



Bundesstelle für Seeunfalluntersuchung
Federal Bureau of Maritime Casualty Investigation

Interim Investigation Report 97/22

Serious Marine Casualty

**Collision between the PAIVI and the BJOERKOE
in the Kiel Canal
on 29 March 2022**

21 March 2023

Pursuant to the second 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) in conjunction with the second sentence of 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 investigation 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.

This interim investigation report should not be used in court proceedings or proceedings of the Maritime Board. Reference is made to Article 34(4) SUG.

The German text shall prevail in the interpretation of this interim investigation report.

Issued by:
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1 FACTUAL INFORMATION

1.1 PAIVI

1.1.1 Photograph of the ship



Figure 1: Photograph of the PAIVI¹

1.1.2 Ship's particulars

Name of ship:	PAIVI
Type of ship:	General cargo ship
Flag:	Cyprus
Port of registry:	Limassol
IMO number:	9434149
Call sign:	5BGW2
Owner (according to Equasis):	Paivi InterScan Shipmanagement
Shipping company:	InterScan Schiffahrtsgesellschaft mbH
Year built:	2008
Shipyard:	Marine Projects Ltd. and Bodewes Shipyards BV
Classification society:	Bureau Veritas
Length overall:	82.5 m
Breadth overall:	12.5 m
Draught (max.):	5.3 m ²
Gross tonnage:	2,474
Deadweight:	3,450 t
Engine rating:	1,850 kW
Main engine:	Caterpillar, 1 x 6M25
Service speed:	12.5 kts
Hull material:	Steel
Hull design:	Double bottom
Minimum safe manning:	6

¹ Source: Jörn Kallauch.

² According to documents about the ship particulars available on board.

1.1.3 Voyage particulars

Port of departure:	Kokkola, Finland
Port of destination:	Antwerp, Belgium
Type of voyage:	Merchant shipping, international
Cargo information:	Construction materials (bulk)
Crew:	7
Draught at time of accident:	D _f = 5.4 m, D _a = 5.4 m
Pilot on board:	Yes
Canal helmsman:	No
Number of passengers:	None

1.2 BJOERKOE

1.2.1 Photograph of the ship



Figure 2: Photograph of the BJOERKOE³

1.2.2 Ship particulars

Name of ship:	BJOERKOE
Type of ship:	General cargo ship
Flag:	Cyprus
Port of registry:	Limassol
IMO number:	9376787
Call sign:	5BRY4
Owner (according to Equasis):	Emden Coastal-Bulker UG
Shipping company:	Schulte & Bruns GmbH & Co KG
Year built:	2009
Shipyard:	Societatea Comerciala Severnav S.A. and Bodewes Shipyards BV
Classification society:	Det Norske Veritas
Length overall:	106.8 m
Breadth overall:	15.2 m
Draught (max.):	5.25 m

³ Source: Hasenpusch Photo-Productions.

Gross tonnage:	4,102
Deadweight:	5,499 t
Engine rating:	1,980 kW
Main engine:	Caterpillar, 1 x 6M25
(Service) Speed:	11 kts
Hull material:	Steel
Hull design:	Double bottom
Minimum safe manning:	7

1.2.3 Voyage particulars

Port of departure:	Papenburg, Germany
Port of destination:	Södertälje, Sweden
Type of voyage:	Merchant shipping, international
Cargo information:	Wood chips (bulk)
Crew:	9
Draught at time of accident:	$D_f = 4.36$ m, $D_a = 4.77$ m
Pilot on board:	Yes
Canal helmsman:	Yes
Number of passengers:	None

1.3 Marine casualty information

Type of marine casualty:	Serious marine casualty, collision of two ships
Date, time:	29 March 2022, 1049
Location:	Kiel Canal, canal kilometre 93.45
Latitude/Longitude:	$\varphi = 54^\circ 21.7'N$, $\lambda = 010^\circ 4.0'E$
Ship operation and voyage segment:	Fairway mode
Place on board:	Fore section of both ships
Human factors:	No
Consequences:	Four injured crew members with bruises and lacerations, damage to the fore section of each ship, water ingress in the BJOERKOE's forepeak and steering gear compartment

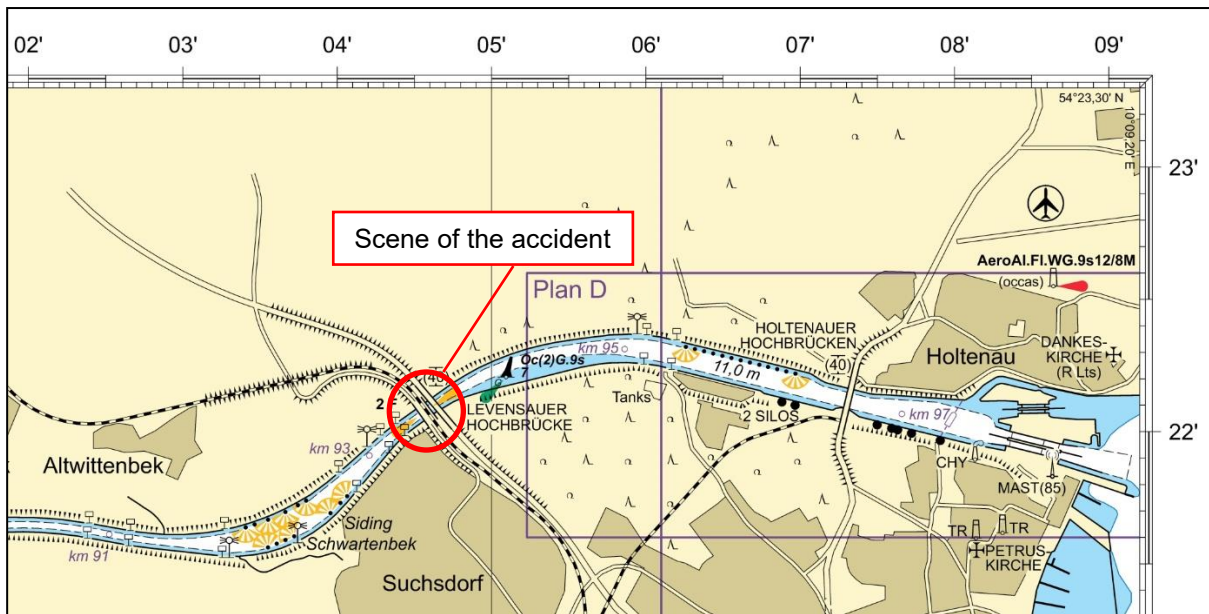


Figure 3: Navigational chart showing the scene of the accident⁴

1.4 Shore authority involvement and emergency response

Agencies involved:	Vessel Traffic Service NOK, Kiel Fire Service, rescue service, waterway police, Maritime Security Centre
Resources used:	Tugs HOLTENAU, STEIN and PARAT, fire service with inflatable boats, ambulance, pollution control plane
Actions taken:	Tugs assisted the distressed vessels with manoeuvring; the HOLTENAU and the STEIN then towed the PAIVI to her berth and the PARAT escorted the BJOERKOE to her berth; three injured crew members on the PAIVI taken ashore by the fire service and transferred to the rescue service for transport to a hospital; the fire service assisted on the PAIVI with making fast the tugs and berthing; initial investigations on board by the waterway police; flight to check for possible water pollution

⁴ Source: Extract from Navigational Chart DE42, BSH.

2 SUMMARY

On the morning of 29 March 2022, the westbound cargo ship PAIVI collided with the eastbound cargo ship BJOERKOE in the Kiel Canal (NOK). The collision took place in the area of the bridges at Levensau. The collision occurred because the PAIVI suddenly left her intended course and turned towards the BJOERKOE. Due to the close proximity of the vessels, an evasion manoeuvre or effective reduction in speed was no longer possible. Each vessel suffered heavy damage to her fore section during the collision. The BJOERKOE's hull was holed below the waterline, causing water ingress in the forepeak and bow thruster compartment. Due to the unexpected impact, three of the PAIVI's crew members were injured such that deployed fireboats and ambulances had to transport them to a hospital for the treatment of lacerations and bruises. One of the BJOERKOE's crew members also suffered bruises. After the collision, tugs towed or escorted the two vessels to their berths in Kiel designated by the vessel traffic service.

The ship's command of the PAIVI stated that the deviating course was caused by a problem with the steering gear. As a result of the BSU's investigations, the possibility that the collision was caused by the ship pushing away due to the bank effect is considered unlikely. Rather, the BSU also assumes a technical cause.

The investigation into the accident is ongoing, as the BSU has only recently been provided with documents that support the assumption of a technical cause for the rudder failure. The ship's insurer's expert's office and other parties involved also intend to carry out further investigations to obtain more detailed findings on the technical cause. Therefore, the BSU has decided to wait before completing its own investigation.

Since the one-year deadline set by the European Union and transposed into national law by the Federal Republic of Germany for its publication cannot be met, the public will be informed about the status of the investigation into this serious maritime accident by means of the publication of an interim investigation report.