



MINISTRY OF
TECHNOLOGY AND INDUSTRY
TRANSPORTATION SAFETY BUREAU

FINAL REPORT



2022-0049-5
(HU-10177)

Railway Incident / Runaway
Hidasnémeti - Hidasnémeti oh. (Zsujta mh.), 10th January 2022

Translation

This document is the translation of Points 1, 5 and 6 of Hungarian version of the Final Report. Although efforts have been made to translate the mentioned parts of the Final Report as accurately as possible, discrepancies may occur. In this case, the Hungarian Final Report is the authentic, official version.

Basic principles of the safety investigation

The purpose of the safety investigation fulfilled by Transportation Safety Bureau (TSB) as National Investigation Body of Hungary is to reveal the causes and circumstances of serious railway accidents, railway accidents and railway incidents and propose recommendations in order to prevent similar incidents. The safety investigation is not intended to examine and determine fault, blame or liability in any form.

The findings of the safety investigation are based on an assessment of the evidence available and obtained by TSB in the course of the investigation, taking into account the principles of a fair and impartial procedure. In the Final Report, the persons involved in the occurrence shall be referred to by the positions and duties they had at the time of the occurrence.

The Final Report shall not have binding force and no appeal proceedings may be initiated against it.

This safety investigation has been carried out by TSB pursuant to relevant provisions of

- Act CLXXXIV of 2005 on the safety investigation of aviation, railway and marine accidents and incidents;
- Commission Implementing Regulation (EU) 2020/572 of 24 April 2020 on the reporting structure to be followed for railway accident and incident investigation reports;
- in the absence of other related regulation of the Act CLXXXIV of 2005, the TSB conducts the investigation in accordance with Act CL of 2016 on General Public Administration Procedures.

Act CLXXXIV of 2005 is to serve compliance with Directive (EU) 2016/798 of the European Parliament and of the Council of 11 May 2016 on railway safety.

The competence of the TSB is based on Government Regulation № 230/2016. (VII.29.) on the assignment of a transportation safety body and on the dissolution of Transportation Safety Bureau with legal succession.

The safety investigation is independent of other investigations, administrative infringement or criminal proceedings, as well as proceedings initiated by employers in connection with the accident or incident.

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1. SUMMARY

On 10 January 2022, the freight train № 47920, which was leaving for Slovakia via Hidasnémeti station, broke away at Bárca station in Slovakia at 20:56, during the walk-around check of the locomotive, and rolled back into Hungary.

The Slovakian railway staff tried to inform Hidasnémeti about the runaway train, but due to language problems they were unable to get the message through. Hidasnémeti Station only realised the emergency when the train entered the station, and it was only by a lucky coincidence that it did not collide with an ongoing shunting job but passed through the station on a clear track.

Traffic management, largely due to lack of information, could only take safety measures to stop the train based on guesswork, but this process was not managed well either.

The train stopped on the open line before Zsujta station due to the terrain, but this was only brought to the attention of the traffic control staff 34 minutes later.

As the vehicle broke away in the territory of Slovakia, the investigation focused mainly on the traffic activity following the break away and on the management of the emergency in Hungary.

It was found that the cause of the breakaway was related to the activity before the train left Hidasnémeti station, because the necessary personnel was not provided for the brake test, so the driver performed it alone, unprofessionally, and did not notice that the brake valve of the locomotive at the end of the train remained in the run position.

In contrast to the firm and purposeful way in which operation managers are expected to deal with such situations, overall their discussions were characterised by considerable confusion, even though they had to deal with the task in a situation of considerable information deficit.

Furthermore, in contrast with the local contract in force, MÁV Zrt. failed to provide a traffic manager with the necessary language skills for border crossing traffic management; the TSB issues a safety recommendation in this regard.

5. CONCLUSIONS

5.1 Summary

5.1.1 Direct causes

Acts, mistakes, events or conditions or a combination thereof the elimination or avoiding of which could probably have prevented the accident or incident:

- a) the brake valve of the diesel locomotive, which was forwarded at the end of the train № 47920 closed but engaged, remained in the 'running' position, so during the walk-around check at Bárca station, Slovakia, the main brake of the train set was filled up due to the refilling and the air brake got released (4.2.1);
- b) in Hidasnémeti, the pre-departure brake test of the train № 47920 was unprofessional;
- c) during the walk-around check at Bárca station, the train № 47920 was not secured against running away.

5.1.2 Indirect causes

Acts, mistakes, events or conditions which influenced the occurrence by increasing its probability, accelerating the effects or the severity of the consequences, but the elimination of which would not have prevented the occurrence:

- a) the railway company did not provide the necessary staff to carry out the brake test properly;
- b) due to language difficulties, it was not possible to notify the Hungarian traffic management of the emergency in time.

5.1.3 Systemic factors

Causal or contributing factors of organisational, management, social or regulatory nature which are likely to have an effect on similar or related occurrences, particularly including regulatory framework conditions, the design and use of the safety management systems, the skills of the personnel, the procedures and maintenance:

- a) the infrastructure manager did not ensure that, in accordance with the local contract in force, a traffic manager with the necessary language skills is assigned to border-crossing traffic management.

5.2 Actions taken

The IC is not aware of any action taken in relation to this occurrence.

In its comments on the draft final report, MÁV Zrt. reported the following proposed action:

On the standard notifications for the automated system for requesting authorisation at border crossing points:

"Previously, the system included no message related to rolling stock runaway, so we have revised the standard messages for incidents and proposed to expand the electronic automated authorisation requestor - authorisation issuer communication system. To this end, we have contacted the Slovak Railways and discussions are underway. The following standard messages have been proposed to the ZSR for inclusion in the electronic machine authorisation requestor - authorisation issuer communication system:

- 101. *"Stop train traffic on the open line immediately!"*
- 102. *"The railway track between the two stations is impassable!"*
- 103. *"A runaway vehicle has rolled onto the open line!"*
- 104. *"On the open line, the track gauge is not secured, stop the train service."*
- 105. *"A road vehicle stuck in the level crossing № ... is blocking traffic!"*
- 106. *"There's a bomb on the train ...!"*
- 107. *"A crime has been committed on the train ...!"*

We have also proposed the use of a translation program – e.g. Google Translate - which can translate and send messages of any content without any restrictions."

However, the IC draws attention to the fact that

- while this improvement can be useful if implemented, emergencies can never be fully planned for, and sometimes live oral communication is unavoidable;
- in the event of a failure of the automated authorisation request system, knowledge of the Slovak language is required pursuant to the provisions of ÁVU 2.50.2.

5.3 Additional notes

Factors that are not related to the occurrence of the incident but are risk factors:

- a) in contrast to the firm and purposeful way in which managers are expected to deal with such situations, their discussions were characterised by considerable perplexity;
- b) the recorded audio material from service mobile phones is not accessible in practice, and therefore, in practice, voice recording cannot be considered to be implemented;
- c) the inter-station contra-flow exclusion has been out of order for more than one year due to a failure.

5.4 Proven procedures, good practices

It mitigated the consequences of the occurrence and helped avoiding more a serious outcome that,

- a) anticipating the possibility that the runaway rolling stock could get over the slope between Zsujta and Gönc, the staff took safety measures on the rest of the railway line as well;

5.5 Lessons learnt

As regards the common language, the infrastructure manager can examine, together with its partner in the neighbouring country, whether it is easier to provide staff with Slovak language skills in Hungary or Hungarian language skills in Slovakia, and can amend the contract accordingly as necessary.

The decisive, purposeful performance of the management work – for which traffic managers should be prepared through training and exercises – can significantly mitigate the consequences of similar occurrences that threaten to have more serious consequences in the future.

6. SAFETY RECOMMENDATION

6.1 BA2022-0049-5-01

During the investigation, the IC found that the traffic managers managing cross-border traffic do not speak the foreign language defined in the border traffic contract, while the IT solutions designed to overcome the language problems are not able to handle all traffic situations (e.g. emergencies).

number: **BA2022-0049-5-01**

addressee: **Railway Authority Division, Ministry of Technology and Industry**

responsible for introduction: **MÁV Zrt.**

TSB recommends MÁV Zrt. to review the fulfilment of the expected staff competences in its safety management system to ensure that the language skills of the staff and the applicable language under the border transition contracts are in line.

If the Recommendation is adopted and implemented, language problems will not hinder the observing of border transition rules and identification and management of international emergencies.

6.2 BA2022-0049-5-02

In the course of the investigation, the IC found that the mobile phone used by the traffic controller in Hidasnémeti - even for traffic communication - was equipped with a voice recording service, but the recorded audio material was not accessible to the railway infrastructure manager, and thus to the IC. However, it can be inferred from the relevant instructions that voice recording is necessary, but that it will not achieve its purpose if access to it is hindered.

number: **BA2022-0049-5-02**

addressee: **Railway Authority Division, Ministry of Technology and Industry**

responsible for introduction: **MÁV Zrt.**

TSB recommends MÁV Zrt. ensure that the audio recording of the communication equipment (including service mobile phones) used at Hidasnémeti station is properly implemented, including the purpose of making their voice material available. The Railway Authority Division, TIM should, where necessary, oblige the infrastructure manager to provide adequate voice recording services.

If adopted and implemented, the Recommendation will facilitate the monitoring of station operations and the investigation of station incidents, and therefore make it easier to avoid their recurrence.