Safety recommendation no. 164

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Safety deficit	On 20 April 2016 at approx. 13:09, the motorvessel Albis (MS Albis) belonging to the Zürichsee-Schifffahrtsgesellschaft (ZSG) collided with the jetty while mooring in Küsnacht (ZH). Several people were injured in the collision. Extensive damage was caused to the ship and the jetty. The collision beween MV Albis and the jetty in Küsnacht on 20 April 2016 can be attributed to the fact that it was not possible to take over driving control on the port bridge-wing control stand. As the records for some important parameters for the accident investigation are lacking, it cannot be said conclusively whether purely technical or purely human factors were the cause. The following contributed to the accident: • Unfavourable decisions and prioritisation regarding - the time at which the switch was made from the main bridge to the bridge-wing control stand; this left little room to deal with unforeseen events; - rapid acceleration shortly before the mooring manoeuvre from the main control stand, considering the distance and the approach angle to the mooring jetty as well as the given topology. • A lack of training on dealing with possible system failures. • Inadequate or missing guidelines, controls and monitoring in the company with regard to - procedures, plans and training courses which raise awareness of system failures and the emergency procedures in response to them, and which also provide regular opportunities for shipmasters to address issues relevant to the safe navigation of passenger ships; - applying lessons learned from safety-relevant notifications. The following associated risks were identified: • The technical limits of the steering system are not sufficiently considered in the current operating processes. • No 'Failure/Malfunction of motor steering' scenario exists. • There is no gathering of data that is required to analyse causes and to improve the system long-term. • The ZSG does not have a concept for developing and monitoring a safety management system. In particular, the company does not ensure that its shipmasters read, understand and apply appropriate instructions on all lessons learned regarding the safe navigation of its vessels. • Safety-relevant and reportable incidents are not reported to the FOT as the ZSG does not have up-to-date instructions. As a result, the FOT cannot carry out some oversight functions that are vital to safety in the system. The investigators had access to GPS records of the ship's position

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	and records of the drive-control faults. However, important records on the operation or states of levers, buttons and rudder deflections were lacking. Today, ship drive systems (motors and rudders) are controlled and monitored using electronic controls. This should allow the relevant signals to be recorded and logged electronically. They would then be available for fault and accident analyses, which would help to improve systems.
Safety recommendation	The Federal Office of Transport (FOT) should examine whether passenger ship control systems should be required to have a data recording system to record and store signals.
Addressees	Bundesamt für Verkehr
Stage of the implementation	Partially implemented. The Federal Office of Transport (FOT) is of the opinion that the European Standard laying down Technical Regulations for Inland Navigation Vessels (ES-TRIN) does not prescribe mandatory, continuous data storage of nautical and technical data or incidents and furthermore, as far as it is aware, no such regulations are currently being drawn up. It would be too complex and too cost-intensive to develop such data recording systems because of the widely varying equipment found on different vessels. The FOT will monitor the market and work in the relevant international expert bodies to bring about a solution specific to the inland navigation industry.
Investigation report concerning the safety recommendation	Vorbericht Schlussbericht

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