

## SUMMARY

### DERAILMENT OF SIX WAGONS OF A FREIGHT TRAIN AT THE LAHTI RAILWAY YARD, FINLAND, ON 9 MARCH 2009

On Monday, 9 March 2009, at 8:42pm, six domestic wagons were derailed at the Lahti railway yard. The derailment occurred at a turnout, when the 33-wagon freight train had set off from Lahti towards Kouvola. After two and a half minutes, the engine driver felt a strange tugging in the train. The engine driver reduced power, saw an intense flash in the rear-view mirror of the locomotive, and then saw a portal topple and the contact wires falling down. The engine driver immediately stopped the train, using only the direct-acting brakes of the locomotive because of the slow speed. The empty, covered four-axle wagon that was 19th in the train had derailed on the trailing turnout crossing, pulling the next five wagons off the rails.

Traffic on the main tracks in Lahti was badly disrupted, because the toppling of the signal portal caused the contact wires of several tracks to come down. Because of the falling of the north main track's contact wire, passenger train traffic from the east had to be stopped, and passengers had to be transported to their destinations in other vehicles. The total costs from the accident were EUR 278 000.

The accident was caused by the wheel flanges of the first derailed wagon rising over the ice packed in the flangeway between the crossing frog and the check rail, and further off the rails. As the wagon, which had a light axle weight, arrived at the crossing, its front bogie was turned, by the fully frozen crossing and chunks of ice and snow, far enough to cause the wheel flange to rise over the wingrail, causing the derailment of the wheelset. There were many snow and ice chunks in the vicinity of the turnout crossing, at least some of which had likely fallen from the inner surface of the buffer plate of the locomotive of a departing train.

In order to prevent similar accidents, the Accident Investigation Board of Finland recommends that the work instructions for turnout cleaning related to winter maintenance be specified, with special attention paid to ice removal.