



Safety recommendation no. 110

Date of the publication	03.02.2017
Number of the final report	2015112402
Safety deficit	<p>The freight train derailed due to its composition, with heavy wagons being coupled behind lighter wagons. The position of heavy wagons behind light ones increases the risk of derailment during braking. Longitudinal forces can develop very quickly, particularly if the train is long, and if the track geometry or topology is dynamically challenging, and this can promote derailment.</p>
Safety recommendation	<p>The FOT should ensure that attention is paid to the occurrence and possible consequences of longitudinal forces within trains with disparate trailer loads throughout the train composition. Where possible, heavy wagons should be attached in front of wagons with lower axle load.</p>
Addressees	Bundesamt für Verkehr
Stage of the implementation	<p>This safety recommendation consists of two parts.</p> <p>Part one: "The FOT should ensure that attention is paid to the occurrence and possible consequences of longitudinal forces within trains with disparate trailer loads throughout the train composition." In the FOT's view, operational account is taken of this part of the safety recommendation through rules on the control of longitudinal forces in mixed freight trains, Swiss Rail Service Regulations R300.5, Section 3.3.1 (Braking regime, changing braking system) and R300.14, Section 2.7.1 (Operating the automatic brake where train line pressure is reduced). The FOT has also written to the RU in question (on 11.4.2017) to draw its attention to the problem of braking in freight trains and to recommend raising the awareness of train drivers. In particular, the RUs are reminded that when a freight train is crossing points that are set in the diverting position and may only be traversed at max. 40 km/h, train line pressure may be reduced by a maximum 0.5 bar. This checkpoint will also be included in the "Checklist for freight trains", which is used for operating inspections.</p> <p>Part two: "Where possible, heavy wagons should be attached in front of wagons with lower axle load." The FOT considers this second part of the safety recommendation impossible to implement operationally, or only with disproportionate effort.</p> <p>Partially implemented.</p>
Investigation report concerning the safety recommendation	<u>Schlussbericht</u>