

Investigation Report No. 282/20

Date: 07 April 2022

Serious marine casualty

Grounding of the bulk carrier RUBINA after steering gear failure on the river Weser

1 Summary

At about 2155 on 27 August 2020, the Portugal/Madeira flagged bulk carrier RUBINA ran aground on the river Weser.

On the evening the accident took place, the RUBINA was sailing northbound on the Weser. Both steering gears were running. A helmsman was steering using the hand wheel.

At around 2155, the helmsman intended to return the rudder to midships from an angle of about 15° starboard. Initially nothing happened, despite a correct hand steering wheel position; the rudder remained at 15° starboard. After a few seconds, the steering control system automatically switched from hand wheel to tiller, accompanied by a clearly audible and visible alarm.

The ship's command directly switched the controls back to manual steering. At the same time, the rudder angle changed to hard starboard (45°) and again remained there, still without reacting to rudder angle inputs from the hand wheel. The vessel's rate of turn, already high at that point, accelerated even further.

Despite an immediately initiated full-astern manoeuvre, the RUBINA's prow ran aground within moments. Fortunately, this happened in a relatively "innocuous" position on the Weser.

After the salvage operations on the following day, the RUBINA was towed to a waiting pier in Brake. The ship was able to continue her voyage two days later.

The cause of the non-responsive rudder was found to be a pilot valve of steering gear pump no. 2, which had stuck in an open position for a while. It was not possible to establish conclusively what had caused the pilot valve to stick.

2 Safety Recommendation

The following safety recommendation does not constitute a presumption of blame or liability in respect of type or sequence.

Peter Doehle Schiffahrts-KG

The BSU recommends the following to Peter Doehle Schiffahrts-KG:

Train crew members on the functionality of steering control systems

It should be ensured that the deck officers and master on board the ships of Peter Doehle Schiffahrts-KG know

- which changes occur in the steering control system when an override is triggered;
- how to proceed in such a case (e.g. have the helmsman switch to the tiller or other NFU input device), and
- how to properly reset the override of the system on board each respective ship.

Seafarers tasked with steering (helmsmen) on board the ships of Peter Doehle Schiffahrts-KG should know

- how the operation of the tiller (or the NFU input device installed on board) differs from the operation of the hand wheel (or the FU input device) normally used.

It should be ensured that this information is also passed on to any person with the above duties in future, as soon as they take up these duties on board. For assignments on different ships, it is important to note that some of this knowledge is specific to the equipment or its manufacturer, and that such equipment may differ from one ship to another.