



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 285/20

**Allision of the multi-purpose-ship ELSE with a lock
gate of the Kiel Canal in Kiel-Holtenau on 29 August
2020**

27 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.

Issued by:
Bundesstelle für Seeunfalluntersuchung - BSU
Bernhard-Nocht-Str. 78
20359 Hamburg
Germany



Director: Ulf Kaspera
Phone: +49 40 3190 8300
posteingang@bsu-bund.de

Fax: +49 40 3190 8340
www.bsu-bund.de

1 Factual information

1.1 Photo



Figure 1: Multi-purpose ship ELSE¹

1.2 Ship particulars

Name of ship:	ELSE
Type of ship:	Multi-purpose ship
Nationality/Flag:	Panama
Port of registry:	Panama
IMO number:	9006320
Call sign:	3FCY6
Owner:	RIVABULK SHIPBROKERS LTD / Istanbul
Shipping Company:	REGENCY SHIP MANAGEMENT SA / Istanbul
Year built:	1993
Shipyard:	Peene-Werft Shipyard, Wolgast/Germany
Classification society:	Polish Register of Shipping (IACS)
Length overall:	87,86 m
Breadth overall:	12,80 m
Draught (max.):	5,47 m
Gross tonnage:	2.449
Deadweight:	3.729 t
Engine rating:	600 kW
Main engine:	Deutz MWM SBV 8 M628
(Service) Speed:	10 kn
Hull material:	Steel
Minimum safe manning:	9

¹ Source: Hasenpusch Photo Productions (2018).

1.3 Voyage particulars

Port of departure:	Klaipėda (Litauen)
Port of call:	Les Sables-d'Olonne (France)
Type of voyage:	Merchant shipping
Cargo information:	Ammonium nitrate (fertilizer)
Manning:	9
Draught at time of accident:	5.30 m
Pilot on board:	No
Canal helmsman:	No

1.4 Marine casualty information

Type of marine casualty:	Serious marine casualty, allision with lock gate
Date, time	29/08/2020 0507 LT
Location:	Kiel-Holtenau; approach to the north chamber of the Kiel Canal (NOK) lock "Neue Schleuse" ² , coming from the Baltic Sea
Latitude/Longitude:	φ 54°21,9'N λ 010°08,7'E
Ship operation and voyage segment:	Pilotage waters / NOK approach
Consequences (for people, ship, cargo, environment, other):	Damages to the bow section of the ELSE; serious damage to the outer gate of the north chamber of the "Neue Schleuse" lock; lock gate not in operation for several days

² Note: Also commonly used: "Große Schleuse" (large lock).

Excerpt of the chart “Ports of Kiel”, BSH³ No. 34 (INT 1365)

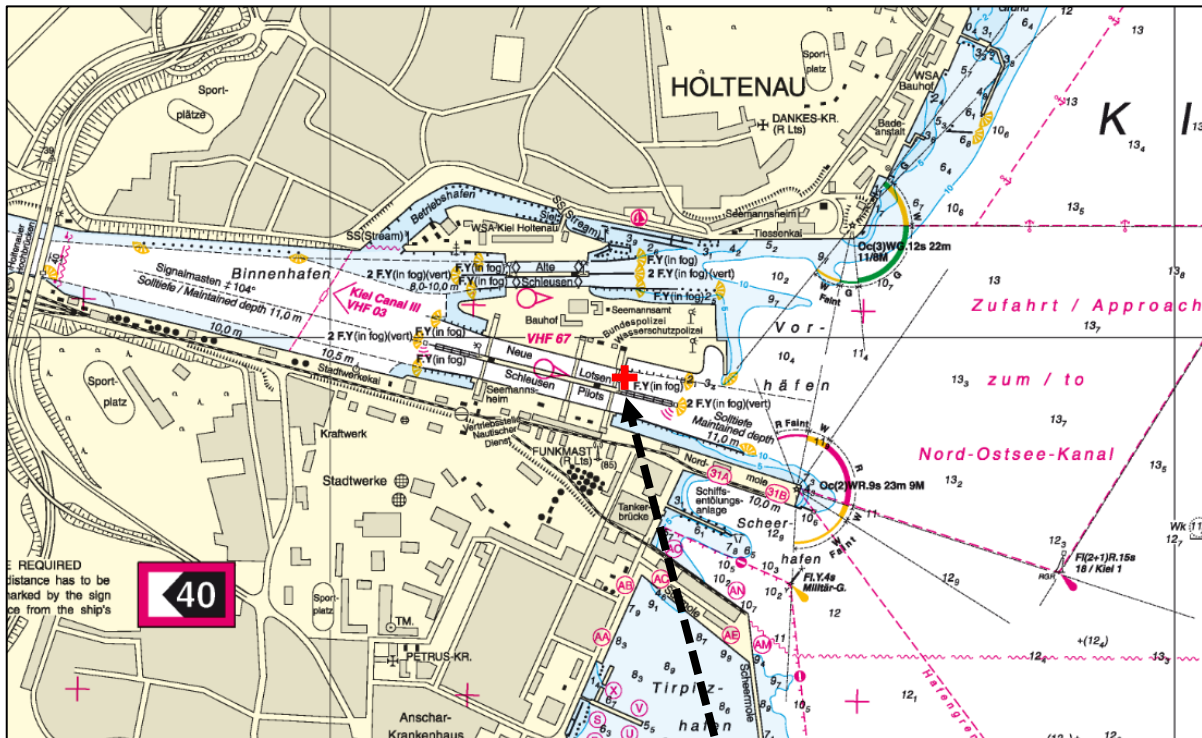


Figure 2: Scene of the accident

1.5 Shore authority involvement and emergency response

Involved parties:	Federal Waterways and Shipping Agency (GDWS), administrative office Kiel; Waterways and Shipping Office (WSA) Kiel Canal, administrative office Kiel-Holtenau; Vessel Traffic Services NOK, Waterways Police Kiel
Resources used:	Tugs STEIN, HOLTENAU, water protection ship SCHARHÖRN (stand-by)
Actions taken:	Towing of the ELSE to the Lindenau ship yard, closing off of the affected lock chamber, diving inspection of the lock gate

³ BSH – Federal Maritime and Hydrographic Agency.

2 Summary

At 0507⁴ on 29 August 2020, the Panama registered multi-purpose ship ELSE, coming from the Kiel Fjord, collided head-on with the gate of the north chamber of the “Neue Schleuse” lock of the Kiel Canal in Kiel Holtenau, which was completely closed at that time, and remained stuck with its bow in the lock gate (see **Figure 3**). No crewmembers or persons on the lock facility were harmed, and no pollutants were released.

Two tugs ordered to the scene of the accident were able to free the ELSE from its predicament and towed the still floatable casualty vessel to the nearby Lindenau shipyard for accident investigation, damage assessment and repair.

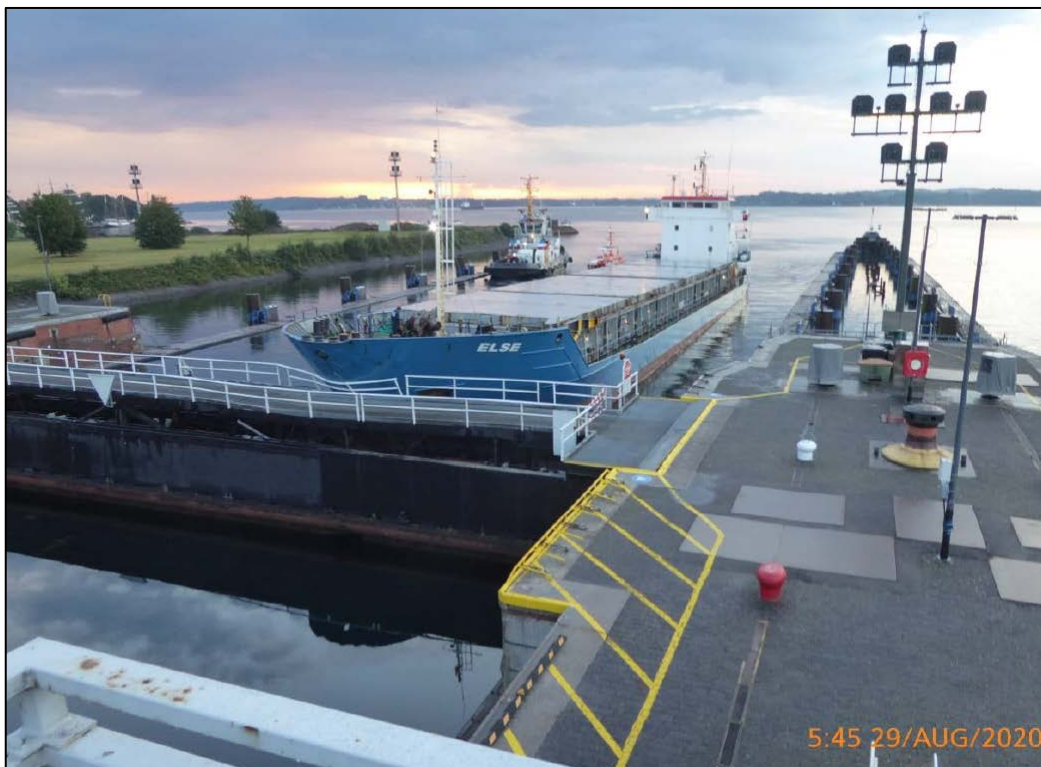


Figure 3: MV ELSE with her bow in the lock gate⁵

Vessel Traffic Services (VTS) NOK notified the BSU investigator on call by telephone immediately after the accident. The investigator obtained a rough overview of the ELSE's track by means of an initial AIS⁶ research before the investigation team started the investigation. First steps consisted of a survey of the casualty vessel at its berth at the Lindenau shipyard, interviews conducted on board with the ship's command and a subsequent visit to the lock. In particular, the lock gate that had been deformed by the collision was inspected.

⁴ All times stated in the report are local times (LT) = CEST = UTC + 2 hours.

⁵ Source: WSA NOK.

⁶ AIS: Automatic Identification System. Via this system, all appropriately equipped ships transmit GPS-based data such as position, course and speed, as well as other information if necessary, on VHF at a standardized frequency. This data can be shown on a display for the recipient (e.g. other ships or vessel traffic services) or, for example, superimposed on an electronic nautical chart system or, if necessary, on a radar image. Via commercially operated portals, it is possible to observe current AIS data or ship movements via the Internet in real time and to reconstruct past voyages.

Due to her small size, the ELSE is not subject to a VDR⁷ carriage requirement. Also, no further ship-based technical recordings with regard to the course of the voyage were (are) made, i. e. were not available. Thus, the most important resources for the reconstruction of the vessel's track were the AIS and VHF recordings of VTS NOK. These were made available to the investigation team in a timely manner upon request.

Moreover, the BSU established contact with the presiding executive officer of the pilot association "NOK II / Kiel / Lübeck / Flensburg", who supply pilotage services on the eastern leg of the NOK. One of the aims was to obtain background information as to why no pilot was on board the ship at the time of the accident, although this was required, or which agreements were reached with the ship in this regard before the accident.

The interviews conducted on board, the evaluation of the VTS NOK recordings as well as further relevant information showed the following: The ELSE, coming from Klaipeda (Lithuania), navigated properly and without technical or other problems through the Kiel Bay and later the Kiel Fjord, heading towards the NOK, in the hours before the accident. The sea was calm and good visibility conditions prevailed. For reasons of passage planning, the ship sailed with a reduced speed of about 6 kts.

On the occasion of the upcoming NOK passage, the pilot station⁸ duty officer at "Holtenau Pilot" established VHF contact with the officer of watch (OOW) on the bridge of the ELSE at **0342**. In response to his question in English as to when the ship would reach (quote) "Holtenau Roads"⁹, he received the answer that they would be at the (quote) "pilot station"¹⁰ at **0600**. The pilot station duty officer asked the ELSE's OOW to report to the pilot station again as the vessel passes fairway buoy no. 9¹¹. The ELSE's OOW complied with this request at **0441**, when the pilot station also requested that the vessel continue its voyage until it reaches the pilot transfer point (quote: "pilot position").

The pilot station duty officer additionally announced that the pilot would embark at that position at **0600** (quote: "Pilot will board you there at six o'clock"). The ELSE's OOW briefly confirmed the time. This VHF contact did not specify a position for the pilot transfer or any other exchange of information.

At **05:05**, VTS NOK called the ELSE. The vessel, which was apparently approaching the entrance to the lock chamber continuously and purposefully without reducing its speed and without having taken a pilot in the meantime, was requested to proceed to Holtenau Roads. The VTS duty officer clearly pointed out that the ship was no longer

⁷ VDR = Voyage Data Recorder = computer-based system on board seagoing vessels with which various data relating to the nautical and technical operation of the ship are continuously recorded in order to be able to evaluate them, in particular for the purpose of marine casualty investigations.

⁸ Pilot station = building ashore from which the pilot association coordinates pilots' assignments.

⁹ Note: The pilot transfer point is located at the southern edge of the Holtenau Roads.

¹⁰ Note: This apparently refers to the pilot transfer point ("Pilot Boarding Place") shown on the chart.

¹¹ Note: Fairway buoy no. 9 is located immediately off the northern edge of Holtenau Roads. From the buoy, it is approx. 1.3 nautical miles to the pilot transfer point.

in the waiting area, but already approaching the lock. He also declared that the gate was closed.

After a few seconds, VTS asked if its message had been understood, since there had been no immediate response from the ELSE. The vessel's OOW acknowledged this, but merely with a brief "yes", accompanied by an uncertain sound in his voice. The VTS duty officer reiterated clearly and unambiguously his request for the vessel to return to Holtenau Roads. The response of the ELSE's OOW was again very brief: He simply said "Holtenau Pilot".

Immediately after the aforementioned VHF contact, the pilot station called the ELSE at **05:06**. The OOW responded immediately and seamlessly said: "My position enter to channel". The pilot station duty officer immediately demanded of the ELSE's OOW to turn around and proceed to the pilot transfer point. He made it clear that the ship did not have permission to enter the lock without a pilot. ELSE did not respond to this request. Instead, the vessel continued towards the lock gate and collided with it at **05:07**.

The following screenshots are from the AIS recording of the ELSE's track, provided by the VTS NOK: They show that, after passing buoy no. 9, ELSE duly changed course towards Holtenau Roads (**see Figure 4**). However, the vessel subsequently left Holtenau Roads on its starboard side without changing course and, in particular, passed the pilot transfer point shown on the chart without reducing speed (**see Figure 5**). Shortly thereafter, the vessel made a starboard course change and then headed directly to the approach of the north chamber of the "Neue Schleuse", before colliding with the closed lock gate (**see Figures 6 - 8**).

According to VTS records, the vessel's speed over ground was consistently between 5 and 6 knots throughout the course of the voyage described here. The ship's speed only decreased a few seconds before impact with the lock, and inevitably dropped to zero as a result of the collision.

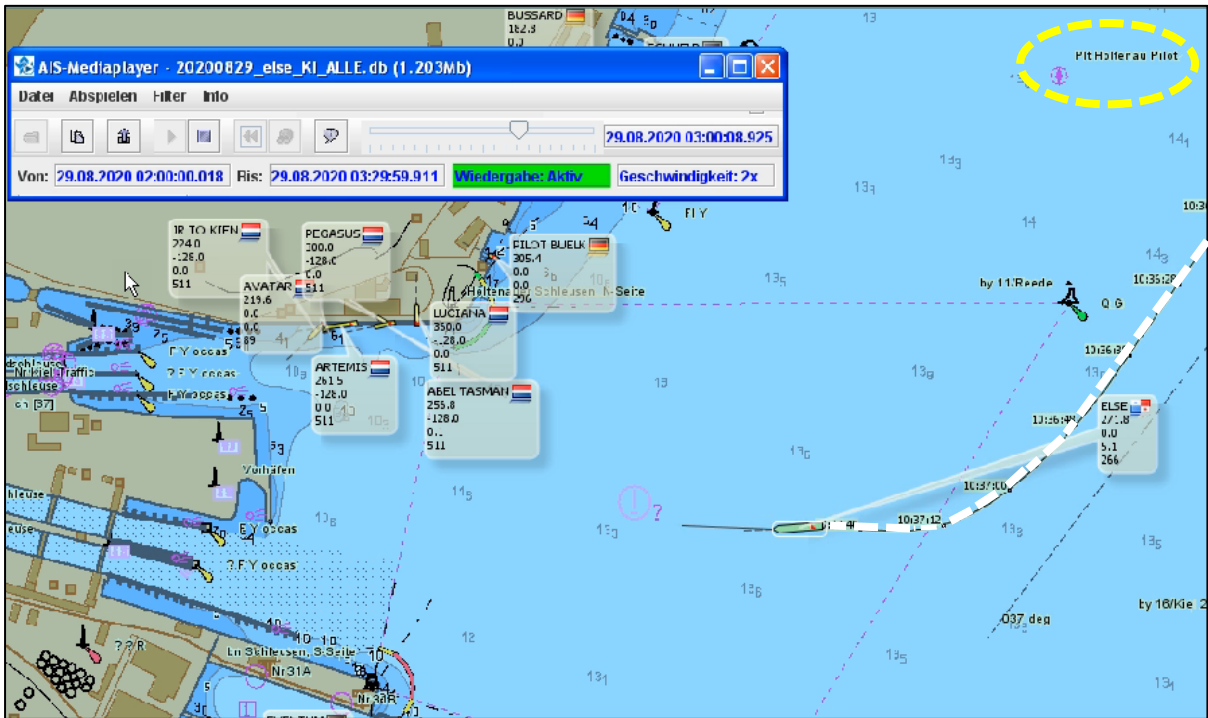


Figure 6: ELSE changes course towards lock approach (track up until 0500)

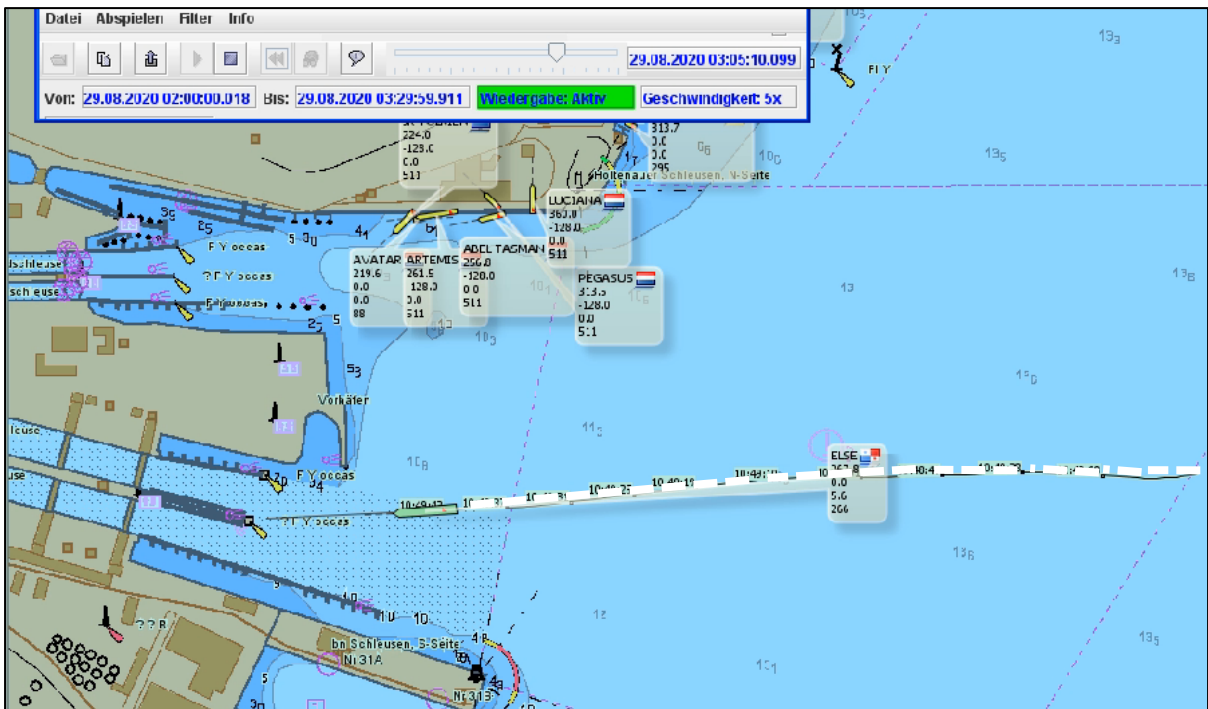


Figure 7: ELSE proceeds with undiminished speed (track up until 0505)

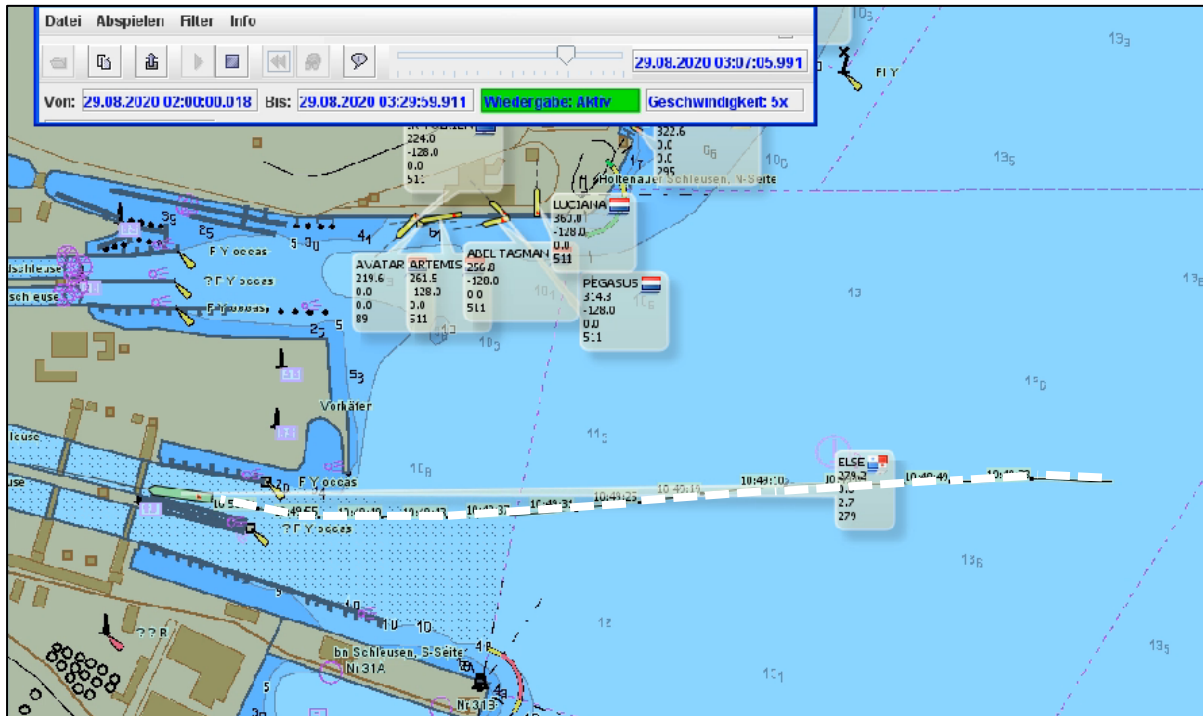


Figure 8: ELSE immediately before the collision with the lock gate (0507)

The described accident sequence makes it clear that the BSU investigators had to clarify a wide range of questions in order to determine the causes of the accident and identify the contributing factors. The investigative steps in this regard have largely been completed. The BSU is currently in the process of preparing the investigation report on this serious marine casualty.

Since 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, the public is informed of the state of the investigation by way of publication of the above interim investigation report.