

# Case study for onboard safety meeting

## Case study no. 29: Collision with fishing vessel

Please read the below story of an incident. Keep our company's standards and procedures in mind while reading to compare with the actions of the crew below as we will discuss the factors which led to the incident occurring.

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Late one evening a 5,000 teu box ship was on a passage from Singapore to Shanghai, China using autopilot-controlled headings to follow a planned NE track. The vessel's speed was 20kts. At midnight, the master finished writing his night orders and went to bed in his cabin. In the orders he emphasised the importance of reaching the pilot boarding ground at a fixed time next morning. The areas off the eastern coast of China are well known for the congestion of fishing boats, although this was not discussed in the pre-departure brief nor mentioned in the night orders.

The 2nd officer relieved the 3rd officer as the officer of the watch (OOW). The 2nd officer was accompanied on the bridge by an able seaman (AB) who was the nominated lookout. 2 hours into the watch, heavy rain had reduced the visibility to about 3nm. It had also adversely affected the quality of the radar picture. The OOW gradually altered the autopilot-controlled heading 20° to starboard in order to keep clear of a group of near-stationary fishing vessels directly ahead of the box ship at a range of between 5nm and 6nm. The OOW then gave the AB permission to leave the bridge to conduct a fire patrol. This was a usual practice during which the AB also cooked noodles in the galley. 10 minutes later, the OOW saw a second group of near-stationary targets on the radar, approximately 6nm ahead and on the 'S' band radar an east-moving radar target on the port side. However, as the OOW was not monitoring the AIS receiver or the 'X' band radar capable of displaying AIS targets, he was not aware that this vessel was a small fishing vessel on a collision course with the box ship.

The box ship cleared the group of fishing vessels on her port side, however, the OOW remained concerned by the movement of the unidentified radar target, which had closed to within 2nm. The OOW sounded one blast lasting approximately 3 seconds on the ship's forward whistle but the unidentified radar target maintained course and speed.

The OOW decided to avoid the radar target on his starboard side by making a bold alteration of course to port - to a NW heading. He felt that this action would not only eliminate the risk of collision with the radar target, but would also keep the ship clear of the numerous fishing vessels ahead and move the box ship back towards her intended track. Scale, pulse length and anti-clutter remained unchanged throughout the watch – despite the changing conditions and circumstances.

The OOW checked the 'S' band radar display sited on the starboard side of the bridge to confirm that the intended NW heading was clear of other vessels. He then moved to the port bridge wing and looked over the port bow and the port beam to ensure that it was safe to alter course and returned to the centreline console and began to adjust the vessel's heading to port using the joystick control on the vessel's track pilot system. The box ship began the turn.

The fishing vessel altered course to starboard towards the path of the box ship. The box ship's OOW moved to the port wing to check that the ship was turning into clear water. He thereafter returned to the 'S' Band radar display and did not see the fishing vessel alter course. The two vessels began to close rapidly and eventually the box ship and the fishing vessel collided, resulting in the loss of seven fishermen.

# How to improve by lessons learnt

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Based on the case and the keywords, you should now perform an onboard risk assessment of the incident and the factors which led to it. Bear in mind our vessel's procedures.

You can also discuss the keywords below in order to determine onboard areas/topics for increased awareness:

- Relevant collision regulations (look-out, safe speed, action to avoid collision, overtaking, signals to attract attention/manoeuvring and warning signals, crossing situations, action by stand-on vessel, risk of collision)
- Risk assessment needed when transiting areas with large concentrations of fishing vessels
- Night orders reflecting the actual risk for the area/for the watch – and what actions to be taken by OOW
- Use of bridge equipment; AIS, AIS integration, limitation of X-band versus S-band radar, ARPA plotting settings, company procedures related to CPA/ TCPA
- Amending voyage plan, reducing speed, adequate use of radar (scaling, pulse and clutter) in difficult areas as described? Bridge manning: role, training and responsibilities of lookout
- Relevant documentation and the securing of evidence if an incident occurs

## 1 What factors contributed to the incident in the above case?

## 2 Risk Assessment: Could some of the factors identified be present on board your ship? (How frequent could they be present? How severe could it be if they are present?)

## 3 In the risk transfer zone (yellow and red), what would you suggest as measures to control the risk? Any additional barriers that could be introduced?