

**NIB-Austria – Safety report 2015**

**(pursuant to Article 23 Paragraph 3 of the Directive 2004/49/EC)**

Federal Traffic Agency

Federal Safety Investigation Authority

Trauzlgasse 1

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http://versa.bmvit.gv.at

Federal Ministry for Transport, Innovation and Technology

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**Introduction**

Traffic safety measures are ethically imperative and should be assessed as economically successful. According to the international standard for accident analysis, as well as the concepts and strategies of traffic safety policy of the European Union and the corresponding Community obligations, accidents and disturbances must be rigorously investigated by an independent organisation in order to learn from mistakes, avoid repeated incidents, and promote the improvement of traffic safety.

In Austria, in accordance with the Accident Investigation Act (UUG 2005), this task is the responsibility of the Federal Safety Investigation Authority, which is established as part of the Federal Traffic Agency, a department of the BMVIT.

According to Article 23 Paragraph 3 of the Railway Safety Directive 2004/49/EC, the Federal Safety Investigation Authority (abbreviated to SUB) must compose a comprehensive report regarding its activities for each previous year and submit it until 30 September of each year to the European Railway Agency (ERA).

This safety report for 2015 contains the key facts and figures regarding the investigation activities of the SUB in the Rail Sector in 2015.

For further information, please refer to the SUB employees and the BAV webpage ([http://versa.bmvit.gv.at)](http://versa.bmvit.gv.at/).

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**Summary**

**General**

This annual report is based (in accordance with Article 23(3) of the Railway Safety Directive 2004/49/EC) on the figures and data provided to the SUB concerning incidents that must be reported and that occurred in the railway traffic sector in reporting year 2015.

**Overview**

|  |  |  |
| --- | --- | --- |
|  | Railway | |
| 2014 | 2015 |
| Received reports | 1610 | 1957 |
| * • Of which accidents | 931 | 1179 |
| * • Of which disturbances | 679 | 778 |
| Total investigations | 15 | 15 |
| * • Of which on-site | 4 | 4 |
| * • Of which off-site | 11 | 11 |
| Safety recommendations | 55 | 21 |

**Trends in the railway traffic sector**

Compared to the 2014 period, the number of the incidents reported has grown significantly. On the one hand, this increase is caused by increased transportation performance, and on the other hand, it is caused by an improved reporting culture.

Compared to the 2014 period, the number of initiated safety investigations has remained the same. In this regard, it must be noted that the number of incidents that must be investigated is generally low. In any case, this development can be ascribed to a significant improvement of the safety level in the railway traffic sector.

**Achievement of objectives**

With the findings obtained from the completed safety investigations and the resulting measures, it was possible to make an important contribution to the improvement of traffic safety.

Vienna, 19 September 2016

Federal Traffic Agency

Federal Safety

Investigation Authority



Peter Urbanek

1. **Structure, function, personnel, independence**

The Federal Safety Investigation Authority (SUB) is structured multimodally, comprising the Rail, Shipping, Cableway and Civil Aviation Sectors, which makes it possible to achieve synergy and saving effects. These advantages are achieved, for example, in the Rail, Shipping and Cableway Sectors via common traffic aspects in the accident investigation, and via a shared reporting office and a common traffic 24-hour on-call service.

SUB functions in accordance with the requirements of the law of the Union and Austria, it is organisationally independent from any authorities and parties, public and private organisations, whose interests could clash with the tasks of SUB.

SUB has been provided with sufficient means to fulfil its tasks independently; it is in the position to either independently conduct a comprehensive safety investigation of incidents, or to oversee a safety investigation.

As of 31 December 2015, the Rail Sector of the SUB includes the following personnel:

* - 1 Head
* - 4 Investigators (of whom 2 also responsible for the Cableway and Shipping Sectors)
* - 2 investigators in training
* - 3 administrative employees (back office, competence centre databases, assistance)

When completing the safety investigations, the investigators are not bound to any instructions by any institutions outside the SUB, subject to Section 3(3) of UUG 2005.

1. **Legal bases**
   1. **SUB as a whole**

* Accident Investigation Act – UUG 2005, BGBl. I No 123/2005 idgF.
  1. **SUB: Rail Sector**
* Railway Safety Directive 2004/49/EC, ABl. No L 164 of 30 April 2004 p. 44
* Railway reporting ordinance, MeldeVO-Eisb 2006, BGBl. II No 279/2006
* Railway Act, EisbG 1957, BGBl. No 60/1957
* Railway Act 2003, BGBl. II No 209/2003
* Railway construction and operation ordinance, EisbBBV, BGBl. II No 398/2008

1. **Tasks**

The central task of the SUB is the investigation of accidents and disturbances using a qualified investigation procedure, the determination of possible causes, and if necessary, the development of safety recommendations as proposals for the improvement of traffic safety. The investigation expressly does not serve the resolution of question of guilt or liability.

1. **Responsibilities**

In accordance with Section 5(1) of UUG 2005, railways include the operation of main and secondary railway lines, connection lines, tramway lines, on which rail vehicles move exclusively over their own track (e.g. metro in Vienna), including the operation of rail vehicles on these railways in accordance with the provisions of the Railway Act.

For the purposes of presentation, the statistics are divided into:

* All railway types
* Connected railways
* Non-connected railways
* Connecting railways
* Underground railways

1. **Main features of the safety investigation**
   1. **General**

Subject to Section 5 UUG 2005, incidents include accidents and severe accidents, disturbances and severe disturbances; causes include actions, omissions, events or any combination of these factors that lead to an incident.

* 1. **Report**

Subject to the provisions of Section 19c of the Railway Act, the railway operator is obligated to report immediately to the SUB any accidents and disturbances that occur as part of the operation of a public railway or connecting railway. The scope and the form of the reports by railway operators are to be determined by regulations.

The scope and the form of accident and disturbance reports occurring during the operation of a railway are governed by the current Reporting Ordinance.

An electronic document for reporting incidents on connecting railways is available for railway operators at the website of the Federal Traffic Agency ([http://versa.bmvit.gv.at](http://versa.bmvit.gv.at/)); it includes the minimal requirements for a report in the interpretation of the Reporting Ordinance. After the document is completed, it is immediately automatically submitted to the SUB via e-mail. This option for handling reports is increasingly used by other railway operators that are not classified as connecting railways. Furthermore, for SUB, there is an additional obligation to report to ERA in cases when a safety investigation was initiated for an incident.

* 1. **Initiation of a safety investigation**

A safety investigation is generally initiated with the report of an incident; what is decisive, however, is that not every report warrants a comprehensive investigation procedure. The nature and scope of a safety investigation should rather follow the severity of the incident and particularly the new findings that could improve traffic safety and are expected to be found.

Subject to Section 9 of UUG 2005,the SUB assigns an investigator to each single safety investigation who will assume the responsibility for the organisation, completion, and supervision of the respective investigation.

Subject to Section 9 of UUG 2005, all serious accidents must be investigated. Furthermore, a safety investigation of incidents that are not serious accidents must always be conducted if it is to be expected that a safety investigation can lead to new findings that can help avoid future incidents.

* 1. **Safety investigation**

Each safety investigation is to be conducted immediately, expediently and without complications, whereby it must be ensured that the investigation procedure is not public, and that the investigators are bound by duty of confidentiality. The scope of authority of the investigator in completing an on-site safety investigation is set in Section 11 of UUG 2005.

* 1. **Investigation report**

Each safety investigation is to be finalised with an investigation report, which must be submitted before the publication of a commenting procedure. The investigation report must in its contents correspond with the nature and seriousness of the incident, referring exclusively to the objective of the corresponding safety investigation. Among other incident details, the investigation report must contain data about the vehicles involved, the circumstances that led to the accident, the investigation conducted and its conclusions, as well as the determination of possible causes, and, if any, safety recommendations.

All the investigation reports are published on the webpage of the Federal Traffic Agency: ([http://versa.bmvit.gv.at).](http://versa.bmvit.gv.at/)

* 1. **Safety recommendations**

Based on the results of the investigation, safety recommendations, if any, should be developed as proposals for improvement of traffic safety, to be submitted to the organisations that can implement these as appropriate measures. It is the responsibility of the parties specifically affected by the given safety recommendations, whether to implement these safety recommendations or not, and to what extent.

For the Rail Sector, the Railway Safety Directive stipulates thatthe SUB must be notified at least annually of any measures taken or planned as the reaction to the stated safety recommendations.

1. **Cooperation (authorities and other organisations)**
   1. **BMVIT**

Periodically and in relevant cases, comprehensive exchange of information and opinions takes place with the competent specialist departments of BMVIT.

* 1. **Judicial authority (prosecutor’s office)**

The cooperation with judicial authority (prosecutor’s office) takes place on the basis of agreements that were put into effect by the resolution of the Federal Ministry of Justice of 7 August 2012. When investigating the circumstances, it must be made sure that both the responsible prosecutor and the investigator assigned by the SUB can fulfil their legally stipulated tasks without limitations on the basis of mutual cooperation and consideration requirements. The safeguarding and safekeeping of evidence as well as possible use of evidence for ongoing investigations must take place in accordance with the agreement achieved via mutual consultations.

* 1. **Security and executive authorities**

If there is such necessity, the investigator assigned by the SUB is to be supported by security and executive authorities when investigating the circumstances of the case — especially at the site of the accident. For major damage events, the cooperation is regulated by the “Guideline for identifying disaster victim after major damage events (DVI Disaster Victim Identification)” issued by the Federal Ministry for the Interior and the published DVI manual.

SUB employees must be periodically trained by specialists of the executive authorities with the focus on securing of evidence and interview techniques. Furthermore, meetings should take place —also periodically— with regional criminal investigation offices for comprehensive exchange of information and opinion.

* 1. **Companies**

For the purposes of investigating the circumstances, the investigator assigned by the SUB must be supported by the companies involved in the incident, particularly by providing the data necessary for the investigation, relevant documents, and the transmission of the analysis results of the recording instrument data.

* 1. **Experts**

Certain parts of investigations cannot be completed using SUB’s own resources. These specifically include the investigations of components or materials that require specialised instruments or devices, or standardised measurement and investigation procedures: e.g. metallographic investigation of components with a scanning electron microscope.

SUB works with a large number of experts (expert bureaus, technical schools, universities), so that specialist assessments can be ordered if needed by the investigators.

1. **International relations**
   1. **NIB network (Rail Sector)**

The Rail Sector represents Austria in the network of the European safety and investigation bodies (NIB network) of the ERA.

The tasks of the NIB network include, aside from comprehensive exchange of information and opinion, specifically the development of methods for unified Europe-wide investigation of incidents that take into account the technical and scientific progress. Specific tasks are handled in specially established task forces. As a rule, three meetings of the NIB network take place per year.

* 1. **Task forces of the NIB network (Rail Sector)**

The Rail Sector also represents Austria in the following task forces established by the NIB network of the ERA:

* + 1. **TF ERAIL**

Further development of the European ERAIL database for incidents in the railway traffic area was provisionally suspended on the level of ERA. Currently, no meetings of TF ERAIL have been planned.

* + 1. **TF HUMAN FACTOR**

The human factor is of very high importance when investigating incidents. TF HUMAN FACTOR develops unified European-wide principles for assessing the human factor in incidents. Two meetings take place per calendar year. The completion of the activities was initially planned for 2016; however, due to the large scope of the matters concerned, it was postponed until 2017. On the European level, a pool of experts with specialists in the Human Factor area was established, and it can be accessed by all European safety and accident investigation bodies.

* 1. **Cross-border exchange of information**

There is constant exchange of information and opinion among the European safety and accident investigation bodies. Furthermore, in the Rail Sector, there are regular meetings of the European safety and accident investigation bodies (e.g. with Germany, Switzerland, Czech Republic, Hungary, Luxembourg and Estonia).

* 1. **Cross-border safety investigation**

Cross-border safety investigations in the Rail Sector take place in cooperation with the safety and accident investigation bodies of the states concerned. The respective safety and accident investigation body of the other state may be invited as an on-site observer for the investigation, or conduct an investigation for the incident in question in their own country, to provide the obtained information for study.

1. **Statistics**
   1. **National database**

The Rail Sector has a database recording all the reported incidents. The datasets contained in the database make it possible to conduct relevant assessments according to various criteria at any time.

In 2013, began the development of a new national database, which allows making relevant queries and generating reports, and also ensures unlimited data exchange with the ERAIL international database.

The new database makes it possible, on the one hand, to collect the received incident reports per calendar year in the interpretation of international regulation (e.g. categorisation of incidents); on the other hand, it can also be used to assess and present findings of the completed safety investigations and the safety recommendations based on them.

The development and implementation of the new database have been largely completed. The entry of data into the new database began in 2016, and according to the plan, parallel operation of the current database and the new database is to be ensured by the end of 2016. The exclusive use of the new national database is to start on 1 January 2017.

* 1. **ERAIL database**

The operation of this database began in mid-2012, it is used for obligatory Europe-wide recording of all Rail Sector incidents investigated by European safety and accident investigation authorities. The concept of the ERAIL database is based on the ECCAIRS database, which for several years was responsible for recording incidents in the Civil Aviation Sector.

In the ERAIL database, criteria for queries can be set individually, and statistical assessments can be conducted.

Further development of the ERAIL database was provisionally suspended on the level of ERA. The currently planned further steps include, among other things, a comprehensive restructuring of the database.

* 1. **Definition of a “Serious accident / significant accident”**

In accordance with the Railway Safety Directive, serious accidents are defined as train collisions or train derailments with at least one fatality or at least five seriously injured persons, or with considerable damage to the trains, the infrastructure or the environment, as well as other comparable accidents with an obvious impact on the railway safety regulation or the safety management. Considerable damage means that the immediate costs estimated by the safety or accident investigation authority exceed the total of €2 million.

For severe accidents, there is always an obligation to conduct a safety investigation, in accordance with the provisions of Article 19, Par. 1 of the Railway Safety Directive.

In Directive 2009/149/EC “Common Safety Indicators and common methods to calculate accident costs” the term “significant accident” is used. Significant accidents include any accidents that involve at least one moving rail vehicle, at least one fatality or one seriously injured person, or considerable material damage to vehicles, rails, other equipment or the environment, or material damage occurring due to significant disturbances in operation. Accidents in workshops, warehouses or depots are excluded here. Material damage to vehicles, rails, other equipment or the environment is viewed as such if it equals to or exceeds €150 000.

1. **Quality management (QM) system**

With the introduction of a certified QM system in SUB, it is made sure that a standardisation of the processes can lead to the operations of all the employees concerned being conducted to the same standards, without redundancies or unnecessary additional costs.

The defined quality indicators make it possible to determine the deficiencies affect the entire system and to define the corresponding improvements.

An important part of the QM system in the Rail Sector is, among other things, the registration of the costs of a safety investigation. The “cost and resource planning” tool allows determining the actual costs of a safety investigation according to a standardised procedure, at the same time offering the option of conducting “target vs. actual” comparisons.



1. **Activities 2015 – Rail Sector**
   1. **Received reports**

|  |  |  |
| --- | --- | --- |
|  | **2014** | **2015** |
| **Total number of incidents** | 1610 | 1957 |
| * **Of which accidents** | 931 | 1179 |
| * **Of which disturbances** | 679 | 749 |
| * **Of which incidents not regarded as such by MeldeVO-Eisb 2006\*)** | - | 29 |

\*) \*) No events with reporting obligation according to MeldeVO-Eisb 2006 occurred; thus, no record was made.

* 1. **Total investigations**

|  |  |  |
| --- | --- | --- |
|  | **2014** | **2015** |
| **On-site investigations** | 4 | 4 |
| **Off-site investigations / Ongoing investigations** | 11 | 11 |

* 1. **On-site investigations**

|  |  |
| --- | --- |
| **Date** | **Incident** |
| **06.05.2015** | Collision of Z 8762 with Z 8787 at the Waldstein traffic point |
| **22.05.2015** | Collision of Z 7028 with a truck on a crossing between the Purgstall and Scheibbs stations |
| **15.07.2015** | Collision of Z 35438 with Z 48071 at the Leopoldau station |
| **01.12.2015** | Collision of Z 43601 with an auxiliary traction vehicle between the Breitenstein and Semmering stations |

* 1. **Off-site investigations / Ongoing investigations**

|  |  |
| --- | --- |
| **Datum** | **Incident** |
| **14.01.2015** | Derailment during a shunting movement on the Ennshafen connecting railway |
| **16.01.2015** | Derailment of Z 536 between the Veit an der Glan and Launsdorf-Hochosterwitz stations |
| **10.03.2015** | Derailment of Z 45902 at the Linz Vbf station |
| **12.03.2015** | Derailment of an auxiliary vehicle at the Schwarzenbach station |
| **08.04.2015** | Collision of Z 47980 with a pram at the Linz-Ebelsberg station |
| **10.07.2015** | Collision of a switching vehicle with Z 41133 at the Linz Vbf station |
| **15.07.2015** | Derailment of Z 97984 at the Kufstein station |
| **01.08.2015** | Collision of Z 60 with a passenger car on a crossing in the Wienerbergstraße area |
| **28.08.2015** | Derailment of Z 64905 at the Enns station |
| **25.09.2015** | Collision of Z 2150 with a truck on a crossing between the Göpfritz and Allentsteig stations |
| **11.12.2015** | Derailment of Z 4167 at the Bad Radkersburg halt |

* 1. **Safety recommendations (stated in 2015)**

See Annex 1.

1. **Incident statistics 2015 – Rail Sector**
   1. **Reported incidents**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Number** | | | | |
| **All railway types** | **Connected railways** | **Non-connected railways** | **Connecting railways** | **Underground railways** |
| **Total reports** | 1957 | 1739 | 35 | 99 | 84 |
| * **Of which accidents** | 1179 | 1020 | 31 | 91 | 37 |
| * **Of which disturbances** | 749 | 702 | 4 | 7 | 36 |
| * **Of which incidents not regarded as such by MeldeVO-Eisb 2006\*)** | 29 | 17 | - | 1 | 11 |

\*) No events with reporting obligation according to MeldeVO-Eisb 2006 occurred; thus, no record was made.

* 1. **Reported accidents by the type of accident**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Number** | | | | |
| **All railway types** | **Connected railways** | **Non-connected railways** | **Connecting railways** | **Underground railways** |
| **Train collisions** | 391 | 386 | 4 | 1 | - |
| **Collision involving switching/auxiliary rolling stock** | 107 | 74 | - | 33 | - |
| **Train derailment** | 10 | 9 | 1 | - | - |
| **Derailment involving switching/auxiliary rolling stock** | 113 | 66 | 2 | 45 | - |
| **Accidents on railway crossings** | 124 | 94 | 24 | 6 | - |
| **Damage cases when carrying hazardous goods** | 21 | 19 | - | 2 | - |
| **Injury/death of persons caused by rail vehicles** | 66 | 62 | - | - | 4 |
| **Injury/death of persons caused by other accidents** | 47 | 42 | - | 1 | 4 |
| **Fires/explosions of vehicles** | 35 | 28 | - | - | 7 |
| **Fires/explosions of an infrastructure** | 144 | 131 | - | 2 | 11 |
| **Suicides / suicide attempts** | 121 | 109 | - | 1 | 11 |

* 1. **Reported serious accidents by the type of accident (Directive 2004/49/EC, UUG 2005)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Number** | | | | |
| **All railway types** | **Connected railways** | **Non-connected railways** | **Connecting railways** | **Underground railways** |
| **Train collisions** | 4 | 4 | - | - | - |
| **Collision involving switching/auxiliary rolling stock** | 1 | 1 | - | - | - |
| **Train derailment** | 2 | 2 | - | - | - |
| **Derailment involving switching/auxiliary rolling stock** | - | - | - | - | - |
| **Accidents on railway crossings** | 17 | 16 | 1 | - | - |
| **Injury/death of persons caused by rail vehicles** | 13 | 12 | - | - | 1 |
| **Injury/death of persons caused by other accidents** | 1 | 1 | - | - | - |

* 1. **Reported significant accidents by the type of accident (Directive 2004/149/EC, CSI)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Number** | | | | |
| **All railway types** | **Connected railways** | **Non-connected railways** | **Connecting railways** | **Underground railways** |
| **Train collisions** | 8 | 7 | 1 | - | - |
| **Collision involving switching/auxiliary rolling stock** | 3 | 3 | - | - | - |
| **Train derailment** | 5 | 5 | - | - | - |
| **Derailment involving switching/auxiliary rolling stock** | 2 | 1 | - | 1 | - |
| **Accidents on railway crossings** | 39 | 33 | 5 | 1 | - |
| **Injury/death of persons caused by rail vehicles** | 29 | 26 | - | - | 3 |
| **Injury/death of persons caused by other accidents** | 15 | 14 | - | 1 | - |
| **Fires/explosions of vehicles** | 1 | 1 | - | - | - |
| **Other accidents** | 2 | 2 | - | - | - |

* 1. **Reported disturbances by the type of disturbance**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Number** | | | | |
| **All railway types** | **Connected railways** | **Non-connected railways** | **Connecting railways** | **Underground railways** |
| **Unauthorised movement in violation of the signal, trains** | 54 | 52 | 2 | - | - |
| **Unauthorised movement in violation of the signal, switching/auxiliary rolling stock** | 32 | 32 | - | - | - |
| **Unauthorised admission of moving vehicles in occupied rail sections** | 6 | 6 | - | - | - |
| **Faulty driving in/out, misrouting** | 1 | 1 | - | - | - |
| **Driving without order or driving permission** | 15 | 15 | - | - | - |
| **Rolling away of rail vehicles** | 10 | 9 | - | 1 | - |
| **Technical faults in installations and rail vehicles** | 242 | 230 | 1 | 2 | 9 |
| **Train separations** | 67 | 66 | - | - | 1 |
| **Faulty loading / load securing** | 119 | 116 | 1 | 2 | - |
| **Endangerment of safe operation by violating train traffic laws** | 54 | 51 | - | - | 3 |
| **Lack of safeguards at railway crossings** | 41 | 41 | - | - | - |
| **Near-collisions at railway crossings** | 3 | 3 | - | - | - |
| **Road vehicles driving into closing railway crossings** | 3 | 3 | - | - | - |
| **Unauthorised entering of railway installations** | 23 | 8 | - | - | 15 |
| **Brake malfunctions, trains** | 36 | 36 | - | - | - |
| **Other malfunction** | 43 | 33 | - | 2 | 8 |

* 1. **Persons involved in an accident (excluding suicides / suicide attempts)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Number** | | | | |
| **All railway types** | **Connected railways** | **Non-connected railways** | **Connecting railways** | **Underground railways** |
| **Persons killed** | 37 | 35 | 1 | - | 1 |
| **Persons with serious injuries** | 66 | 54 | 8 | 2 | 2 |
| **Persons with minor injuries** | 110 | 101 | 3 | - | 6 |

* 1. **Persons killed by the type of accident (excluding suicide attempts)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Number** | | | | |
| **All railway types** | **Connected railways** | **Non-connected railways** | **Connecting railways** | **Underground railways** |
| **Train collisions** | 2 | 2 | - | - | - |
| **Accidents on railway crossings** | 21 | 20 | 1 | - | - |
| **Injury/death of persons caused by rail vehicles** | 13 | 12 | - | - | 1 |
| **Injury/death of persons caused by other accidents** | 1 | 1 | - | - | - |

* 1. **Persons with serious injuries by the type of accident (excluding suicide attempts)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Number** | | | | |
| **All railway types** | **Connected railways** | **Non-connected railways** | **Connecting railways** | **Underground railways** |
| **Train collisions** | 2 | 1 | 1 | - | - |
| **Accidents on railway crossings** | 32 | 24 | 7 | 1 | - |
| **Injury/death of persons caused by rail vehicles** | 18 | 16 | - | - | 2 |
| **Injury/death of persons caused by other accidents** | 14 | 13 | - | 1 | - |

* 1. **Persons with minor injuries by the type of accident (excluding suicide attempts)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Number** | | | | |
| **All railway types** | **Connected railways** | **Non-connected railways** | **Connecting railways** | **Underground railways** |
| **Train collisions** | 8 | 8 | - | - | - |
| **Accidents on railway crossings** | 15 | 13 | 2 | - | - |
| **Injury/death of persons caused by rail vehicles** | 50 | 48 | 1 | - | 1 |
| **Injury/death of persons caused by other accidents** | 36 | 31 | - | - | 5 |

* 1. **Persons killed by categories (excluding suicide attempts)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Number** | | | | |
| **All railway types** | **Connected railways** | **Non-connected railways** | **Connecting railways** | **Underground railways** |
| **Travellers** | 1 | 1 | - | - | - |
| **Employees** | 5 | 5 | - | - | - |
| **Users of railway crossings** | 21 | 20 | 1 | - | - |
| **Other persons** | 3 | 2 | - | - | 1 |
| **Unauthorised persons** | 7 | 7 | - | - | - |

* 1. **Persons with serious injuries by categories (excluding suicide attempts)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Number** | | | | |
| **All railway types** | **Connected railways** | **Non-connected railways** | **Connecting railways** | **Underground railways** |
| **Travellers** | 11 | 11 | - | - | - |
| **Employees** | 12 | 11 | - | 1 | - |
| **Users of railway crossings** | 32 | 24 | 7 | 1 | - |
| **Other persons** | 6 | 4 | 1 | - | 1 |
| **Unauthorised persons** | 5 | 4 | - | - | 1 |

* 1. **Persons with minor injuries by categories (excluding suicide attempts)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Number** | | | | |
| **All railway types** | **Connected railways** | **Non-connected railways** | **Connecting railways** | **Underground railways** |
| **Travellers** | 58 | 56 | - | - | 2 |
| **Employees** | 20 | 19 | 1 | - | - |
| **Users of railway crossings** | 15 | 13 | 2 | - | - |
| **Other persons** | 15 | 12 | - | - | 3 |
| **Unauthorised persons** | 2 | 1 | - | - | 1 |

* 1. **Suicides and suicide attempts**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Number** | | | | |
| **All railway types** | **Connected railways** | **Non-connected railways** | **Connecting railways** | **Underground railways** |
| **Killed as a result of suicide** | 102 | 95 | - | - | 7 |
| **Suicide attempts — persons injured** | 15 | 12 | - | 1 | 2 |
| **Suicide attempts — no injuries** | 4 | 2 | - | - | 2 |

* 1. **Accidents on railway crossings**

|  |  |
| --- | --- |
|  | **Number** |
| **Total accidents** | 124 |
| * **of which with technical safeguards (traffic lights, barrier system)** | 51 |
| * **of which with non-technical safeguards (visual, audible signals)** | 73 |

* 1. **Accidents on railway crossings – Persons involved in an accident**

|  |  |
| --- | --- |
|  | **Number** |
| **Persons killed (excluding suicide)** | 21 |
| **Persons with serious injuries** | 32 |
| **Persons with minor injuries** | 15 |

* 1. **Accidents on railway crossings – Users**

|  |  |
| --- | --- |
|  | **Number** |
| **Passenger cars** | 95 |
| **Trucks** | 8 |
| **Busses** | 3 |
| **Utility/Agricultural vehicles** | 5 |
| **Two-wheeled motor vehicles** | 1 |
| **Bicycles** | 7 |
| **Pedestrians** | 5 |

* 1. **Number of railway crossings**

|  |  |
| --- | --- |
|  | **Number** |
| **Total (excluding non-public railway crossings)** | 3955 |
| * **• of which with technical safeguards (traffic lights, barrier system)** | 1894 |
| * **• of which with non-technical safeguards (visual, audible signals)** | 2061 |
| **Non-public railway crossings** | 1580 |

**Annex 1 — Safety recommendations**

The ordering of the safety recommendations is according to the publication date, and not to the date of the incident.

**Rail Sector**

|  |  |
| --- | --- |
| **Incident date** | **Incident** |
| **24/04/2014** | **Fire on Z 54950 in Launsdorf-Hochosterwitz station**  **A-2015/003**  Making sure that there is road access provided for emergency services at the stations defined according to the matrix.  ***Measures***  *Currently, there is no information regarding any initiated or implemented measures.*  **A-2015/004**  Checking if the safeties of the reserve brushes can be improved, e.g. using safety bolts with thread, nut and lock.  ***Measures***  *Currently, there is no information regarding any initiated or implemented measures.*  **A-2015/005**  Checking if the Kl and SKl (small (railway) car and heavy-duty small car) labels with the messages VERSCHUBBEREIT ABGESTELLT (“switching-ready, stopped”) and AUF HANDBREMSEN ACHTEN (“mind the handbrake”) should be included in the IM guidelines.  ***Measures***  *Currently, there is no information regarding any initiated or implemented measures.* |
| **21 January 2015** | **Collision of Z 20592 with Z 20595 between Wien Hütteldorf station and Wien Penzing station**  **A-2015/006**  Checking if the provisions of the operation regulations of ÖBB concerning automatic operation can be presented in a summarised way.  ***Measures***  *Automatic operation (switching off, activation, switching on, programming) is governed by the official body-approved service regulations in a process-oriented way, and thus can be found in those arrangements where corresponding actions must be taken by the traffic controller. A summarised representation would take these topics out of the context, and thus, in our opinion, would not be expedient. Furthermore, it should be stated that ÖBB-Infrastruktur AG, in its letter No BL-STA-BEHO-000008-14 of 3 February 2014, applied for changing DV V3 (Sections 35, 38 and 51) and ZSB 1 / I Section 6, the purpose of which was to improve the automatic operation arrangements in view of the contents of the operating instructions. As long as the SB will be allowed to remain turned on for traffic and target locks. For the BFZ control division, it is a significant part of relieving the traffic controller.*  **A-2015/007**  Checking if in the provisions of the operation regulations of ÖBB regarding the introduction and cancellation of telephonic, a reporting procedure would be appropriate.  ***Measures***  *The procedure for introducing or cancelling the telephonic reporting is described in DV V3, Section 38(13 –16). The required contents of the report to be documented are defined. In our view, this procedure is considered sufficient.* |

|  |  |
| --- | --- |
|  | **Collision of Z 20592 with Z 20595 between Wien Hütteldorf station and Wien Penzing station**  **A-2015/008**  Checking if, in the case of a specific reporting procedure for telephonic reporting an additional statement, e.g. “automatic operation must be shut down” with the corresponding response, e.g. “automatic operation has been shut down” would be useful.  ***Measures***  Relying on the process, i*t is stated in Section 38(14) that the automatic operation must be switched off. 15 June 2014, at all traffic controller work stations (setting ranges) are equipped with the “Operation conditions 101” incident table. This incident table is to be processed by the nearby (affected) station every time a telephonic report comes in. It should also made sure that the measures stated in the telephonic report are also introduced at the station that is not affected by a disturbance. ÖBB submits and example of the checklist for ESA SpDrL (extract):* |
| **21 January 2015** | **A-2015/009**  Inspection of the turnaround times for S 45 trains at the Wien Hütteldorf station to ensure the correct completion of the operations that must be conducted by the train driver.  ***Measures***  *The Wien Penzing — Wien Hütteldorf is designed very tightly on the basis of a 10-minute cycle; it requires a four-minute turnaround in Wien Hütteldorf. The assessments of the arrival and departure times for Wien Hütteldorf show that this short turnaround time is possible, and sometimes is even fallen short of. In order to ensure four-minute turnaround in driving operation, there have been measures taken by the EVU that was responsible for ordering the tracks. No use of the TIM (train driver information management) for avoiding the related shut-down and set-up times; timetable documents in the paper form are used instead. Furthermore, it is our view that the subsequent departure after the handling process (no waiting for arriving travellers) is another important element that stabilises timetables.*  **A-2015/010**  Accelerating disruption training at the technical safety facilities, primarily  ***Measures***  *Conducting training and advanced training for ensuring high safety standards is a major concern for ÖBB-Infrastruktur AG. Among other things, significant attention is paid here to regular disturbance training, which so far has taken place as part of the yearly company advanced training in training areas on the one hand, and as part of the on-site skill and knowledge checks by the responsible managers on the other hand. In accordance with the process-related and technical development of the operational management, the issues of training and advanced training currently undergo critical evaluation. Specifically, ÖBB-Infrastruktur AG is currently working on designing a project with the goal of fundamentally moving the training and advanced training in the direction of a process-oriented approach, in which the issues of simulation and training can be stressed even more.* |

|  |  |
| --- | --- |
| **21 January 2015** | **Collision of Z 20592 with Z 20595 between Wien Hütteldorf station and Wien Penzing station (continued)**  **A-2015/011**  Inspection to find out if in specific operating control points, based on specific parameters (e.g. high frequency of train, switching and auxiliary vehicles, large-scale operational and safety technical activities related to the management of the operation, construction works, disturbances), teams of two dispatchers with exactly defined tasks would be useful.  ***Measures***  *In every 3 years, all the operating control points undergo a standardised assessment (a new assessment can take place after a shorter period, if there are major changes in traffic), which takes into account the frequency of trains, the types of interlocking and their automation level, switching movements and certain other activities. It obviously assumes not only the load in ideal planned operation conditions, but also operational management influenced by disruptions. Furthermore, when planning construction sites, possible additional load for the current employees is checked by the management responsible, as part of the operational feasibility study. In these cases, if necessary, an additional dispatcher can be assigned for the duration of the construction works.*  **A-2015/012**  Inspection to determine if for specific models of safety installations certain manual operations are made ineffective, if at the same time, automatic switching operations are carried out via the safety installations. It should be made sure that in certain situations, manual operations should always have priority.  ***Measures***  *Due to the safety concept of the safety equipment, multi-button operations always lead to the operations not being executed. The high prioritisation of operations will also not lead to the desired result, as the delayed operation would be executed after the manual one (manual setting of the start signal is made obsolete just with the delayed following train route setting and transmitting this signal). Only observing the desired reaction of the operation is useful.* |
| **22/05/2015** | **Collision of Z 7028 with a truck on a crossing between the Purgstall and Scheibbs stations**  **A-2015/013**  Making sure that an urgent inspection of the railway crossing km 20,931 is conducted in accordance with Section 103(1) EisbKrV. It must take into account any structures and growth in the area where construction is prohibited.  ***Measures***  *Currently, there is no information regarding any initiated or implemented measures.*  **A-2015/014**  Ensuring that the signal visibility is not limited by trees and bushes.  ***Measures***  *Currently, there is no information regarding any initiated or implemented measures.* |
| **24/10/2012** | **Derailment of Z 54070 near the Mixnitz-Bärenschützklamm station**  **A-2015/015**  It is recommended to replace visual testing (VT testing) of wheel sets after each underfloor maintenance with magnet particle testing (MT testing), and prescribe it bindingly in the maintenance plans of the ECM.  ***Measures***  *Currently, there is no information regarding any initiated or implemented measures.*  **A-2015/016**  EVU ÖBB-Produktion GmbH must ensure that any wheel, wheel tyre and axle breakage is reported to the SUB in accordance with MeldeVO-Eisb 2006.  ***Measures***  *Currently, there is no information regarding any initiated or implemented measures.* |

|  |  |
| --- | --- |
| **08/04/2014** | **Collision of Z 47980 with a pram at the Linz-Ebelsberg station**  **A 2015/017**  It must be checked if the areas recorded by surveillance cameras can be optimised, or if additional surveillance cameras are to be installed.  ***Measures***  *Currently, there is no information regarding any initiated or implemented measures.* |
| **15/12/2014** | **Switching vehicle derailment at AB Hasslacher**  **A 2015/018**  Ensuring that the operation of connecting railways in Austria complies with the provisions of Section 24(1) ASchG.  ***Measures***  *Currently, there is no information regarding any initiated or implemented measures.*  **A-2015/019**  Inspection to find out whether it is necessary to set the lock when leaving AB via switching, and store the key on a key hook in the transformer house.  ***Measures***  *Currently, there is no information regarding any initiated or implemented measures.*  **A-2015/020**  Checking if any provisions for connecting railways should be included in EisbBBV.  ***Measures***  *Currently, there is no information regarding any initiated or implemented measures.* |
| **11/12/2015** | **Derailment of Z 4167 at the Bad Radkersburg halt station**  **A-2015/021**  Checking if 1000 Hz PZB magnets are to be installed as technical support for the train driver with the switching monitoring signal, which will become active with the signal RÜCKFALLWEICHEN BEFAHREN NICHT ERLAUBT (“do not drive on the spring switches”).  ***Measures***  *Currently, there is no information regarding any initiated or implemented measures.* |

**Annex 2 — List of abbreviations**

|  |  |
| --- | --- |
| ASchG | Worker Protection Act (*ArbeitnehmerInnenschutzgesetz*) |
| AVV | Contract for the use of wagons in rail transport |
| BAV | Federal Traffic Agency |
| Bf | Station |
| BMI | Federal Ministry of the Interior |
| BMJ | Federal Ministry for Justice |
| BMVIT | Federal Ministry for Transport, Innovation and Technology |
| Bsb | Operational unit description |
| CSI | Safety indicators |
| DV | Service regulations |
| DVI | Disaster Victim Identification |
| ECM | Entity in Charge of Maintenance EC European Community |
| EG | European Community |
| EisbAV | Railway Worker Protection Regulation |
| EisbBBV | Railway Construction and Operation Regulation |
| EisbG 1957 | Railway Act 1957 |
| EisbKrV 2012 | Railway Crossing Regulation 2012 |
| EK | Railway crossing |
| EKSA | Railway crossing safety equipment |
| EN | European standard |
| EPIGUS | Study of gaze behaviour of drivers of motor vehicles |
| ERA | European Railway Agency |
| ERAIL | European database for incidents in railway traffic |
| ES | Intervention limit |
| EU | European Union |
| EVU | Railway traffic operator |
| EWT | Transparency of axle maintenance for freight wagon wheelset axles |
| IM | Railway infrastructure company |
| ISO | International Standards Organisation |
| NSA | National Safety Authority |
| ÖBB | Austrian Federal Railways |
| ÖNORM | Austrian standards |
| ORE | Research institute of the International Union of Railways (UIC) |
| QM system | Quality management system |
| RCA | Rail Cargo Austria (EVU) |
| RIC | Agreement on the exchange and use of freight cars between rail transport companies |
| RU | Railway Undertaking |
| SES | Railway Undertaking |
| StLB | Steiermärkische Landesbahnen (Styrian Provincial Railways) |
| StVO | Road traffic regulations |
| Stw | Signal box |
| SUB | Federal Safety Investigation Authority |
| TF | Task Force |
| Tfz | Traction unit |
| TSI | Technical Specifications for Interoperability |
| UIC | International Union of Railways |
| UUG 2005 | Accident Investigation Act 2005 |
| Z | Train |
| ZLCP | Train run checkpoint |
| ZSB | Additional provisions for signalling and operation regulations |