## SUMMARY

### A FATAL LEVEL CROSSING ACCIDENT, AT THE UNPROTECTED TEURASTAMO LEVEL CROSSING IN PORI, FINLAND, ON 11 FEBRUARY 2009

A level crossing accident took place at the unprotected level crossing of Teurastamo on the Mäntyluoto–Pori track and Pikakyläntie road on Wednesday, 11 February 2009, at 3.12 p.m. The engine driver emergency braked 29 metres before the collision, when the car had disappeared from his sight. The locomotive hit the middle of the car's right side, not being able to reduce speed before the collision. The car clung to the front of the locomotive and travelled in front of it for 223 metres, until the locomotive stopped. Two passengers in the car suffered fatal head injuries in the accident, and the driver was seriously injured. The locomotive suffered minor damage, while the car was wrecked beyond repair.

The accident was caused by the car driver noticing the train too late and not having time to stop or otherwise prevent the accident. Underlying factors for this were:

- The level crossing was familiar to the driver, which in most cases decreases carefulness
- The level crossing did not feature any alarm devices
- The level crossing did not have proper wait platforms and the slope to the crossing was so steep that drivers try to avoid stopping, particularly in slippery conditions
- Visibility to the left was worse than in the direction of the train to the right, and an imbalance such as this tends to increase detection errors in the region of the better-visibility area
- An embankment over a district-heating pipe decreased the visibility of the train
- The car driver was fairly inexperienced, and the day in question was a special festive day related to studying
- Driving on the narrow private road with icy ridges was already occupying the driver's attention.

To prevent similar accidents, the Investigation Commission recommends that the unprotected level crossing of Teurastamo on the Pikakyläntie road be removed. The level crossing could be removed with minor costs by digging ditches on both sides of the track – continuing the current ditches – at the site of the road and by removing the planking. Should the level crossing be kept, it should be repaired in accordance with instructions equipped with a warning installation with half-barriers, and the embankment on the district-heating pipes should be lowered.

Localisation of the level crossing where the accident took place was problematic. Time was wasted with location problems between the engine driver and the traffic controller and between the traffic controller and the Emergency Response Centre, causing delays in raising the alarm. At their worst, such location problems may lead to treatment procedures being delayed, with fatal consequences. Therefore, the commission recommends that various operators develop systems and implement devices to facilitate localisation. Other possible means could be, for example:

- The engine driver, traffic controller, and Emergency Response Centre having a rail-section-specific list of level crossing locations
- The Emergency Response Centre Administration attending to all ERCs using the location details in a unified manner
- The locomotives being equipped with GPS devices, which would provide the specific location data in an easily transmittable format.

Furthermore, because of the delays that arose in the emergency call, the Investigation Committee repeats recommendation S211, described in investigation report B1/2005R: *The instructions for the drawing up of an emergency notice should be developed to ensure that whenever urgent aid is needed from the rescue service, also the general emergency number is called from the incident scene, in addition to the notifying of the traffic control unit.*