Rail Accident and Incident Investigation Unit

Summary
Safety Investigation Report
Collision between an empty passenger train and a railway crane
Belsele - 12/03/2024

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June 2025

REPORT VERSION TABLE

Version number	Subject of revision	Date
1.0	First version	13/06/2025

Any use of this report with a different aim than of accident prevention - for example in order to attribute liability - individual or collective blame in particular - would be a complete distortion of the aims of this report, the methods used to assemble it, the selection of facts collected, the nature of questions posed and the ideas organising it, to which the notion of liability is unknown. The conclusions which could be deduced from this would therefore be abusive in the literal sense of the term.
In case of contradiction between certain words and terms, it is necessary to refer to the Dutch version.

SUMMARY

On Tuesday evening 12 March 2024 at around 11.21 p.m., a collision between an empty passenger train (EM2772) and a railway crane takes place in Belsele, on track A of line 59 between Sint-Niklaas and Lokeren. The collision causes the train to derail with four bogies. While derailing, it still covers about another 300 metres, leading to significant damage to the rolling stock, the rail infrastructure and the catenary. The operator of the railway crane manages to leave his cab before the collision and is not injured. The driver of train EM2772 and a colleague in the driver's cab are slightly injured. The second derailed carriage of the train is located in the six-foot way a few tens of centimetres from the clearance gauge of track B.

Passenger train E1822 is running in the opposite direction on track B. The train driver sees sparks at the level of the catenary and performs an emergency braking. During braking, this train runs a few tens of centimetres alongside the second carriage of EM2772.

Train traffic between Sint-Niklaas and Lokeren on line 59 is completely interrupted for six days.

A few tens of cm separate both trains

After the initial findings on site and an exchange meeting with the parties involved, the RAIIU decides to open a safety investigation into this significant accident.

Rail renewal works are planned at level crossing 35 (LC35) on line 59 during the night of 12-13 March. These are performed from track B by two railway cranes. One of these cranes was delivered at LC35 on the track A side on 12 March. Due to previous works, the Strail panels have been removed from LC35, preventing direct passage for a railway crane to go from one side of LC35 (track A side) to the other (track B side) prior to the admission of the works.

Next to track A of level crossing 35, there are Strail panels that prevent the railway crane from crossing the level crossing before the track is taken out of service.

A contributing factor is the relocation of the railway crane before the pre-job briefing and before the infrastructure manager's permission to start the works.

The operator of the railway crane arrives at LC35 before the scheduled taking out of service. He notices that his crane is not on the track B side and decides to move it before the official working hours (the suspension of train traffic), without informing the site manager.

A contributing factor is the limited passage and the stability of the surface of the cycle highway.

He chooses cycle highway F4, which runs alongside line 59, as the route to LC38 to get to the other side of LC35. Initially, the concrete cycle highway is wide enough for the railway crane. Further on, however, the cycle highway narrows and additionally an overhanging hedge vegetation restricts passage. Passing the narrowing, the railway crane enters the verge with its right wheels. Due to the rainy weather conditions, the ground is soggy and insufficiently stable to support the heavy weight, causing the crane to sink into the clearance gauge of track A. Shortly afterwards, the empty passenger train EM2772 hits the crane.

Due to a narrowing of the cycle highway, the railway crane deviates to the soggy verge on which it then slides away towards the track.

The direct cause of the collision of the railway crane by the train is the sliding of the railway crane into the clearance gauge of the track, due to the subsidence of the surface of the cycle highway on which the railway crane was travelling.

This impact causes the empty passenger train to derail.

Derailed bogies EM2772.

A contributing factor is that after the railway crane sinks onto the tracks, Central Dispatching is not immediately notified.

Although crane operators have the Central Dispatching phone number in their mobile phones, they (unlike train drivers) do not have an alarm button in the cab of the railway crane that allows them to reach Central Dispatching directly. They must take the mobile phone and dial the relevant phone number.

Because the event occurred so quickly, the crane operator did not have time to contact Central Dispatching, resulting in delays in the implementation of safety measures by the infrastructure manager.

The infrastructure manager Infrabel, meanwhile, advises contractors to apply the 1711 sticker in a highly visible place in railway cranes.

The systemic factor is insufficient risk awareness of 'starting works early' and 'preparing for works', which can be interpreted differently by workers.

Before the start of each performance, both a pre-job briefing and the permission of the infrastructure manager are required. Interpretation of works and authorisation are essential requirements to ensure safety on and around the railway.

While the management of the various companies involved is convinced of the importance of complying with planning and safety measures, it is essential that they monitor this.

The RAIIU recommends that the DRSI ensures that Infrabel checks that its subcontractors have made their staff aware of the risks and the ban on preparing and starting works on railway work sites before the working hours.

An additional finding is that cycle highway F4 may be used by agricultural vehicles. With a narrow cycle highway and unstable surface, such agricultural vehicles may be at risk of sinking and sliding or overturning towards the adjacent railway line.


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