Bundesstelle für Seeunfalluntersuchung

Federal Bureau of Maritime Casualty Investigation

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Press Release 5/17

The Federal Bureau of Maritime Casualty Investigation (BSU) hereby gives notice that the Investigation Report 470/15 was published on 23 February 2017 . The report deals with the collision of the MV EMSMOON with the railway bridge (Friesenbrücke) in Weener/Ems on 3 December 2015. The report is available on www.bsu-bund.de.

Short version:

Marine casualty – Collision of EMSMOON with the railway bridge

At 1823 on 3 December 2015 the general cargo ship EMSMOON, flying the flag of Antigua and Barbuda, sailing in ballast and with the ebb tide, collided with the bascule bridge (Friesenbrücke) in Weener/Ems. Visibility was good, and southerly winds of 3-4 Bft prevailed.

As a consequence of the collision, the bascule bridge was completely destroyed. The ship only sustained minor damages in the area of the bow. The train running between Weener and Leer could be stopped on time 3 minutes before the collision at the warning signal located in a distance of 700 m. Nobody was injured, and no environmental pollution occurred.

The BSU published the investigation report on 23 February 2017. The report is available on www.bsu-bund.de

Long version:

Marine casualty – Collision of EMSMOON with the bascule bridge

At 1745 on 3 December 2015, the EMSMOON left the lock in Papenburg and at 1823 she collided with the closed bascule bridge (Friesenbrücke) nearby Weener. As a consequence of the collision, the bridge leaf was completely destroyed. The collision was caused by the mutual ambiguous radio communication between the bridge keeper and the pilot. The pilot assumed a passage through an open bridge prior to the train announced. The bridge keeper ultimately announced that the trains would pass at 1823 and 1838 and confirmed that the EMSMOON may at first approach the bridge. At 181521, when the ship had reached the high-voltage-transmission-line, approx. 8 cables before the bridge, the pilot called and asked, if the ship may maintain her speed or if he should reduce the speed. Thereupon the bridge keeper replied that the train would arrive 3 minutes later and would pass between 1825 and 1826, whereupon the pilot answered that the ship would maintain her speed. At 182157 the bridge keeper warned the ships command of the EMSMOON that they would have to stop because the bridge was still closed. Immediately thereafter at 1823, the ship collided with the bascule bridge. The visibility was 20 km and winds of 3-4 Bft prevailed. However, the shipping signals at the bridge could not be noticed on time.The bright lights of a factory with its smother at the port side and the deck illumination of a dredger on the starboard side of the river disturbed. The signal panel at the starboard side of the passage was significantly disturbed by the spotlight of the bridge construction.

The pilot conducted the radio communication with the Vessel Traffic Services and the bridge keeper, stood at the helm and operated the engine telegraph. The supposable look-out and the officer on watch were presumably in the bridge wings in order to operate the search lights to illuminate the sea marks on the Ems, while the master was probably at the starboard radar unit, which is located within reach of the engine telegraph. The situation resulted in the pilot not being able to completely focus on the radio communication over VHF and the radar screens. There were only limited options to vary the speed and defer the arrival at the Friesenbrücke. Given the train delay of 3 minutes, the collision with the closed bridge could have possibly been prevented by a controlled stranding in an acute angle at 181521 when the ship had reached the high-voltage-transmission-line, located approx. 8 cables from the bridge, and the pilot reported to the bridge keeper. It would not have been possible anymore to stop the ship in the fairway. An uncontrolled crash manoeuvre (full astern) in front of the bridge would have posed the risk of the ship broaching to and the necessity of closing the fairway. Moreover, the approaching inland tanker would have not been able anymore to stop in a controlled manner.

The passage plan carried out with the current applied approach and the available technical shipboard and shore based equipment is unreliable and does only work through the VHF radio communication. This communication constituted a crucial vulnerability during the accident.
Therefore the BSU issued extensive safety recommendations addressed to the Waterways and Shipping Administration (WSV), the ship's operator and the ship's crew as well as the pilots association. The arrangement of the WSV and the Deutsche Bahn AG (German rail) was objected. The arrangement ought to be replaced by procedural requirements including clear procedures in the VHF radio communication with respect to the status of the bridge and the position of the signals. Moreover, it is recommended, to install firm warning signals at the edge of the fairway and inform the pilots in real time of the bridge signals on their portable computers. The information system of the VTS Emden should be adjusted in a way that constructions and bridge signals plotted in a large scale electronic chart can be plotted and monitored.

Furthermore, the waiting places between Papenburg and Emden should be consecutively dredged. The range of the bridges and lock signals should be published by taking into account the disturbing lights and the illumination of the bridge should be improved. The responsible watch officers should only leave the helm and control elements to the pilot for a short period of time while sailing on the Ems. If the situation and the bridge equipment of the ship require this, a second pilot will have to be requested.

Volker Schellhammer
Director