



Translation of an excerpt of the investigation report

“Train derailment Berlin-Lichtenberg on 12/05/2021”

Status as of 10/02/2026, version 1.0.

Note:

In accordance with Article 3 of Implementing Regulation (EU) 2020/572, points 1, 5 and 6 of Annex I of an investigation report shall be written in a second official European language. This translation should be available no later than three months after the delivery of the report.

The following English translation is a corresponding excerpt of the investigation report. The German language version is authoritative.

Excerpt translation:

1 Summary

The first section contains a brief description of the event, as well as information on the consequences, primary causes and safety recommendations provided in the individual case.

1.1 Brief description of the event

On 12/05/2021 at around 12:35 am in Berlin-Lichtenberg station, the wagon travelling in 19th position of freight train DGS 91017 ran across two tracks from points S163 and subsequently collided with train movement DLr 62220, which was stationary on track 203.

1.2 Consequences

Nobody was injured. A coal dust tank wagon derailed, was torn open and overturned. The front section of the leading vehicle of the DLr was severely damaged. Property damage with an estimated value of EUR 527,000 was caused to the vehicles and the infrastructure.

1.3 Causes

During the investigation of the event, the following actions, failures, incidents or circumstances were identified as safety-critical factors. These are differentiated into causal or contributing and systemic factors according to Implementing Regulation 2020/572.

A system with designations in square brackets is used to provide better clarity about the factors.

A detailed assessment of the event with classification as safety-critical factors is provided in the sections below.

What happened: Date/time, and action/failure/circumstance/incident	Causal factor	Contributing factor	Systemic factor
12/05/2021 12:30 am Action: Signaller B6 activated the emergency release for route I22/B1, even though DGS 91017 had not yet cleared the route release point.	Premature emergency operation for route release [F1]		
12/05/2021 12:30 am Action: By operating the emergency button, signaller B6 shifted occupied points S163 under a vehicle	Premature emergency operation for the points shift [F2]		

Table 1: Summary of the influencing factors

1.4 Safety recommendations

No safety recommendation is issued.

5 Conclusions

The following section contains a summary of the identified causal, contributing and systemic factors. In addition, two further subsections are provided containing information about measures already taken, and additional comments

5.1 Summary and conclusion

The event was caused by a mistake by the responsible signaller in signal box B6. Contrary to the rules of guideline 408, he released the route of the train DGS 91017 prematurely [F1] and shifted points S163 under the 19th wagon of the freight train without checking if the points were clear [F2].

In relation to the causal factors “Premature emergency operation for route release” [F1] and “Premature emergency operation for the points shift” [F2]

In consideration of the error-free functionality of signal box B6 and the inconsistencies in the documentation of the last emergency route release, it can be assumed that the signaller in signal box B6 released the route of the DGS 91017 prematurely without authorisation contrary to the requirements of guideline 408.0251 section 4. The train had not released the train-activated device or cleared the route release point with the rear of the train. It would have been easily possible for the signaller to identify the rear of the train by carrying out a visual inspection and to pinpoint the location of the DGS 91017 via the occupied indicator on the train control display.

Contrary to the provisions of guideline 408.0131 section 2, before shifting points S163 the signaller did not make sure that the points were free of vehicles. Contrary to the requirements, he released the seal of the points lever locking device emergency button and shifted the points under a vehicle without carrying out further checks to see if the points were clear.

Both a train-activated route release and a clear track reporting system with points lever locking devices were present in signal box B6, and it was possible to carry out a track examination via visual inspection. It was not possible to determine why the signaller did not use these technical and operational safety devices and instead bypassed them using emergency operations. It had to be assumed that the signaller had lost track of the operational processes. There was also a subjective time pressure in relation to running the waiting train movement DLr 62220. Both of these circumstances resulted in incorrect assumptions about

track elements in his signalling sector being clear. As a result, he ignored several explicit requirements of the regulations, and if these had been observed correctly then they would have been suitable to rectify incorrect assumptions of this kind. The operational regulations on route release and the shifting of points, as well as emergency operations, were clear. When combined with the available technical safety devices in the form of the clear track reporting system and the points lever emergency locking device, these would definitely have been suitable to prevent incidents of this kind. In general, however, greater automation using modernised signal box systems may help to exclude human error in the operating process. The infrastructure manager is aware of these connections, and as a result it is implementing a programme to modernise the signal box systems. A safety recommendation will therefore not be issued.

5.2 Measures taken since the event

The signaller on duty in B6 was removed from service after the event. He was not used again as a signaller in the East region.

The signal box technology underwent an intensive inspection using earth fault simulations, transverse voltage and earthing influences, as well as supply voltage failure at every moment of the train movement, and the cycles for resolving these situations.

In spite of evidence of the faultless functioning of the control and safety system, the operational contingency measures below were implemented:

The infrastructure manager's operation manager East arranged additional section inspections for all train movements from B6 to B1 and from B1 to B6 in order to ensure that the sections are clear before they are travelled on and again before resetting the route signal levers for the described train movements. This measure should ensure that no premature route releases and points shifts can be carried out by the signaller in signalling area B6 in relation to the aforementioned train movements.

5.3 Additional observations

Not applicable.

6 Safety recommendations

No safety recommendation has been issued.