

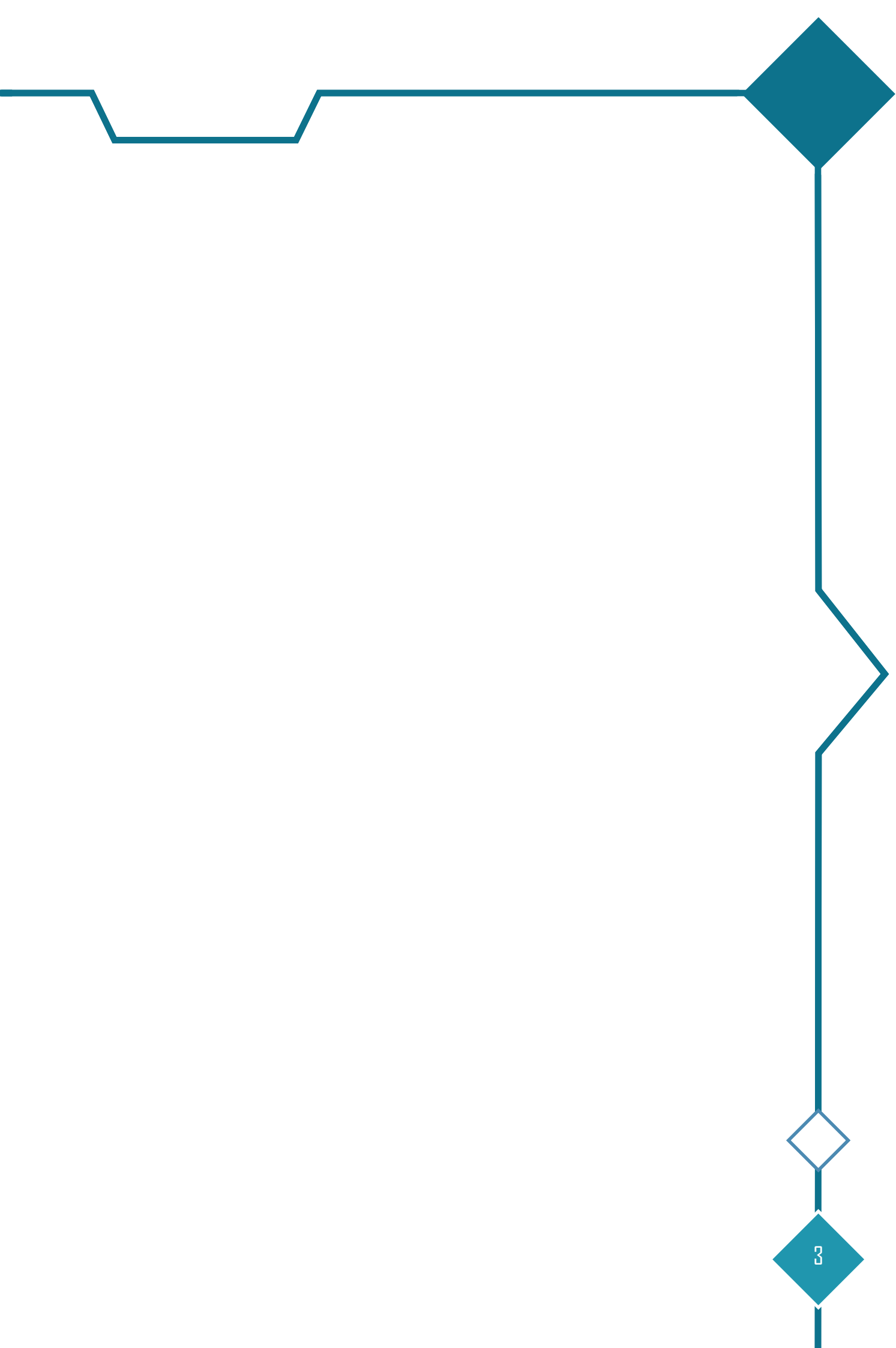
Summary
Safety Investigation Report
Derailment of an empty SNCB/NMBS-passenger train
Neufvilles - 8 June 2018

REPORT VERSION TABLE

<u>Version number</u>	<u>Subject of revision</u>	<u>Date</u>
1.0	First version	27/06/2019

Any use of this restricted report with a different aim than of accident prevention - for example in order to attribute liability - individual or collective blaim 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 aclusions 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 French version.







Nature of the accident:

Derailment of SNCB/NMBS's E15809 train without passengers.

Type of safety investigation:

Accident with limited investigation.

Date and time of the accident:

Friday 8th June 2018 around 10.27 am.

Place of the accident:

Line 96 in the vicinity of Neufvilles-Garage.

Train:

Train E15809, composed of 2 AM08 "Desiro" railcars (08158 + 08124).

Bare facts:

At about 10.20 am on Friday 8 June 2018, the E15809 train belonging to the railway undertaking SNCB/NMBS, a train without passengers, comprising 2 AM 08 "Desiro" railcars, left Braine-le-Comte station for the Mons-Aviation siding on line 96.

At Neufvilles-Garage, the E15809 train's route passed along the secondary track via the 08AE and 09AE points. The maximum speed for passing the points is 40 km/hour.

At about 10.27 am, the train derailed on the siding, causing major damage to the infrastructure and the rolling stock. The train driver was slightly injured.

Victims:

The driver was taken to hospital.

Material damages:

Major damage was caused to the derailed rolling stock and the infrastructure. There were delays and cancelled trains.

Decision to open an investigation:

This is a derailment that occurred on a main line which, under slightly different circumstances, would have had more serious effects in terms of victims.

Direct cause

The direct cause of the derailment of the E15809 train is its excess speed at the points directing the train from the main track to the Neufvilles secondary track.

Indirect factors

- **Lack of attention by the driver:**

When the train passed the signal (A378) showing a Green Yellow Horizontal aspect, the driver noticed it but did not apply the expected rules of his profession, namely braking to reduce the speed of the train to 40 km/hour imposed by the following signal.

The train reached the points at a speed of 128 km/hour.

According to our most likely scenario, a lack of attention is an indirect factor.

The lack of attention among drivers has already been the subject of various inquiries and recommendations. Consequently, the Investigation Body is not issuing any additional recommendations.

- **Absence of effective recovery system (TBL1+ and ETCS systems)**

The rolling stock was equipped with the level 1 ETCS system: because of the absence of the ETCS system on this portion of the line (equipped with TBL1+), the rolling stock was in TBL1+ mode.

The TBL1+ driving support system turns on the yellow memory lamp on the operating console in the driving cab when passing a signal presenting a Green Yellow Horizontal aspect. But not being designed to control the speed of trains when passing a signal presenting such an aspect, the TBL1+ system did not trigger any braking and control of the train.

If the ETCS system had been active, the system on board the train would have received the profile of the speed curve from the equipment in the track. In the absence of braking by the driver, the system would have taken control of the train and warned the driver; in the absence of a reaction from the driver, the system would have triggered braking thus allowing an accident to be avoided.

The absence of an effective recovery system is an indirect factor.

The subject has already been considered in other inquiry reports which is why the Investigation Body is not issuing any recommendations.

Also, the installation of ETCS has been planned within the framework of a Masterplan committed to by the infrastructure manager and the railway undertaking: this deployment plan is underway until 2022.



Systemic factors

- **Monitoring of excess speeds**

SNCB/NMBS is making many efforts to control data recorded aboard trains.

The analysis of all cases of excess speeds after passing a Green Yellow Horizontal signal should help the railway undertaking to identify their causes (lack of systematic acquisition of automatic reflexes when driving, tendency for certain drivers to not pay enough attention, etc.), all preliminary signs of an accident. But, currently, the work on the analysis of data recorded aboard trains concerns a sample of this data, which creates bias in the analysis.

This does not allow the railway undertaking to assess the true scale of certain categories of incidents, including cases of excess speed, or cases of non-conform speed curves after a signal showing a Green Yellow Horizontal aspect.

We refer to the various observations made during the investigations following the accidents in Buizingen in 2015 and in Leuven in 2017.

With the purpose of inter alia increasing safety and improving the analysis process of driving events by representative surveys, the SNCB/NMBS has launched an automation project for the analysis of data recorded aboard trains.

The culmination of this project named "AMELIE" is expected in the course of the year 2020.

The Investigation Body is not issuing any further recommendations and refers to the recommendations already made in the two afore-mentioned reports.

Investigation Body for Railway Accidents and Incidents
<http://www.mobilit.belgium.be>

