

## 7 SAFETY RECOMMENDATIONS

### 7.1 Ensuring competence and the assimilation of information in online training

Training in the use of new systems and regulations related to shunting is increasingly conducted online. This leaves the verification of competence partly at the responsibility of the students themselves. Self-direction, the requirements of planning your own studies, and the assimilation of information and verification of competence are emphasized in online training.

The Safety Investigation Authority recommends that the Finnish Transport and Communications Agency (Traficom) ensures that:

Railway training institutions, infrastructure managers and railway operators develop their online training in order to ensure the assimilation of the required information and the professional competence of employees taking the courses. [2020-S27]

Self-studies must be supported with guidance in both the assimilation and application of the subject matter.

### 7.2 Improving the lighting of railway yards

The rather poor general lighting of railway yards and the weak lights of the locomotives used for shunting work hinder keeping a lookout during shunting operations. Not enough attention has been paid to the lighting of railway yards and rolling stock. Obsolete lights should be replaced with new energy-efficient technologies.

The Safety Investigation Authority recommends that the Finnish Transport and Communications Agency (Traficom) ensures that:

Infrastructure managers improve the lighting of railway yards with modern technology. [2020-S28]

The hue of the lighting must be taken into consideration in addition to the amount of light.

### 7.3 Improving the lights of shunting locomotives

The rather poor general lighting of railway yards and the weak lights of the locomotives used for shunting work hinder keeping a lookout during shunting operations. Not enough attention has been paid to the lighting of railway yards and rolling stock. Obsolete lights should be replaced with new energy-efficient technologies.

The Safety Investigation Authority recommends that the Finnish Transport and Communications Agency (Traficom) ensures that:

Railway operators improve the lights of locomotives used for shunting with modern technology. [2020-S29]

The hue of the lighting must be taken into consideration in addition to the amount of light. The use of separate work lights should be considered in addition to the locomotives' buffer lights and spotlights.

## 7.4 Improving the clarity of railway yard signs

The poor visibility and ambiguity of track signs causes hazards during shunting work, especially in darkness or otherwise poor visibility. The visibility of track signs is poor, especially in artificial light, so their colors can be confused with each other.

The Safety Investigation Authority recommends that the Finnish Transport and Communications Agency (Traficom) ensures that:

The Finnish Transport Infrastructure Agency reviews track signs and ensure their visibility and unambiguity. [2020-S30]

Colors that can be confused with each other in artificial light should not be used in track signs. Attention should be paid to the visibility of signs from every direction. The visibility of track numbers from all directions is of particular importance.

## 7.5 Improving the processing of deviation reports

Personnel often consider it pointless to report safety deviations if corrective measures are not taken and feedback is not given. The division of responsibilities between companies often creates a barrier to the implementation of corrective measures in multi-operator environments.

The Safety Investigation Authority recommends that:

The Finnish Transport and Communications Agency develops its safety deviation information system so that it can be used to follow the processing of deviations. Furthermore, the Finnish Transport and Communications Agency ensures that all operators in the railway industry have functional deviation management processes. [2020-S31]

Deviation reports will only be made if they are processed quickly and fairly.

## 7.6 Harmonization of shunting instructions

The shunting instructions of different infrastructure managers and railway operators are fragmentary and partly conflicting. The problem is exacerbated in a multi-operator environment, where changes implemented by one operator often have an impact on others as well. Shunting instructions and the processes for ensuring their compatibility are currently not at a sufficient level.

The Safety Investigation Authority recommends that the Finnish Transport and Communications Agency (Traficom) ensures that:

The Finnish Transport Infrastructure Agency assumes overall responsibility for shunting work instructions in Finland by supplementing the Train Traffic and Shunting Safety Guidelines document in this regard. Operators can only be permitted to have supplementary local guidelines drawn up in cooperation with other operators. [2020-S32]

As the largest infrastructure manager, the Finnish Transport Infrastructure Agency is a natural choice for coordinating the development of instructions. For its part, the Finnish Transport

and Communications Agency must develop its auditing procedures to ensure the compatibility of different operators' instructions.

### 7.7 Development of railway information systems

There are currently several railway information systems, which do not exchange information. There is also room for improvement in the usability of the systems, especially in field conditions. For example, locating trains in the railway system is difficult. Technical regulations to ensure the compatibility of systems are insufficient in the industry.

The Safety Investigation Authority recommends that the Finnish Transport and Communications Agency (Traficom) ensures that:

The Finnish Transport Infrastructure Agency and railway operators improve the interoperability and usability of their information systems. [2020-S33]

Using GPS positioning in shunting operations would improve the systems' usability. A similar solution is already used for locating trackworks.

### 7.8 Protecting train traffic from traffic entering from class 2 traffic control areas

The interfaces between class 1 and 2 traffic control areas have proven to be dangerous for shunting work. The risk is emphasized if access to a class 1 area from a class 2 area using an incorrect route is not monitored or prevented by technical means. The decision made in 2016 to remove Stop signs has made the situation worse.

The Safety Investigation Authority recommends that the Finnish Transport and Communications Agency (Traficom) ensures that:

The Finnish Transport Infrastructure Agency implement technical safeguards for protecting routes from traffic entering from class 2 traffic control areas. [2020-S34]

Correctly placed Stop signs can be used as a temporary measure before the safety devices are replaced.

### 7.9 Railway emergency calls should be used routinely

The threshold for making railway emergency calls is high across the board. For the railway voice communications system to function in emergencies as intended, the threshold for making railway emergency calls should be lowered through training and development of the working culture

The Safety Investigation Authority recommends that the Finnish Transport and Communications Agency (Traficom) ensures that:

The Finnish Transport Infrastructure Agency, Finrail Oy, railway industry training institutions, railway operators and infrastructure managers stress the importance of making railway emergency calls in their basic and refresher training. [2020-S35]

Making railway emergency calls in the event of incidents should be made routine through training and cultural development.

## 7.10 Measures taken

The Finnish Transport Infrastructure Agency has updated its guidelines, so that the new guidelines valid from 1 June 2020 state that fouling point indicators can be painted on the side of the tracks or implemented with a separate red-and-white sign post. The instructions for applying the signs have been updated in the new version of part 17 of the Railway Engineering Guidelines (RATO), Track signs and markings.

The Finnish Transport Infrastructure Agency's winter readiness group has improved its winter procedures in cooperation with the operators. Winter procedures include weekly national reports on the status of winter measures and the effects of winter on operations, along with a national winter readiness plan applying to all operators. These measures improve the winter upkeep of railways and thereby also the ease and safety of shunting work.