Safety recommendation no. 187

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Safety deficit	On 9 June 2022 at around 11.20am, the HGem 2/2 locomotive No 2501 had to manoeuvre two loaded ballast wagons parked on track 111 below Les Avants station. The two ballast wagons were then to be shunted back to Les Avants station. Having initially moved out of the station on open line, the train experienced adhesion problems on its return journey. As the train was unable to return to Les Avants station, in order to clear the track for a passenger train bound for Les Avants station the MOB traffic management centre asked the foreman shunter to bring his train down to Chamby station and to cross the passenger train in Sendy-Sollard station. The train travelled down the line and came to a halt in front of the Sendy-Sollard entry signal, which was set at stop. Having received authorisation to enter the station on track 1 with the signal at stop, the train set off again. When braking to come to a halt on track 1, the train was unable to stop. It broke away, hit the downline exit point at Sendy-Sollard station, and ran on open line before coming to a halt some 900 metres further on. The train broke away from track 1 at Sendy-Sollard station and ran for some 900 metres on open line because, when braking in the station, the two axles of the HGem 2/2 No 2501 locomotive jammed, causing the locomotive to lose adhesion. The train slowed down solely thanks to the two loaded Fdk wagons, which had a combined braking ratio (65%) insufficient for the line it was on, thereby reducing the train's braking ratio to below 60%, i.e. too low to be able to stop the train. The following factors contributed to the train breaking away: • The locomotive brake release was activated by the electronic controls; this inhibited the locomotive's air brake during the final phase of braking and prevented reactivation, resulting in a sudden rise in brake cylinder pressure which made the axles lock up. • The pneumatic anti-skid system is inactive below 5 km/h. • The magnetic brakes did not function. The following may have contributed to the train breaking away: There had been a software modification affecting the automatic compensation of buffer force. The expert assessments carried out as part of the technical-operational safety checks for the approval of non-interoperable vehicles differ from those carried out for the approval of standard vehicles running on the main network covered by the Locomotives and Passengers TSI. As these assessments are not carried out regularly, it is difficult for experts to have the specific knowledge e.g. of the details of the implementing provisions to the Railways Ordinance, or to keep up to date with the regulations as is necessary to carry out their tasks.

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	The STSB makes the following recommendation: During the approval process for non-interoperable vehicles, the Federal Office of Transport (FOT) should ensure that the expert report takes account of all specific conditions, particularly with regard to the interaction between the various braking systems during operations.
Addressees	Bundesamt für Verkehr
Stage of the implementation	Partially implemented: The Federal Office of Transport (FOT) responds as follows: The FOT carries out audits on a risk-oriented and random basis. It examines both expert reports and the interaction between different systems/interfaces. The operational context is also taken into account in each case. In this respect, the FOT considers the recommendation to have been implemented, as it is in line with the FOT's approach. However, it is not possible for the FOT to foresee all operational applications. Moreover, an expert is expected to have the relevant expertise in the specialised field and an overall view including operational contexts. For this reason, when considering an expert, great importance is attached to their level of experience. Proof of this experience must be submitted in the selection procedure.
Investigation report concerning the safety recommendation	Rapport de première information Rapport final

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