

*The full, official version of the final report is only available in Hungarian language*

## **2008-0008-5**

On 7th January 2008, locomotive (reg. no. V43-1156) of train no. 5122, upon leaving Tarcál station, derailed with one bogie and one axle between switch no. 17 and 11 on the open track after the exit signal.

As a consequence of the accident, the engine-driver suffered minor injuries. 19 trains were delayed by 1278 minutes altogether, 2 trains were partially cancelled and the passengers of 2 trains were transported by train replacement buses.

After the report of the accident, the IC conducted a site survey. Based on the gathered data and information, the IC established that the cause of the accident was a defect in the rail track, i.e. the lack of vertical reinforcing on several sleepers on track III of the station at the small-radius arch before switch no. 11.

The IC requested and received the data and documents required for the investigation, which reinforced the findings of the site survey.

Train no. 5122 departed from Tarcál station at 12:32 hrs and accelerated to 37 km/h speed. It travelled with a speed of 35 km/h when the first bogie fell off the right rail with both its axles at the middle of the small-radius arch before the switch, pushing the rails sideways. The wheel flanges of the left hand side wheels jumped up on the rail, ran on it for a while and then fell onto the outer side of the rail. The rear bogie of the locomotive and the carriages remained on the rail track.

## **CONCLUSIONS**

### **Factual statements directly connected to the occurrence of the accident**

The IC established in the course of the investigation that the derailment of train no. 5122 was caused by the fact that the lateral rigidity of track III of Tarcál station was not sufficient.

The locomotive generated such a gauge widening that caused the derailment of the train when it was departing from the station at the small-radius arch before switch no. 11 - where several sleepers had previously become unstable due to the breakage of the rail bolts.

### **Factual statements indirectly connected to the occurrence of the accident**

It was found in the course of the investigation that the breakage of the rail bolts in the small-radius arch is a result of a longer process.

The IC established in the course of the site survey that some of the wooden sleepers had rotted away. The lower parts in a relatively good condition kept the seeping water in the holes. As a consequence, the bolts soon got corroded; their necks 4-5 centimetres below the head became thin due to the corrosion, and the bolts eventually broke under the excess load and pressure.

The signs of decay were visible. The switch of Tarcál station were measured in June 2007 when sudden and significant gauge widening was found, which showed that some abnormal process was happening in the rail track.

No further action has been taken after the switch inspection. The broken rail bolts remained unnoticed and even though the gauge widening was established, no speed limit was introduced.

The IC received information according to which the lack of resources required for track maintenance makes troubleshooting and safe operation difficult. Therefore in some cases, the track maintenance staff is forced to tolerate unsafe track conditions (measures close to a limit when operation/train services should be stopped) without doing repair work on the track.