R2023-01 Collision of two goods trains in Tampere on 20 September 2023

Two empty timber trains collided with each other at a set of points in the Viinikka marshalling yard in Tampere on 20 September 2023. The accident occurred as train T3321, which was headed to Orivesi, was being reversed back into the marshalling yard. The train was too long to fit onto the section of track that had been assigned for it, as a result of which its wagons overran the main signal that marked the end of the movement authority and collided with the side of a train that was going through the points on its way to Parkano. No personal or environmental damage was caused by the accident. Eight wagons designed for carrying timber were damaged in the collision. The track also sustained damage over a distance of 50 metres. In addition, the accident caused widespread disruption to rail services.

The traffic controller authorised the reversing of the train based on the mistaken assumption that the T3321 would fit onto the assigned section of track. The driver of the reversing train had no way of seeing the location of the rear of the train and was therefore unaware that the wagons had overrun the main signal.

The actors within rail industry have failed to recognise all the risks associated with reversing. Reversing is generally seen more as a disruptive inconvenience than a high-risk special manoeuvre. The investigation also revealed that there are no technological systems in place for reversing that would safeguard against the risk of human error.

The current guidelines for reversing are not fully supportive of safety. Keeping the Rail Transport and Shunting Safety Guidelines up to date is the responsibility of the Finnish Transport Infrastructure Agency. The guidelines are reviewed at regular intervals by the Rail Safety Committee. The Rail Safety Committee has failed to identify the weaknesses inherent in the guidelines for reversing, which have been in effect since 2016. The investigation also revealed that there is a lack of a long-term perspective in the decisions of the Rail Safety Committee and that the Committee does not systematically follow the Finnish Transport Infrastructure Agency’s internal risk assessment procedures, which are based on the European Regulation on the common safety method for risk evaluation and assessment (‘CSM Regulation’).

It appears, based on the investigation, that rail network operators often only look at railway safety from their own perspective. This fragmented approach does not support or lead to the development of common safety standards within the rail industry as a whole. It appears, based on the investigation, that no one organisation is ultimately in charge of managing and improving railway safety.

To improve safety, the Safety Investigation Authority recommends that:

1. The Finnish Transport Infrastructure Agency and Fintraffic Railway Ltd join forces to improve the safety of reversing and other degraded operations by putting into place an array of technological systems to safeguard against an accident in the event of human error. [2024-S27]
2. The Finnish Transport Infrastructure Agency update the sections of the Rail Transport and Shunting Safety Guidelines that deal with reversing and standardised communications so that trains can only be reversed into locations that the train driver is able to see from the cab. The existing checklist for the safe coordination and execution of reversing manoeuvres should also be updated and incorporated into the Finnish Transport Infrastructure Agency’s rail transport operation guidelines. [2024-S28]
3. The Finnish Transport Infrastructure Agency improve its guidance drafting procedures to better recognise the effect of guidelines on safety and to systematically analyse and document the risks involved in introducing new guidelines also in respect of rail transport operation. [2024-S29]
4. The Finnish Transport and Communications Agency ensure not only compliance with the applicable rail transport operation guidelines but also the effectiveness of operators’ self-regulation procedures in practice. The Finnish Transport and Communications Agency should also take a more active role in managing and improving railway safety across the whole system. [2024-S30]