

5 SAFETY RECOMMENDATIONS

The Safety Investigation Authority recommends that the Finnish Transport Safety Agency ensure the adoption of the following recommendations:

5.1 Development of work guidance monitoring

Work guidance forms a major part of the training of shunting foremen. Trainee competencies are not sufficiently ensured, because the monitoring of work guidance does not give a true picture of the competencies of trainees. Nor does this ensure that all issues have been learned.

The Safety Investigation Authority recommends that

When approving safety management systems and persons who are responsible for the verification of personnel skills, the Finnish Transport Safety Agency makes sure that their skills verification methods are sufficient and skills verification is reported accordingly. [2018-S14]

The work guidance instructor must document the competencies of the trainee after each shift. Likewise, the trainee must evaluate the outcome of his or her training. The employer must arrange sufficient time for the instructor and trainee to perform evaluations directly after each shift.

5.2 Development of teaching tools

Training at the educational institute does not include the possibility to practice the use of radio-controlled equipment. Guided training on a simulator would improve the preparedness of trainees for work.

The Safety Investigation Authority of Finland recommends that

Training institutions in the railway sector include simulator training in the training programme for shunting foremen. [2018-S15]

The simulator should allow the use of different types of radio controllers. Practice with different types of communication equipment should be possible.

5.3 Instruction on track changes in railway yards

Track changes are a daily activity in railway yards. If they are not done correctly and information is not passed onto the relevant parties, there is a high risk of accidents.

The Safety Investigation Authority recommends that

The Finnish Transport Agency draw up written instructions for track changes in railway yards and ensure that the operators in the yards act according to the instructions. [2018-S16]

In addition to the correct working practices, the instructions should include the correct responsible persons and confirm that critical procedures have been performed.

5.4 Emergency braking by radio control

The radio control system of the locomotives responds slowly to the driver's commands. There is no separate *emergency stop* button on the radio control unit. The delay in the radio control system slows the start of emergency braking in critical situations.

The Safety Investigation Authority recommends that

The Finnish Transport Safety Agency (Trafi) require that the radio control units used for shunting work have a separate, non-delayed emergency stop button. [2018-S17]

As a direct measure, instructions should be given to initiate emergency braking by using the *emergency stop* button on the locomotive.

5.5 Monitoring of the practical implementation of safety management systems

Near misses and minor collisions, which are not revealed, occur in the case of radio-controlled locomotives. Users do not dare to report such incidents, due to fear of sanctions. There is no way of learning from *near misses* and collisions involving radio-controlled locomotives, which hampers the development of the safety of radio-controlled work. In the railway sector, safety management systems remain at the level of target setting, since their implementation is virtually unsupervised by public authorities and there is little self-supervision.

For these reasons, the Safety Investigation Authority recommends that:

The Finnish Transport Safety Agency begin monitoring the practical implementation of safety management systems. [2018-S18]

Supervision should mainly be performed by interviewing randomly selected employees engaged in practical work, and comparing the information received from them with the content of the company's safety management system.

5.6 Use of emergency service routes during emergency calls

Emergency service routes are marked in the rescue plans for railway yards for the transport of dangerous goods), along which routes into the area are planned in case accidents occur. However, these routes are largely unknown to the Emergency Response Centre Administration, and this could hamper and delay access to the accident site. For these reasons, the Safety Investigation Authority recommends that:

The Emergency Response Centre add numbered emergency service routes for railway yards to its system, and emergency duty officers be instructed to locate the accident site primarily through such routes. [2018-S19]

In order to be able to use emergency service routes in the event of an accident, it should be ensured that they are marked individually in railway yards and workers in the railway yards know where they are.

5.7 Track numbering in railway yards

Several railway yards have not been equipped with clearly visible track numbers at the ends of tracks. Identifying the destination track can be difficult and it may come as a surprise that the track is occupied.

For these reasons, the Safety Investigation Authority will open Recommendation C10/2003R, intended for the Finnish Transport Agency in the investigation report, with the status "Not to be implemented":

Railway yard tracks should be equipped with number plates. [C10/2003R/S194]

Track numbers can be installed in the electrical track portal crossing the railway yard, for example.