

MAIB

MARINE ACCIDENT INVESTIGATION BRANCH

FLYER TO THE PORT MARINE INDUSTRY GROUNDING OF A GENERAL CARGO SHIP



Narrative

A 4,966gt general cargo ship arrived at 2325 at the pilot station off Plymouth harbour. The ship was fully laden with a cargo of fertiliser, loaded at Safi, in Morocco.

Before boarding the ship, the designated pilot had decided that tug assistance would not be required for berthing because the north-westerly winds were light and the ship should be quite manoeuvrable as she had two propellers and a bow thruster. After the pilot had boarded the ship, in a position south-east of Penlee Point, he handed the master a two-page Plymouth Pilotage Service passage plan, on which he had marked the proposed route across Plymouth Sound. The pilot and master discussed the vessel's speed, and it was confirmed that the ship had two fixed propellers and a bow thruster. The pilot did not receive a ship-specific pilot card, however, he was not fully aware of the specific steering arrangements. The ship had an unusual steering arrangement of two steerable nozzles around each propeller and one central rudder. The nozzles could be used in synchronisation, usually when on passage, or independently for manoeuvring alongside a berth. This arrangement was originally designed for this class of ship to facilitate navigation on major rivers in the Soviet Union. However, these ships now operate extensively on ocean going routes.

The engines were placed on full ahead, giving a speed of about 7.5 knots. When passing Penlee Point and the breakwater, the pilot made his routine reports to the VTS. The master was stationed at the two telegraphs, and the chief officer acted as helmsman during the passage across the sound. The pilot gave the helmsman courses to steer and direct helm orders. The ship's progress across the sound could not be properly monitored on the electronic chart system because a passage plan from the pilot station to the berth at Victoria Wharf had not been prepared by the ship's officers.

The ship left the Western Channel at the New Ground buoy and set a direct course towards the Cobbler Channel. The engines were slowed down to half ahead, giving a speed of about 4.5 knots. The pilot judged the ship's progress across Plymouth Sound by observing the lights of the buoys around Mallard Shoal, the end of Mount Batten Breakwater and Fisher's Nose. As the ship travelled across the Sound, she was set by the ebb tide to starboard to such an extent that she eventually passed very close to the end of Mount Batten Breakwater while on a heading of due north. To make the turn into Cobbler Channel, the pilot gave increasing amounts of starboard helm, which included the nozzles, until it reached hard to starboard. The head needed to reach 048.5°, and, realising that it was not turning quickly enough, the pilot asked for full ahead on the port engine, full astern on the starboard engine, and the bow thruster to full to starboard. He also ordered the pilot boat to push on the port bow. Although the head began to turn, it was apparent that the ship was closing the shoreline immediately to the east of Fisher's Nose Point, and the pilot asked for full astern on both engines. The ship gently grounded forward on a mixture of mud and sand. However, the falling tide precluded re-flotation attempts, even with the assistance of two tugs, until the tide had risen sufficiently after low water. A diving survey of the hull found that there was no damage to the ship.

Safety Issues

- This is not the first time that the power of this class of ship has been underestimated, and groundings while under pilotage have happened before.
- Designed to operate in river currents, these ships are not as manoeuvrable in cross-tidal streams.
- The pilot was not fully prepared for the ship's lack of power and the effect on the course over the ground of cross-tidal currents.
- A leading or directional light at Fisher's Nose would have helped the pilot keep the ship on track while approaching Cobbler Channel and to enter the channel on an ideal heading.
- The harbour's pilots, in consultation with the master, would base their decision on whether or not they needed tug assistance, on the vessel's manoeuvrability, weather conditions and if there were any ship defects. Pilots had received no formal guidelines on the use of tug assistance.
- Because the pilot/master exchange was not as thorough as good practice requires, it did not reveal the special manoeuvring characteristics of this type of ship.
- A navigational checklist had been signed to verify that a completed pilot's card had been given to the pilot; the proposed passage plan, weather conditions, mooring securing devices, the use of tugs and other external equipment had been explained by the pilot and agreed by the captain, and the captain and officer of the watch were monitoring the progress of the ship and execution of commands. Some of these items on the checklist either had not been carried out or had been carried out only superficially.
- There was no ship's passage plan for the pilotage area of Plymouth harbour to Victoria Wharf. Annex 25 of SOLAS Chapter 5 states that detailed planning should be made for the whole voyage, or passage from berth to berth.

Recommendation

A recommendation has been made to the UK Port Marine Safety Code steering group to consider the safety issues identified by this accident when discussing best practice.

This flyer can also be found on our website:

www.maib.gov.uk

Alternatively, further printed copies can be sent on request, free of charge.

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