

## **SUMMARY**

### **DERAILMENT OF A WAGON IN YLIVIESKA, FINLAND, ON 21 MARCH 2007**

On Wednesday, 21 March 2007, at 10:33 am, one wagon of the freight train en route from Oulu to Ylivieska was derailed at the northern turnout of the Ylivieska station, as the train was switching from main track to side track.

The top leaf of the spring pack of the derailed wagon had broken and fallen before the derailment. In addition, a wheel bearing was broken, a wheel flat occurred, and brake triangle support screws had fallen. The wagon wheels were damaged while running on ballast, and the bogie and under frame were damaged as the bogie collided with the under frame. Also damaged were the coupling and buffer equipment of the derailed wagon and the wagons connected to it. The derailed wagon broke the electric-motor switch drive of two turnouts. Rail traffic northbound from Ylivieska was blocked for three and a half hours, and eastbound traffic for 24 hours. The total cost of the accident was 24,000 euros.

The derailment occurred because the unloaded front wheel of the front-most wheelset did not steer at the turnout, because of the missing spring pack, and therefore the bogie did not turn but tried to continue straight ahead. The spring pack had fallen because the uppermost leaf holding the pack together had broken. This was probably caused by the wheel flat and leaf fatigue. On account of its structure, a spring pack can come apart after the main leaf breaks, and the vibration caused by a wheel flat contributes to this.

The Accident Investigation Board of Finland recommends that, to prevent the occurrence of similar accidents, greater care be exercised in statutory freight train inspections, and that any flaws observed be acted upon more quickly than is currently the case. It should be ensured that the inspectors are qualified to identify damage such as that described above.