



Bundesstelle für Seeunfalluntersuchung
Federal Bureau of Maritime Casualty Investigation
Federal Higher Authority subordinate to the Federal Ministry
of Transport and Digital Infrastructure

Interim Investigation Report

Serious Marine Casualty 282/20

**Grounding of the RUBINA
after steering gear failure
on the river Weser
on 27 August 2020**

26 August 2021

Pursuant to the first sentence of Article 28(1) of the Law to improve safety of shipping by investigating marine casualties and other incidents (Maritime Safety Investigation Law – SUG) of 16 June 2002, as amended and promulgated on 1 March 2012 (BGBl. [Federal Law Gazette] I p. 390), amended most recently by Article 5 of the Regulation of 8 March 2012 (BGBl. I p. 483), in conjunction with Article 14(2) of Directive 2009/18/EC of the European Parliament and of the Council of 23 April 2009 establishing the fundamental principles governing the investigation of accidents in the maritime transport sector, the Federal Bureau of Maritime Casualty Investigation publishes an interim report within a period of 12 months of a very serious or serious marine casualty if it is not possible to complete the corresponding investigation report within that period.

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Revision history

Page	Revision	Date
6	„Vessel Traffic Services Bremen“ to „ Vessel Traffic Services Bremerhaven“	27 Aug 2021
6	„ Waterways and Shipping Office Bremen“ to „Waterways and Shipping Office Weser / Jade / North Sea“	27 Aug 2021
7	Unit rate of turn to “°/min”	10 Sep 2021

1 Factual information

1.1 Photo



Figure 1: Bulk carrier RUBINA¹

1.2 Ship particulars

Name of ship:	RUBINA
Type of ship:	Bulk carrier
Nationality/Flag:	Portugal (MAR)
Port of registry:	Madeira
IMO number:	9725512
Call sign:	CQZG
Owner:	Peter Doehle Schiffahrts-KG
Shipping Company:	Julia Schiffahrtsgesellschaft, c/o Peter Doehle Schiffahrts-KG
Year built:	2018
Shipyard	Jiangsu Hantong Ship Heavy Industry
Classification society:	Lloyd's Register
Length overall:	179,95 m
Breadth overall:	32 m
Draught (max.):	10,75 m
Gross tonnage:	25.618
Deadweight:	39.959

¹ source: Hasenpusch Photo Productions (2018).

Engine rating:	6.100 kW
Main engine:	Wärtsilä / Doosan 5 RTflex
(Service) Speed:	14 kts
Hull material:	Steel
Hull construction:	Double hull
Minimum safe manning:	9

1.3 Voyage particulars

Port of departure:	Bremen (Germany)
Port of call:	Houston (USA)
Type of voyage:	Merchant shipping, international
Cargo information:	Steel
Manning:	14
Draught at time of accident:	D _f 9.25 m , D _a 9,75 m
Pilot on board:	Yes
Passengers:	None

1.4 Marine casualty information

Type of marine casualty:	Serious marine casualty / Failure of steering gear
Date, time	28/08/2020, 2215
Location:	Weser, at the mouth of the river's "right branch" (km 44)
Latitude/Longitude:	$\varphi = 53^{\circ}21,7' \text{ N}$ $\lambda = 008^{\circ}30,2' \text{ E}$
Ship operation and voyage segment:	Manoeuvring mode / pilotage waters (north-bound)
Consequences (for people, ship, cargo, environment, other):	<ul style="list-style-type: none"> - Grounding at the eastern edge of the Weser fairway - First attempt to tow ship free (two tugs) at about midnight unsuccessful due to falling tide - Second attempt to tow ship free (4 tugs) with next high tide (morning of following day) successful; - Vessel shifted to Brake to await class confirmation

Excerpt of chart INT 1458

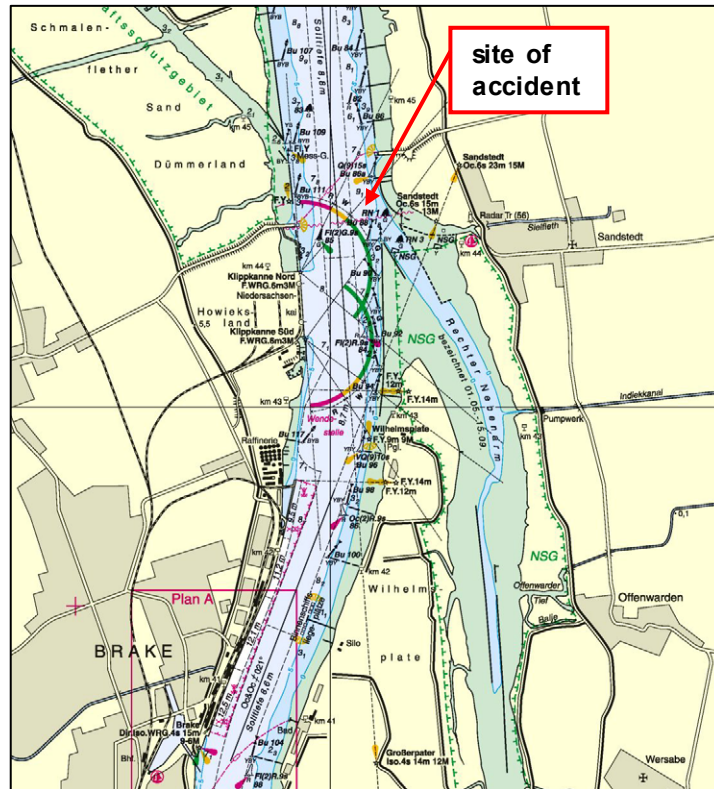


Figure 2: Site of the accident

1.5 Shore authority involvement and emergency response

Involved parties:

- Vessel Traffic Services Bremerhavenen
- Waterways Police Brake,
- Pilot Association Weser I (shore-based radar assistance)
- Maritime Safety and Security Centre (MSSC)
- Waterways and Shipping Office Weser / Jade / North Sea,
- German Ship Safety Division
- Central Command for Maritime Emergencies

Resources used:

Two tugs during first attempt to tow ship free;
four tugs during second, successful attempt

Actions taken:

- Traffic regulation by VTS and radar pilots (passage of ships with a max. length of 190 m and max. draught of 7.5 m, with radar assistance)
- After the ship had been towed free, shifting of the ship to a waiting pier in Brake

2 Summary

At about 2155 on 27 August 2020, the Portugal/Madeira flagged bulk carrier RUBINA ran aground on the river Weser. The ship, carrying a cargo of steel, was en route from Bremen (GER) to Houston (USA).

On the evening the accident took place, the RUBINA was sailing northbound on the Weser in manoeuvring mode. A pilot was on board. 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 the rudder angle inputs from the hand wheel. The vessel's rate of turn, already high at that point, accelerated even further to values around 60 °/min.

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: at the mouth of the "right branch", and on the edge of the fairway.

A first salvage attempt that same evening was unsuccessful, the second attempt, with the next high water on the following day at around 10:00 a.m., succeeded. The RUBINA was then towed to a waiting pier in nearby Brake.

Two BSU investigators visited on board immediately after the salvage operations were completed. Service technicians of the steering gear and the automation system, who were also on board, were able to determine the sequence of events leading up to the accident. The investigation report is nearing its completion.

The comprehensive appraisal of all sources of knowledge is a time-consuming process. Therefore, the BSU cannot meet the one-year deadline set by the European Union and transposed into national law by the Federal Republic of Germany for the publication of an investigation report after a very serious or serious maritime accident without compromising the quality of the conclusions and safety recommendations that define the report.

Therefore, after careful consideration of all relevant factors, and with the understanding that the quality of an investigation report must take priority over the time aspect of publication, the BSU has decided to postpone the publication date of the final report and to publish the above interim investigation report.