a qualified cargo surveying company to assist the vessel's Master before and during loading is a good risk reduction measure.
- Vessels have capsized at berth due to firefighting efforts by shore teams. Close coordination between the Master and fire chief is needed to properly execute the extinguishing effort without further risk to the vessel.
- As seen in MARS reports 202345, 202346 and 202243, while scrap metal may appear innocuous, it is nonetheless a fire risk because of the prevalence of associated combustible materials often present in this cargo.
- Notwithstanding the successful outcome in this case, for a fire in a hold, it may be safer to close the hatches and ventilation and then discharge the fixed CO₂ system than to pour copious amounts of water into the ship, which can negatively affect the vessel's stability.



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