



Safety recommendation no. 134

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Safety deficit	<p>In Immensee, track reconstruction involving subsoil rehabilitation was taking place, for which a working composition with special vehicles was used. At about 03:45 on Wednesday, 18 March 2015, after completion of the works, the work combination was divided into two construction combinations, which were to travel independently towards Arth-Goldau. The first construction combination had to wait at the track crossover in Brunnmatt to continue its journey. At 04:27, the second construction combination was driven as an indirectly guided shunting movement into the preceding, stationary construction combination. A shunting supervisor was killed, a track-laying worker suffered serious injuries and four tracklaying workers suffered minor injuries. Vehicles and infrastructure suffered serious damage.</p> <p>The collision between two construction compositions was due to the fact that several people in different functions did not follow rules, such as the correct application of processes for shunting movements with special vehicles, compliance with speaking rules and perception of defined roles. This led to a situation where the persons involved had different levels of knowledge and to misunderstandings about the size of the workplace, responsibilities for the route between Immensee and the Brunnmatt track crossover and therefore responsibilities for driving on the route between Immensee and the Brunnmatt track crossover.</p> <p>Contributing factors to the accident were:</p> <ul style="list-style-type: none">- Discrepancies were not questioned and several people behaved without regard for safety.- There were preexisting defects in the radio equipment of shunting supervisor 2 in terms of the sluggishness of the transmit button.- A control tone was activated, giving the impression that the operator was still conscious or able to act. <p>For longer journeys by indirectly guided shunting movements where the shunting supervisor does not give instructions to the train driver, a control tone is the only signal that exists between the shunting supervisor and the train driver and is used for monitoring the connection. However, reception of the control tone does not guarantee that the radio operator is still conscious or able to act.</p>
Safety recommendation	The STSB recommends that the FOT discontinue technical connection monitoring, such as the control tone, for safetyrelevant communication connections unless it is ensured that these are dependent on active action by the operator.
Addressees	Bundesamt für Verkehr
Stage of the implementation	Partially implemented: The Federal Office of Transport (FOT)

responds as follows: As part of its safety monitoring, the FOT conducts spot checks to verify that existing requirements are being implemented and that the technical communication system is correctly aligned with the operating processes and regulations. Furthermore, the rollout of the new shunting communication system (RaKo) is planned for 2025. This takes account of the safety recommendation to the effect that it requires action every 50 seconds (similar to a driver's safety device).

**Investigation report concerning
the safety recommendation**

Vorbericht
Schlussbericht
