

# Safety Report 2013

## (Sicherheitsbericht 2013)

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## Introduction

Transport safety work is an ethical imperative and may also be described as economically productive. In accordance with the international standards of research into the causes of accidents, and based on the concepts and strategies of the transport safety policy of the European Union and the associated obligations under Community law, the objective of a safety investigation by an independent body is to learn from mistakes, to avoid repetitions and thereby to improve transport safety.

In accordance with paragraph 3 of Article 23 of Directive 2004/49/EC ('Railway Safety Directive'), a comprehensive report on activities in each year is to be prepared and published at the latest by 30 September of the following year.

## **1 Structure, function, personnel, independence**

The Safety Investigation Authority (referred to below as 'SUB') is set up as an organisational unit within the Bundesanstalt für Verkehr (Austrian Federal Office of Transport (BAV)), a department of the Bundesministerium für Verkehr, Innovation und Technologie (Austrian Federal Ministry for Transport, Innovation and Technology (bmvit)).

The SUB has a multi-modal structure and has separate sections devoted to rail transport, shipping, cable cars and civil aviation. Synergies and savings are achieved through the optimum use of resources. In the fields of rail transport, shipping and cable cars for example, these benefits are achieved in the SUB by covering aspects of research into the causes of accidents that relate to a number of transport operators and through a common reporting point and a 24-hour standby service.

From a functional and organisational point of view, the SUB is independent of all authorities and parties, public and private departments, whose interests could conflict with the duties of the SUB.

The SUB is adequately resourced to ensure that it is able to undertake its duties independently and is in a position to either conduct a comprehensive safety investigation of occurrences itself or else to supervise such a safety investigation.

As at 31 December 2013 the Federal Safety Investigation Authority Rail Section (referred to below as 'SUB-Rail') employed the following personnel:

- 1 Manager (also plays a role as an investigator);
- 3 investigators (also for shipping and cable railways);
- 2 investigators undergoing training (also for shipping and cable cars);
- 2 administrative staff.

In carrying out safety investigations SUB staff members are not bound by any directions from bodies outside the SUB.

## **2 Statutory basis**

### **2.1 The SUB as a whole**

- The Accident Investigation Act [Unfalluntersuchungsgesetz] (UUG 2005)

### **2.2 SUB-Rail**

- Directive 2004/49/EC ('Railway Safety Directive')
- Railway Notification Ordinance [Meldeverordnung Eisenbahn]
- Railways Act 1957 [Eisenbahngesetz]
- Railway Ordinance 2003 [Eisenbahnverordnung]
- Railway construction and operation ordinance [Eisenbahnbau- und -betriebsverordnung]

## **3 Tasks**

The principal task of the SUB-Rail is to investigate accidents and incidents by conducting an expert inquiry, to determine the possible cause and, if necessary, to draw up safety recommendations in the form of suggestions for improving railway safety. These investigations are not intended to establish guilt or liability.

## **4 Responsibilities**

Rail transport refers to the operation of main line and branch line railways, connecting railways and tram systems, on which rolling stock travels exclusively on its own tracks (an example being the underground railway in the Austrian capital, Vienna), including the operation of rolling stock on such railway systems in accordance with the provisions of the Railways Act.

For statistical purposes, a distinction is made between:

- all railways;
- networked railways;
- non-networked railways;
- connecting railways;
- underground railways.

## **5 Characteristics of safety investigation**

### **5.1 General**

Occurrences include accidents and serious accidents, and also incidents and serious incidents.

Causes include acts, omissions, events or a combination of such factors, which have led to an occurrence.

### **5.2 Reporting**

In accordance with Article 19c of the Railways Act, railway organisations have an obligation to report accidents and incidents arising during the operation of a public railway or connecting railway to SUB-Rail immediately. The scope and form of railway organisations' reports are to be laid down by ordinance.

The scope and form of reports of accidents and incidents that arise during the operation of a railway are defined in the Railway Notification Ordinance applicable at the time.

The website of the Federal Office of Transport (<http://versa.bmvit.gv.at>) contains an electronic document for reporting occurrences on connecting railways. It is for the use of railway organisations and defines the minimum requirements for a report within the meaning of the Railway Notification Ordinance. Once the report has been filled in or completed, it is immediately and automatically forwarded by e-mail to SUB-Rail. This option for sending reports is increasingly being used by railway organisations that are not categorised as connecting railways.

SUB-Rail is also required to send a report to the European Railway Agency (ERA) when a safety investigation into an occurrence is opened.

### **5.3 Opening a safety investigation**

A safety investigation always begins with an incoming report of the occurrence; however, it should be noted that a safety investigation is not undertaken for every report. The nature and scope of the safety investigation is based on the severity of the event, and also in particular on any findings that are likely to be made that could lead to an improvement in transport safety. If an investigation is to be undertaken, amongst other issues it is necessary to decide whether on-site fact-finding will be required for the investigation.

In each case SUB-Rail nominates the investigator who will assume responsibility for organising, undertaking and supervising the safety investigation,

Severe accidents must be the subject of an investigation in every case. In addition, a safety investigation is always to be carried out into occurrences that are not serious accidents if it is anticipated that a safety investigation will produce new findings that will enable future occurrences to be avoided.

### **5.4 Safety investigation**

Every safety investigation is to be carried out promptly, simply and purposefully noting that the investigative process is not public and the investigators have an obligation of confidentiality.

The Accident Investigation Act specifies the powers enjoyed by the investigators when they carry out the study on site.

## **5.5 Report on the investigation**

Every safety investigation is to be concluded with an investigation report. It is to be distributed to the appropriate parties for comment prior to publication. The content of the investigation report must reflect the nature and seriousness of the occurrence and its purpose must exclusively be that of a safety investigation.

Amongst other factors the investigation report must contain details of the occurrence, details of the means of transport involved, the factors that caused the accident, the investigations carried out and their conclusions and the finding as to the cause, and if applicable, safety recommendations.

All the investigation reports are published on the Federal Office for Transport's website (<http://versa.bmvit.gv.at>).

## **5.6 Safety recommendations**

Safety recommendations based on the results of the investigation are to be drawn up. They are to be drawn up as suggestions as to how to improve transport safety; suggestions which may be directed to those organisations able to implement the recommendations in the form of suitable measures. Those actually affected are responsible for deciding whether, and to what extent, the safety recommendations made will be implemented.

Directive 2004/49/EC (the 'Railway Safety Directive') lays down that at least once a year SUB-Rail is to report on action that has been taken or is planned in response to the safety recommendations made.

# **6 Collaboration (with authorities and other bodies)**

## **6.1 bmvit**

A comprehensive exchange of opinions and information with the specialist functions responsible in bmvit takes place both at regular intervals and on an ad hoc basis.

## **6.2 Judicial authority (public prosecutor's office)**

Collaboration with the judiciary (public prosecutor's office) is based on the existing agreement dated 7 August 2012. During the fact-finding process, care is taken to ensure that both the public prosecutor responsible and the investigator instructed by SUB-Rail are able to pursue their work without interference. The safeguarding and preservation of items of evidence and retention of evidence for possible use for further investigation also takes place by mutual consent in the manner agreed.

## **6.3 Safety and public order authorities**

The investigator instructed by SUB-Rail can be supported by the safety and public order authorities in his fact finding (particularly at the site of the occurrence) if there is a need. For events with major loss and damage the arrangements for working together are specified in the 'Guidelines to Identify the Victims of Catastrophes after Events with Major Loss and Damage' issued by the Federal Ministry of the Interior (DVI – Disaster Victim Identification)“ and in the manual published to accompany it (DVI Handbook).

SUB-Rail staff members receive training at regular intervals from specialists from public order bodies on securing and preserving evidence and on interviewing techniques. Meetings are also held at regular intervals with the Provincial Criminal Investigation departments to allow an in-depth exchange of views and information.

## **6.4 Undertakings**

The investigators nominated by SUB-Rail are supported by the undertakings involved in the occurrence (in particular by making data required for the investigation available, the provision of related documentation and the provision of the results of the evaluation of records from recording equipment).

An exchange of views and information with undertakings takes place at irregular intervals.

## **6.5 Experts**

SUB-Rail cannot undertake all the aspects of investigations within its own scope of activity. In particular these include investigations of components or materials for which special instruments or devices and standardised measurement and investigation procedures are required, such as the metallographic investigation of components using a scanning electron microscope.

SUB-Rail can call on a large number of experts (consultancy firms, technical colleges, universities). If the investigation requires it they are commissioned in writing to conduct a special investigation and prepare a technical report.

## **7 SUB-Rail's international relations**

### **7.1 NIB-Network**

SUB-Rail is Austria's representative in the European Safety and Investigation Bodies Network (NIB Network) within the ERA.

In addition to comprehensive exchange of views and information, the NIB Networks have the task of developing methods to apply across Europe for standardised investigation of incidents taking technical and scientific advances into account. Defined tasks are considered in specially created working groups.

### **7.2 NIB-Networks' working groups**

SUB-Rail also represents Austria in the following working groups (task forces) set up within the NIB Network under the auspices of the ERA.

#### **7.2.1 TF ERAIL**

Further development of the European ERAIL database for occurrences involving rail traffic. The task force meets as necessary.

#### **7.2.2 TF NIB WORK PROGRAMME**

On-going development of an annual work programme for the NIB Network.

#### **7.2.3 TF NIB ASSESSEMENT**

Development of principles for validating standards for European safety and investigation bodies based on civil aviation ICAO audits.

The ERA validates three to four European safety and investigation bodies annually based on the principles laid down in the TF-NIB ASSESSEMENT. The ERA validated SUB-Rail between 16 and 20 December 2013.

#### **7.2.4 TF INDEPENDENCE**

Drafting of standard rules to apply across Europe to ensure the independence of the European safety and investigation bodies.

#### **7.2.5 TF HUMAN FACTOR**

Human factors are of increasingly greater importance in the investigation of incidents. The HUMAN FACTOR task force is drafting standard principles to apply across Europe to evaluate the influence of human factors in occurrences.

### **7.3 International information exchange**

There is an on-going exchange of views and information between the European safety and accident investigation bodies. The European safety and accident investigation bodies also meet regularly (for example involving Germany, Switzerland, the Czech Republic, Hungary, Luxembourg and Estonia).

### **7.4 International safety investigation**

SUB-Rail works together with the safety and accident investigation bodies of the countries involved to undertake international safety investigations. In each case the safety and accident investigation body of the



other country is either invited to take part in the investigation on site as an observer, it conducts investigations on the occurrence in question in its own country, or else it remains on hand to provide information.

## 8 Statistics

### 8.1 National database

SUB-Rail manages a database, in which details of all occurrences reported are held. The data sets are held in the database in such a way as to permit analyses based on a range of criteria to be undertaken at short notice.

Because of the system and programming differences, the national database and the ERAIL database have only limited compatibility. Development of a new national database was started in 2013. The database being developed will ensure unrestricted data exchange with the ERAIL database and in addition facilitate ad hoc enquiries and the creation of reports. Test running of the new national database started in September 2014.

Firstly the new database allows approximately 1500 reports of occurrences in each calendar year within the meaning of international guidelines (for example, categorisation of occurrences), secondly, it will allow insights from the safety investigations undertaken and the safety recommendations made in consequence to be displayed.

### 8.2 ERAIL database

The ERAIL database provides for the obligatory collation of reports of occurrences investigated by all of the European safety and accident investigation bodies across Europe. In its fundamental design the ERAIL database is based on the ECCAIRS database which has been used for several years to collate details of civil aviation occurrences.

The planned new national database will allow unrestricted communication with the ERAIL database.

### 8.3 Definition of 'serious accident' and 'significant accident'

As defined by Directive 2004/49/EC 'the Railway Safety Directive' a serious accident means any train collision or train derailment resulting in the death of at least one person or serious injuries to five or more persons, or extensive damage to rolling stock, the infrastructure or the environment and any other similar accident with an obvious impact on railway safety regulation or the management of safety. Extensive damage means damage that can immediately be assessed by the safety and accident investigation body to cost at least € 2 million in total.

Article 19(1) of Directive 2004/49/EC 'Railway Safety Directive' establishes an obligation to carry out a safety investigation into every serious accident.

Directive 2009/149/EC 'Common Safety Indicators and common methods to calculate accident costs' uses the term 'significant accident'. Significant accident means any accident involving at least one rail vehicle in motion, resulting in at least one killed or seriously injured person, or in significant damage to stock, track, other installations or environment, or extensive disruptions to traffic. Accidents in workshops, warehouses and depots are excluded. Significant damage to stock, track, other installations or environment means damage that is equivalent to € 150 000 or more.

Section 12 (2013 accident statistics-SUB-Rail) of this safety report takes account of the differing definitions by showing them in separate tables.

## 9 Quality management system (QM System)

Introduction of a QM system in SUB-Rail is intended to ensure that, by standardising the process flows, the activities of all the staff members involved can be undertaken subject to the same standards, so that no duplication or unnecessary additional work arises.

However, the introduction of a successful QM system requires a proper introductory phase. All the processes to be included in a safety investigation must be determined, documented and, where necessary, changed, and measures to enable the determination and analysis of key quality indicators must be derived. These key quality indicators allow weaknesses that affect the overall system to be highlighted and appropriate improvements defined.

Work on the introduction of a QM system for SUB-Rail is well advanced. The manuals which are necessary for certification (e.g. QM manual, working manual, training manual) and the documents needed for day-to-day activities are in the course of production. These include the instructions required for implementation of the QM system (organisational and procedural instructions, internal memoranda).

Certification of SUB-Rail's QM system takes place in the fourth quarter of 2014.

Prior to the introduction of a QM system, the 'Costs and Resource Planning' project was initiated in 2012 for recording the costs of an investigation. The aim of this project was to devise a model for the standardised calculation of the costs of an investigation, which would also allow target/actual comparisons to be made.

This model has been used consistently for each investigation in SUB-Rail since 1 January 2013,

## 10 Activities in 2014

- 'QM system' project; (certification);
- 'Central reporting point' project; (the creation of a central reporting office to cover all means of transport – the work is largely complete);
- 'Expert pool' project; (creation of a pool of experts for special investigations associated with a safety investigation – the work is largely complete);
- ERA assessment of the rail division (resolution of open points – the ERA report is to hand. Corrective action plan drawn up, open points largely resolved);
- Training and development; ERAIL database, securing and preservation of evidence (law and order forces), specialist technical training courses);
- 'Human Factor' project (a global trend in safety investigations to focus on this, training and development measures)

## 11 Activities in 2013 (SUB-Rail)

### 11.1 Reports received

	2012	2013
Total occurrences	1573	1693
• of which accidents	1002	1060
• of which incidents	571	633

### 11.2 Total investigations

	2012	2013
On-site investigations	23	7
Off-site Investigations t	26	20

### 11.3 On-site investigations

	Occurrence
21 Jan 2013	Collision of train 20592 with train 20595 between. Hütteldorf and. Wien Penzing stations
14 Feb 2013	Derailment of train 55062 in. Ebenfurth station

19 Jun 2013	Collision of train 2703 with a group of people between Bierbaum and Fürstenfeld stations
09 July 2013	Near miss of train 16951 with a car on a level crossing in the Krems a.d. Donau area
29 July 2013	Collision of a runaway wagon with a car on a level crossing in the Wieselburg a.d. Erlauf area
13 Aug 2013	Derailement of train 57709 in Wien marshalling yard.
28 Sept 2013	Collision of train 48026 with a crane used for trackwork in Leopoldau station

#### 11.4 Off-site investigations (further investigation)

	Occurrence I
06 Jan 2013	Fire on train 47634 in Götzendorf station
16 Jan 2013	Collision of train 278 with a shunting movement in Peggau-Deutschfeistritz station
14 Feb 2013	Near miss of train 3418 with a trip working in Mitterweißenbach station
20 Feb 2013	Collision of train 9 with a car on a level crossing in the Rettenbach Halt area
21 Feb 2013	Collision of train 167 with infrastructure equipment and derailment of train 20261
27 Mar 2013	Collision of train 41185 with construction plant in Obereggendorf station
30 May 2013	Collision of train 21632 with a crane used for trackwork in Stockerau station
11 Jun 2013	Collision of train 41945 with a shunting movement in Wels marshalling yard.
17 Jun 2013	Derailement of train 48400 in the Werfen Halt area
02 July 2013	Derailement of train 46695 in Bruck a.d. Leitha station
28 July 2013	Collision of train 5917 with construction plant in Marchtrenk station.
13 Aug 2013	Collision of train 752 with an object between Hönigsberg Halt and Mürzzuschlag station
15 Aug 2013	Runaway high-throughput track relaying train in Spittal am Millstättersee station
15 Aug 2013	Derailement of train 61032 in Linz marshalling yard
20 Aug 2013	Runaway vehicle on the Ortmann connecting railway
20 Sep 2013	Collision of train 867 with rails in Telfs Pfaffenhofen station
08 Oct 2013	Passenger falling from train 1940 close to Amstetten station
11 Nov 2013	Faulty signalling in Niklasdorf station
22 Nov 2013	Collision of train 5022 with vehicle components
25 Nov 2013	Unauthorised passing of a signal at danger in Ludesch station

#### 11.5 Safety recommendations (made in 2013)

See Appendix 1

## 12 2013 occurrence statistics (SUB-Rail)

### 12.1 Occurrences reported

	Number				
	All railways	Connected railways	Non-connected railways	Connecting railways	Metros
Total occurrences	1693	1476	33	106	78
• of which accidents	1060	883	28	101	48
• of which incidents	633	593	5	5	30

### 12.2 Reported accidents by accident type

		Connected railways	Non-connected railways	Connecting railways	Metros
Collision between trains	300	299	-	-	1
Collision during shunting/trip working on branch lines	85	45	-	40	-
Train derailment	14	10	4	-	-
Derailment during shunting/trip working on branch lines	106	62	-	42	2
Accidents at level crossings	157	120	22	15	-
Loss and damage during the carriage of hazardous goods	23	23	-	-	-
Injury/death of persons caused by rail vehicles	44	32	2	1	9
Injury/death of persons caused by other accidents	26	20	-	1	5
Fires/explosions, vehicles	40	35	-	1	4
Fires/explosions, infrastructure	143	132	-	1	10
Suicide/attempted suicide	122	105	-	-	17

### 12.3 Reported serious accidents by accident type (Directive 2004/49/EC, UUG 2005)

	Number				
	All railways	Connected railways	Non-connected railways	Connecting railways	Metros
Collision between trains	2	2	-	-	-
Collision during shunting/trip working on branch lines	-	-	-	-	-
Train derailment	1	1	-	-	-
Derailment during shunting/trip working on branch lines	-	-	-	-	-
Accidents at level crossings	16	15	1	-	-
Loss and damage during the carriage of hazardous goods	7	6	-	-	1
Injury/death of persons caused by rail vehicles	2	2	-	-	-

### 12.4 Reported significant accidents by accident type (Directive 2009/149/EC CSI)

Total occurrences					
	All railways	Connected railways	Non-connected railways	Connecting railways	Metros
Collision between trains	4	4	-	-	-
Collision during shunting/trip working	-	-	-	-	-
Train derailment	1	1	-	-	-
Derailment during shunting/trip working	-	-	-	-	-
Accidents at level crossings	41	37	2	2	-
Loss and damage during the carriage of hazardous goods	34	27	-	-	7
Injury/death of persons caused by rail vehicles	15	12	-	-	3

## 12.5 Reported incidents by incident type

	Number				
	All railways	Connected railways	Non-connected railways	Connecting railways	Metros
Unauthorised passing of a signal by a train	32	32	-	-	-
Unauthorised passing of a signal during shunting/trip working	35	33	-	2	-
Unauthorised movement into occupied track sections	4	4	-	-	-
Unauthorised movement into or out of a station, faulty signalling	3	3	-	-	-
Driving without being instructed to do so or without authorisation	20	19	1	-	-
Runaway rail vehicles	14	11	-	3	-
Technical defects in equipment and rail vehicles	254	244	-	-	10
Train dividing	87	87	-	-	-
Incorrect loading/securing of load	49	49	-	-	-
Endangering safe operation as a result of the disregard of railway regulations	35	30	3	-	2
Movement of passing trains endangering persons during work in the track area	4	4	-	-	-
Failure to secure level crossings	46	45	1	-	-
Road vehicles entering level crossings in the process of closing	-	-	-	-	-
Unauthorised access to railway installations	19	1	-	-	18
Other incidents	31	31	-	-	-

## 12.6 Accidents to persons (excluding suicide)

	Number				
	All railways	Connected railways	Non-connected railways	Connecting railways	Metros
Fatalities	30	28	1	-	1
Seriously injured persons	83	68	4	2	9
Persons with minor injuries	90	76	7	4	3

## 12.7 Fatalities by category of accident (excluding suicide)

	Number				
	All railways	Connected railways	Non-connected railways	Connecting railways	Metros
Collision between trains	2	2	-	-	-
Accidents at level crossings	18	17	1	-	-
Injury / death of persons caused by rail vehicles	8	7	-	-	1
Injury / death of persons caused by other accidents	2	2	-	-	-

## 12.8 Seriously injured persons, by accident type

	Number				
	All railways	Connected railways	Non-connected railways	Connecting railways	Metros
Collision between trains	11	11	-	-	-
Accidents at level crossings	31	25	4	2	-
Injury/death of persons caused by rail vehicles	28	22	-	-	6
Injury/death of persons caused by other accidents	13	10	-	-	3

## 12.9 Persons suffering minor injuries, by accident type

	Number				
	All railways	Connected railways	Non-connected railways	Connecting railways	Metros
Collision between trains	21	21	-	-	-
Collision during shunting/trip working	1	-	-	1	-
Accidents at level crossings	47	40	5	2	-
Injury/death of persons caused by rail vehicles	11	7	2	1	1
Injury /death of persons caused by other accidents	9	7	-	-	2
Fires and explosion in vehicles	1	1	-	-	-

## 12.10 Fatalities by categories of persons (excluding suicide)

	Number				
	All railways	Connected railways	Non-connected railways	Connecting railways	Metros
Passengers	-	-	-	-	-
Members of staff	5	5	-	-	-
Level crossing users	18	17	1	-	-
Others	3	2	-	-	1
Unauthorised persons	4	4	-	-	-

## 12.11 Seriously injured persons, by category of person

	Number				
	All railways	Connected railways	Non-connected railways	Connecting railways	Metros
Passengers	16	13	-	-	3
Members of staff	19	17	-	1	1
Level crossing users	30	25	4	1	-
Others	7	2	-	-	5
Unauthorised persons	11	11	-	-	-

## 12.12 Persons suffering minor injuries, by category of person

	Number				
	All railways	Connected railways	Non-connected railways	Connecting railways	Metros
Passengers	35	30	2	-	3
Members of staff	8	6	-	2	-
Level crossing users	44	39	4	1	-
Others	2	1	-	1	-
Unauthorised persons	1	-	1	-	-



## 12.13 Suicide and attempted suicide

	Number				
	All railways	Connected railways	Non-connected railways	Connecting railways	Metros
Death by suicide	107	99	-	-	8
Attempted suicide – seriously injured	9	5	-	-	4
Attempted suicide – no injuries	-	-	-	-	6

## 12.14 Accidents on level crossings

	Number
Total accidents	157
• of which on crossings with full protection (lights, barriers)	71
• of which on crossings without full protection (visibility, acoustic signals)	86

## 12.15 Accidents on level crossings – accidents to persons

	Number
Deaths (excluding suicide)	18
Serious injuries	30
Minor injuries	44

## 12.16 Accidents on level crossings – users

	Number
Cars	122
Lorries	13
Buses	1
Utility vehicles and agricultural vehicles	5
Two-wheel motorised vehicles	1
Bicycle	4
Pedestrians	11

## 12.17 Number of level crossings

	Number
Total (excluding private level crossings)	4084
• of which on crossings with full protection (lights, barriers)	1815
• of which on crossings without full protection (visibility, acoustic signals)	2269
Private level crossings	1721

## Appendix 1 – Safety recommendations (SUB-Rail)

The safety recommendations are in the order of their being made (publication of the investigation report) and not in date of the event order.

	Occurrence
04 Jun 2012	<p><b>Derailment of train 44213 in Bressanone/Brixen station</b></p> <p><b>A-2013/001</b> Investigate whether the details for wheelsets necessary in accordance with the provisions of Annex F (informative) of EN 13260 should be recorded in the data for traceability of wheelset maintenance for wagon wheelsets.</p> <p><b>Measure</b> <i>There is currently no information available on the start or completion of the implementation of the measures.</i></p> <p><b>A-2013/002</b> Investigate whether the informative Annexes C, D, E and F must be normative annexes.</p> <p><b>Measure</b> <i>There is currently no information available on the start or completion of the implementation of the measures.</i></p> <p><b>A-2013/003</b> Ensure that the national safety authority within bmvit is informed of the action taken so that it can meet its international obligations.</p> <p><b>Measure</b> <i>There is currently no information available on the start or completion of the implementation of the measures.</i></p> <p><b>A 2013/004</b> Investigate whether EN ISO 9001 is applied adequately in the railway industry.</p> <p><b>Measure</b> <i>There is currently no information available on the start or completion of the implementation of the measures.</i></p>
19 Nov 2012	<p><b>Collision of train 7023 with a car on a level crossing in the Mühling area</b></p> <p><b>A-2013/005</b> Ensure that the level crossing at km 13,985 is urgently assessed in accordance with Article 103 para. 1 Level Crossing Regulation 2012 in doing so attention is to be paid to buildings and vegetation in the area in which building is banned.</p> <p><b>Measure</b> <i>The province of Lower Austria is responsible. There is currently no information available on the start or completion of the implementation of the measures.</i></p>
08 Dec 2012	<p><b>Collision of train 4627 with a car on a level crossing in Winzendorf</b></p> <p><b>A-2013/006</b> Hold special briefing events on site covering level crossings in general and the behaviour of road users in particular (for example, in the community, in schools, at the crossing itself, etc).</p> <p><b>Measure</b> <i>The province of Lower Austria is responsible. There is currently no information available on the start or completion of the implementation of the measures.</i></p>

08 Dec 2012	<p><b>Collision of train 4627 with a car on a level crossing in Winzendorf (Continuation)</b></p> <p><b>A-2013/007</b> Train members of law and order forces on behaviour around level crossings which complies with the Road Traffic Regulations 1960 [Straßenverkehrsordnung] in conjunction with the Level Crossing Regulation 2012 [Eisenbahn-Kreuzungsverordnung] and the law and order force's focussed action campaign on site at the crossing.</p> <p><b>Measure</b> <i>The Federal Ministry of the Interior [BMI] is responsible. There is currently no information available on the start or completion of the implementation of the measures.</i></p> <p><b>A-2013/008</b> Investigate whether a camera to monitor the behaviour of road users when the level crossing lights indicate 'stop' is necessary.</p> <p><b>Measure</b> <i>The province of Lower Austria is responsible. There is currently no information available on the start or completion of the implementation of the measures.</i></p> <p><b>A-2013/009</b> Investigate whether road marking to indicate conflict areas in accordance with the EPIDUS study must be incorporated in the Road Marking Regulation.</p> <p><b>Measure</b> <i>These safety recommendations were passed to the road section in the bmvit. There is currently no information available on the start or completion of the implementation of the measures.</i></p>
26 Jun 2012	<p><b>Collision of train 8716 with a car on the Murtalbahn</b></p> <p><b>A-2013/010</b> Eliminate inconsistencies in kilometrage in the book timetable and investigate and reduce changes in permitted speeds in the book timetable.</p> <p><b>Measure</b> <i>There is currently no information available on the start or completion of the implementation of the measures.</i></p> <p><b>A-2013/011</b> Railway organisation or competent railway authority to investigate a sample of permitted speeds.</p> <p><b>Measure</b> <i>There is currently no information available on the start or completion of the implementation of the measures.</i></p> <p><b>A-2013/012</b> Evaluate the level crossing against the provisions of the Level Crossing Regulation 2012 [Eisenbahn-Kreuzungsverordnung]</p> <p><b>Measure</b> <i>There is currently no information available on the start or completion of the implementation of the measures.</i></p>
27 Jan 2013	<p><b>Shunting collision in Wien Westbahnhof station</b></p> <p><b>A-2013/013</b> It is recommended that the review of shunting is extended to include keeping to permitted speeds and respecting the standardised provisions. In this respect the permitted speed for shunting in Wien Westbahnhof in the signalbox 2 and switch post 1 areas should generally be limited to a maximum of 25 km/h (even when a 'route clear' indication is required).</p> <p><b>Measure</b> <i>There is currently no information available on the start or completion of the implementation of the measures.</i></p>

<p>16 Sept 2012</p>	<p><b>Derailment of train 7392 between Wetzleinsdorf and Ernstbrunn stations</b></p> <p><b>A-2013/014</b> Ensure that the restriction of the cant permitted in curves in the Railway Construction and Operation Regulations [Eisenbahnbau- und -betriebsverordnung] is aligned with the Swiss rules and EN 13803-1 (based on ORE B55/RP 8).</p> <p><b>Measure</b> <i>Implementation not planned.</i></p> <p><i>Justification: the Railway Construction and Operation Regulations simply lay down some less important benchmarks for the technical aspects of railways. For cant this is the highest value which may be encountered under operating conditions. Detailed regulation of the standards that have been developed over the last few years for technical aspects of railways at national regulatory level was not considered to be sensible because it could give rise to duplication of regulation (and in the long term to deviating regulations). Instead, the current proposal is to supplement the relevant part of the regulation when undertaking the next update in such a way that cant is laid down as a function of the state-of-the-art. Consideration is being given to pointing out in the explanatory notes on the Railway Construction and Operation Regulations that the state-of-the-art refers particularly to ÖNORM EN 13803-1 so as to draw attention to the relevant technical standards. The adoption of a requirement to observe a particular regulation (for example, the Swiss regulations and EN 13803-1 (based on ORE B55/RP 8) as contained in the safety recommendation) in the text of the Railway Construction and Operation Regulations would mean that the appropriate regulation would also need to be included in the Railway Construction and Operation Regulations for legal reasons, but that is not planned currently.</i></p> <p><b>A-2013/015</b> The cant on curves on existing sections of line should be aligned to the rules in EN 13803-1 (based on ORE B55/RP 8) when work is being done on those sections of line.</p> <p><b>Measure</b> <i>Implementation not planned.</i></p> <p><i>Justification: the ORE criteria assume that infrastructure layouts will remain over the long term. On comparably aligned tracks there have been no derailments: in some cases these alignments have been the same for the past 150 or so years.</i></p> <p><b>A-2013/016</b> Ensure that the infrastructure manager's rules for cant on curves of low radius limit cant in line with the rules in EN 13803-1 (based on ORE B55/RP 8).</p> <p><b>Measure</b> <i>Implementation not planned.</i></p> <p><i>Justification: the ORE criteria provide for availability of infrastructure facilities over the long term. On comparably aligned tracks there have been no derailments: in some cases these alignments have been the same for the past 150 or so years.</i></p> <p><b>A-2013/017</b> Ensure that the interface between rails with a low side-wear to ones with a high side-wear at welded joints is covered in a rule book. .</p> <p><b>Measure</b> <i>Implementation not planned.</i></p> <p><i>Justification: the ÖBB regulations provide for and ensure the creation of a transition which is as smooth as is possible.</i></p>
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16 Sept 2012	<p><b>Derailment of train 7392 between Wetzleinsdorf and Ernstbrunn stations (Continuation)</b></p> <p><b>A-2013/018</b> Ensure that curves with a radius <math>r &lt; 175</math> m are equipped with a checkrail if no permanent rail-side lubrication device is fitted.</p> <p><b>Measure</b> <i>Implementation not planned.</i></p> <p><i>Justification: fixed lubrication devices do not increase the safety of rail operations but contribute to reducing wear and reducing noise levels on sharp curves. This equipment is not designed for such use.</i></p> <p><i>Check rails increase the risk of derailment since the loss of loads etc. can lead to movement because of the high centrifugal forces found in sharp curves. For that reason check rails are only fitted to curves under 100 m. Their role is just to protect the track from excessive wear. Figures for that application are not available.</i></p> <p><b>A-2013/019</b> Investigate if the permissible limits must be reduced where the layout has particular characteristics including a combination of defects in track geometry.</p> <p><b>Measure</b> <i>Implementation not planned.</i></p> <p><i>Justification: in accordance with the TSI the ÖBB has set up a maintenance plan which satisfies the current European standards. The draft policy on the combination of defects. being drawn up by the European standards bodies is being continuously monitored.</i></p> <p><b>A-2013/020</b> Ensure that deviations from the permitted rail profile are shown in the lists of defects.</p> <p><b>Measure</b> <i>Implementation not planned.</i></p> <p><i>Justification: wear on the top and on the sides and other values are measured in accordance with the maintenance plan, documented and action taken.</i></p> <p><b>A-2013/021</b> Investigate if the limiting values for gauge widening in transition curves and the shape of the transition must be covered in the regulations.</p> <p><b>Measure</b> <i>Implementation not planned.</i></p> <p><i>Justification: gauge widening in transition curves is checked and maintained in accordance with ÖBB regulations. In the case in point the gauge was significantly within permitted limits.</i></p> <p><b>A-2013/022</b> Ensure that the details in the wagon list are in the actual order of the wagons in the train.</p> <p><b>Measure</b> <i>There is currently no information available on the start or completion of the implementation of the measures.</i></p> <p><b>A-2013/023</b> Ensure that locomotives and power cars are marked with the signs and markings necessary for operation, maintenance and employee safety.</p> <p><b>Measure</b> <i>There is currently no information available on the start or completion of the implementation of the measures.</i></p>
26 Apr 2012	<p><b>Derailment of train 54049 in Vienna Central marshalling yard [Wien Zentralverschiebebahnhof]</b></p> <p><b>A-2013/024</b> Investigate whether the condition of the switches requires a reduction in the inspection interval (including documentation) to be implemented once an intervention limit has been reached.</p> <p><b>Measure</b> <i>Regulation 06.01.01 (formerly 'DB IS 2')) is currently being revised to take account of inspection intervals, limiting values and action.</i></p>

26 Apr 2012	<p><b>Derailment of train 54049 in Vienna Central marshalling yard (Continuation)</b></p> <p><b>A-2013/025</b> Ensure that overloading of wagons is prevented by more intensive checks.</p> <p><b>Measure</b> <i>When doing their checks ÖBB-Infrastruktur AG detect overloading, insofar as it can be picked up visually (for example, wagon springs) and take appropriate immediate action.</i></p> <p><i>An increase in ÖBB-Infrastruktur AG staff in the second half of 2013 is planned and this will allow the number of checks to be increased appropriately. The train running checkpoints check trains inter alia for excess axle load. In principle, the railway undertaking in question is responsible for loading.</i></p> <p><i>Ongoing check weighing with subsequent action and monitoring of results is undertaken by the railway undertaking. In addition, appropriate information is supplied to the railway undertakings technical staff concentrating on pointing out possible overloading of wagons.</i></p> <p><b>A-2013/026</b> investigate whether a white cross should be marked on the axles of wagons which have been loaded above the maximum load in accordance with point 2 of Annex 8 to Appendix 9 to the General contract of use for wagons (dimensions, paint quality, ...)</p> <p><b>Measure</b> <i>Implementation not planned.</i></p> <p><i>Justification: this topic was raised in a discussion with some representatives of the GCU. They declined however to take the issue further.</i></p>
26 Feb 2011	<p><b>Collision of two shunting movements on a connecting railway in Enns station (closed investigation reopened)</b></p> <p><b>A-2013/027</b> When planning shunting movements, investigate to what extent provision should be made in the requirements of Article 11 para. 1 of the infrastructure managers' operating regulations to require an understanding by the head shunter of those circumstances that go beyond local circumstances.</p> <p><b>Measure</b> <i>There is currently no information available on the start or completion of the implementation of the measures.</i></p> <p><b>A-2013/028</b> Investigate to what extent the provisions of Article 14 para. 1 of the infrastructure manager's operating regulations are to include minimum requirements for the communication between the head shunter and the pointsman/signaller responsible for the location.</p> <p><b>Measure</b> <i>There is currently no information available on the start or completion of the implementation of the measures.</i></p> <p><b>A-2013/029</b> Ensure that the guidelines contained in the provisions of Article 4 Austrian Employee Protection Act [ArbeitnehmerInnenschutzgesetz] ASchG referring to an evaluation of possible hazards are implemented appropriately.</p> <p><b>Measure</b> <i>There is currently no information available on the start or completion of the implementation of the measures.</i></p> <p><b>A-2013/030</b> Ensure that the obligations laid down by the provisions of Article 37 para. 1 Austrian Employee Protection Act taken with Article 38 Railway Employee Protection Regulation [Eisenbahn-ArbeitnehmerInnenschutzverordnung] EIsbAV and the provisions of Article 38, para. 3 EIsbAV on checking the tools and equipment provided to take account of the environment and conditions of use are implemented and documented appropriately.</p> <p><b>Measure</b> <i>There is currently no information available on the start or completion of the implementation of the measures.</i></p>

26 Feb 2011	<p><b>Collision of two shunting movements on a connecting railway in Enns station (closed investigation reopened) (Continuation)</b></p> <p><b>A-2013/031</b> Ensure that the existing obligation to coordinate activities in accordance with the provisions of Article 8 Austrian Employee Protection Act ASchG are implemented to the extent appropriate.</p> <p><b>Measure</b> <i>There is currently no information available on the start or completion of the implementation of the measures.</i></p> <p><b>A-2013/032</b> It is urgently recommended to shorten the protected section after the VA shunting signal to a level acceptable for good operating practice based on operational needs.</p> <p><b>Measure</b> <i>There is currently no information available on the start or completion of the implementation of the measures.</i></p>
16 Jan 2013	<p><b>Collision of train 278 with a shunting movement in Peggau-Deutschfeistritz station</b></p> <p><b>A-2013/033</b> Investigate the station's operating location description for its operational appropriateness (for train movements from Übelbach via Peggau-Deutschfeistritz to Graz Hbf).</p> <p><b>Measure</b> <i>Implementation not planned.</i></p> <p><i>Justification: the current layout of infrastructure in Peggau-Deutschfeistritz station does not permit through traffic as a train movement along the Übelbach - Peggau-Deutschfeistritz – Graz route. The rules currently included in the station's operating location description respect the current standards in accordance with the DV V3 and are aligned with those of the neighbouring StLB as infrastructure manager.</i></p> <p><b>A-2013/034</b> Carry out a study into the positioning of ancillary signal 'Sch6' in the station.</p> <p><b>Measure</b> <i>Implementation not planned.</i></p> <p><i>Justification: A site meeting was held to discuss the positioning of ancillary signal 'Sch6' in Peggau-Deutschfeistritz station. The visibility of the red aspect of ancillary signal 'Sch6' was checked under day and night conditions and its visibility judged to be GOOD.</i></p> <p><b>A-2013/035</b> Investigate whether a protection signal should be installed to replace shunting signal 'V33'.</p> <p><b>Measure</b> <i>Implementation not planned.</i></p> <p><i>Justification: this situation will be fundamentally changed as a result of the ongoing rebuilding of the station (before 2015) so that this type of crossing movement will no longer be necessary. In the short term, it has been laid down in service instruction No 1 Peggau-Deutschfeistritz to operate safety installations such that shunting signal V 33 may only be put in the shunting prohibition lifted position after ancillary signal 'Sch6' has been put in the shunting prohibition lifted position.</i></p> <p><b>A-2013/036</b> Investigate whether the service instruction from the infrastructure manager dated 17 January 2013 and the subsequent instruction from the railway undertaking is to be noted and implemented by Peggau-Deutschfeistritz station alone.</p> <p><b>Measure</b> <i>Implementation not planned.</i></p> <p><i>Justification: service instruction No 1 Peggau-Deutschfeistritz is directed exclusively to the signallers (IM). The StLB service instruction is independent of it.</i></p>



16 Jan 2013	<p><b>Collision of train 278 with a shunting movement in Peggau-Deutschfeistritz station (Continuation)</b></p> <p><b>A-2013/037</b> Investigate whether the construction of a cross-over between tracks 6 and 2 south of platforms 2 and 3 would avoid the need for back and forth shunting movements.</p> <p><b>Measure</b> <i>This link will be created when the electronic signal box at Peggau-Deutschfeistritz is brought into service (probably 2015).</i></p> <p><b>A-2013/038</b> Ensure that the arrival times for train 1 are reconciled in timetable documents.</p> <p><b>Measure</b> <i>Has already been implemented in the timetable documents for which ÖBB-Infrastruktur is responsible (book timetable leaflet 450, train list for station staff) and the arrival and departure timetables for Peggau-Deutschfeistritz station. The times for train 8791 are consistently shown as 05:45 and 05:50. The arrival time for train 8791 shows the time at which the train 8791 reaches the end of the entry track (running signal track 6s). When considering the time shown for train 8791 of 05:49 in the StLB book timetable it is to be noted that ÖBB-Infrastruktur is responsible for path allocation for Peggau-Deutschfeistritz station and the times of 05:45 and 05:50 for train 8791 have been allocated and laid down. Accordingly, in our view the safety recommendation should be addressed to the StLB as a railway undertaking.</i></p> <p><b>A-2013/039</b> Ensure that the data used for brake weight and train composition correspond with those stored in the infrastructure manager's vehicle data base.</p> <p><b>Measure</b> <i>Contact with the manufacturer who is still the owner of the multiple units. In question to clarify the issue. The braking report was sent to the ÖBB-Infrastruktur AG staff member responsible for maintaining the data in the vehicle database on 26 July 2013 by e-mail.</i></p> <p><b>A-2013/040:</b> Ensure that the brake weights marked on vehicles correspond to those stored in the infrastructure manager's vehicle data base.</p> <p><b>Measure</b> <i>Contact with the manufacturer who is still the owner of the multiple units. In question to clarify the issue. The braking data marked on the vehicle corresponds to the braking report, which was sent to the ÖBB for input into the vehicle database. The report by a person registered in accordance with Article 40 EisebG confirms the values given in the manufacturer's braking report. The markings in the cabs were aligned on 9 October 2013.</i></p> <p><b>A-2013/041</b> Ensure that the algorithm used to calculate the brake percentage available in the wagon list produces a result that is mathematically plausible.</p> <p><b>Measure</b> <i>Contact with the manufacturer who is still the owner of the multiple units. In question to clarify the issue. We have no influence on the underlying algorithm in the ÖBB-Infrastruktur AG database or on the formulae used for calculation.</i></p>
29 July 2013	<p><b>Collision of a runaway wagon with a car in Wieselburg an der Erlauf</b></p> <p><b>A-2013/042</b> Ensure that no unapproved means to secure stationary vehicles (for example, lockable chocks) are used for operating purposes.</p> <p><b>Measure</b> <i>Internal controls by regional management ensure that no unapproved means to secure vehicles are used for operating purposes. This opportunity has been taken by the functional management to point out to regional management the need to pay particular attention to the use of securing means in accordance with the regulations.</i></p>



29 July 2013	<p><b>Collision of a runaway wagon with a car in Wieselburg an der Erlauf (Continuation)</b></p> <p><b>A-2013/043</b> Ensure that the provisions of the Level Crossing Regulation [EisbKrV] 2012 covering the possible temporary suspension of level crossing protection and the use of alternative protection are implemented to the extent necessary.</p> <p><b>Measure</b> <i>If level crossing protection equipment needs to be temporarily taken out of service because of engineering work, the procedures laid down in ZSB 4 Article 7 are to be followed. If the position of the level crossing protection equipment in the worksite means that using the level crossing protection equipment is not possible or foreseeable, closure of the level crossing to road traffic may be considered. If the level crossing must be used unexpectedly (not planned), the procedures laid down in EisbKrV 2012 Article 95 (action to be taken in the event of disruption), and in ZSB 4 Article 6 are to be followed. In DB 601.02 provisions for the Operating and works notice cover the regulations necessary to secure and operate the level crossing protection equipment. In every case the requirements must be considered (in particular when planning, engineering work) and hence the action necessary decided.</i></p> <p><b>A-2013/044</b> Investigate whether sections of line that are not linked to an operations centre should be monitored by authorised monitoring offices (operations controller) in respect of operating matters (including engineering work).</p> <p><b>Measure</b> <i>The control and supervision of operations is coordinated independently of the involvement of an operating control centre in accordance with the guidelines of the safety management system; firstly through the regional management of the function and secondly, through the control activities of the operating supervision groups and technical monitoring of the operations control..</i></p> <p><b>A-2013/045</b> Ensure that the term 'lockable slippers/chocks' is replaced by the term 'lockable slippers' in point 2.9.1 'Securing of rail vehicles' in ÖBB 40.</p> <p><b>Measure</b> <i>A written notice is being used to amend ÖBB 40 point 2.9.</i></p> <p><b>A-2013/046</b> Ensure that the term 'lockable slippers/chocks' is replaced by the term 'lockable slippers' in point 2.9.1 (relating to point 2.9 of ÖBB 40) in 'Securing of rail vehicles' in publication 'R8' on employee protection law.</p> <p><b>Measure</b> <i>There is currently no information available on the start or completion of the implementation of the measures.</i></p> <p><b>A-2013/047</b> Investigate whether the deletion of 'lockable chocks' in special cases in para. 3b of Article 89 of ÖBB Operating Regulations DV V3 'Permissible consignments on sections of line' is compatible with Article 18 para. 2.</p> <p><b>Measure</b> <i>Section loading is only just intended for commercial purposes and has nothing in common with engineering work (line closures and/ or work on the track). Currently there is only one planned section loading on the ÖBB-Infrastruktur AG network (in a set of implementing provisions). It is correct that lockable slippers have no keys within the normal meaning of the word. The deletion of 'lockable chocks' in Article 89 of the DV V3 is currently being examined.</i></p> <p><b>A-2013/048</b> Investigate whether the gradient values given in the explanatory notes 06/2006 for implementation of DV V3 Article 18 paragraphs 2,4, and 5 'Securing of stationary vehicles' must be changed (for example '2.5 – 5 %' to '2.5 – 5 ‰' on page 20)</p> <p><b>Measure</b> <i>This printing error was corrected on 20 August 2013; the correct figures are 2.5 – 5 ‰.</i></p>
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<p>14 Apr 2012</p>	<p><b>Collision of a freight train with a shunting movement</b></p> <p><b>A-2013/049</b></p> <p>Shunting staff should only acquire and reinforce their local knowledge from instruction by a railway undertaking in conjunction with the infrastructure manager. Ensure that the instruction takes account of the size of the location and any peculiarities. To acquire local knowledge of shunting briefing visits and a shift with instruction by staff of a railway undertaking familiar with the site should be regarded as essential (exceptions for sites with simple operations).</p> <p>In this connection it is also recommended that the provisions in the infrastructure manager's operating regulations, supplement 16, on the local knowledge of shunting staff be examined and aligned. In accordance with the infrastructure manager's operating regulations, supplement 16 Article 42 briefing visits as necessary conducted by a staff member familiar with the site are essential to become aware of local circumstances. Nevertheless to re-acquire local knowledge in accordance with the infrastructure manager's operating regulations, supplement 16 Article 45 para 1, a suitable shift should be spent under the supervision of a shunter familiar with local circumstances.</p> <p><b>Measure</b></p> <p><i>ÖBB ZSB 16 is currently being aligned. .</i></p> <p><i>Note: the acquisition and re-acquisition of local knowledge is considered in ZSB 16 but is not explicitly allocated to the infrastructure manager or to a railway undertaking. Article 41 (1) of ZSB 16 (concept of local knowledge for shunting staff) sets down a general requirement for fixed signals to be observed. We do not believe that extension of the general guidelines would be productive since the extent and activities vary from site to site. The employer railway undertaking is responsible for ensuring that local knowledge is passed on to staff members. In this connection ÖBB Infrastruktur will supply staff familiar with the location on request by a railway undertaking.</i></p>
<p>22 Aug 2012</p>	<p><b>Shunting derailment in Graz marshalling yard</b></p> <p><b>A-2013/050</b></p> <p>Investigate whether appropriate expertise must be employed to assess the requirements for wheelsets passing through a retarder which just operates on one wheel.</p> <p><b>Measure</b></p> <p><i>There is currently no information available on the start or completion of the implementation of the measures.</i></p> <p><b>A-2013/051</b></p> <p>Investigate whether EN 13103 will suffice to calculate the requirements which wheelsets have to satisfy to pass through a retarder which just operates on one wheel.</p> <p><b>Measure</b></p> <p><i>There is currently no information available on the start or completion of the implementation of the measures.</i></p> <p><b>A-2013/052</b></p> <p>Investigate whether EN 13103 will suffice to calculate the requirements for wheel centres on a retarder which just operates on one wheel.</p> <p><b>Measure</b></p> <p><i>There is currently no information available on the start or completion of the implementation of the measures.</i></p> <p><b>A-2013/053</b></p> <p>Ensure that wagons with wheelsets with a running surface which does not comply with the rules are not braked in retarder installations.</p> <p><b>Measure</b></p> <p><i>Implementation not planned.</i></p> <p><i>Justification: the GCU specifies that checking the breadth of the wheel tyre is the responsibility of the railway undertaking. In accordance with GCU points 1.3.1.1 and 1.3.1.2 excess non-permitted projections are to be checked and if necessary the wagon is to be detached. That applies to tyres or monobloc wheels where the width exceeds 140mm. ÖBB-Infrastruktur AG's BL-FT-TUE (Technical Monitoring) makes sample checks of wheel projections. The maximum setting on the retarder is set up</i></p>

	so that permissible projections do not lead to derailments (something which must be taken account of when planning the layout).
22 Aug 2012	<p><b>Shunting derailment in Graz marshalling yard (Continuation)</b></p> <p><b>A-2013/054</b></p> <p>Investigate whether the highest permitted value of 5 mm for projections in accordance with point 6.2.2.3 of EN 13103 is permissible.</p> <p><b>Measure</b></p> <p><i>There is currently no information available on the start or completion of the implementation of the measures.</i></p>
10 Dec 2012	<p><b>Ballast eddy from ice build up in Pöchlarn station</b></p> <p><b>A-2013/055</b></p> <p>To guarantee its stability, ballast in areas where the bed of ballast cannot be guaranteed to be deeper than about 4 cm below the top of sleepers should be permanently bonded with ballast bonding agents.</p> <p><b>Measure</b></p> <p><i>The bmvit has expressed the view that in principle it is the role of the infrastructure manager to say which measures and alternative measures (also see point 7.4 - measures for the infrastructure manager to take) would ensure safer railway operations. From the technical viewpoint the priority is to ensure a ballast profile which conforms with the rules in point 9 RVE 05.00.02 and. ZOV 4 (on sections with <math>v_{max} \geq 200</math> km/h the ballast depth between the sleepers should be between 4 and 5 cm below the top of the sleepers to avoid the danger of ballast eddies). In our view bonding of the ballast is not the best solution taking account of disadvantages in the potential for drainage and for maintenance.</i></p> <p><i>In order to ensure the stability of ballast ÖBB-Infrastruktur AG is not adopting the approach recommended in the safety recommendation - 'permanent bonding of the ballast with ballast bonding agents' but lowering of ballast in the spaces between the sleepers on lines affected. We are expecting just as good results. Implementation has largely been achieved and will probably be finished in 2014.</i></p> <p><b>A-2013/056</b></p> <p>As far as possible ensure that build-up of snow and ice on vehicles is avoided (for example, by underfloor cleaning, stabling in heated sheds and so on).</p> <p><b>Measure</b></p> <p><i>Implementation not planned.</i></p> <p><i>Justification: ÖBB-Personenverkehr AG has neither sheds for defrosting nor does the service plan for shuttle trains allow time for defrosting work. The existing passenger traffic notice on ballast eddies and preventative action is being expanded.</i></p> <p><b>A-2013/057</b></p> <p>Instruction BL-STA-00003-000020-12 'Action to be taken with falling ice and ballast eddies' in point 7.4 of the investigation report is emphatically to be taken into account as a safety relevant instruction to ensure the safety of operations. Whether this instruction as well as existing further instructions on this subject should be subject to an official approval process in accordance with Article 21a para. 3 should be investigated.</p> <p><b>Measure</b></p> <p><i>Implementation not planned.</i></p> <p><i>The bmvit has expressed the view that it was laid down on 13 January 2011 that all railway organisations in Austria must take appropriate action in certain weather conditions; the instruction of 13 January 2011 was replaced by an updated instruction on 19 November 2013.</i></p> <p><i>ÖBB-Infrastruktur AG has expressed the view that despite the safety related provisions the issue is essentially about organisational processes. The action taken by staff to issue the instructions and staff observance of rules is covered in staff instructions already approved in accordance with Article 21a para. 3 EisebG. There is no need for approval by the authorities.</i></p>

<p>28 Sept 2012</p>	<p><b>Derailment of train 540 in Vienna West station [Wien Westbahnhof]</b></p> <p><b>A-2013/058</b>                      Ensure that the resolution of faults in safety-technical equipment is managed without delays in the process.</p> <p><b>Measure</b>  <i>There is currently no information available on the start or completion of the implementation of the measures.</i></p> <p><b>A-2013/059</b>                      Investigate the current operating and safety-technical procedure for resuming operations when making a smooth recovery from a disruptive fault in safety-technical equipment; taking account of any new issues revealed as necessary.</p> <p><b>Measure</b>  <i>There is currently no information available on the start or completion of the implementation of the measures.</i></p> <p><b>A-2013/060</b>                      Investigate to what extent equipment recording signalling staff activities is able to classify staff activities on safety-technical equipment requiring recording unambiguously.</p> <p><b>Measure</b>  <i>There is currently no information available on the start or completion of the implementation of the measures.</i></p>
<p>09 Dec 2012</p>	<p><b>Fault in the external doors of train 9509 in the Tullnerfeld station area</b></p> <p><b>A-2013/061</b>                      Ensure that the rolling stock of train 1 complies with the TSI HS RST and the applicable (EN) rules.</p> <p><b>Measure</b>  <i>Implementation not planned.</i></p> <p><i>Justification: the technical file which was the basis for the approval of the rolling stock contains the notified body's EC certificates of conformity and the examination and evaluation reports on the various TSI characteristics. Topics 4.2.6.2 'Train dynamic loads in open air' and 4.2.6.4 'Maximum pressure variations in tunnels' [translator's note: para. number corrected] are considered on pages 172-186 and it was confirmed that they are satisfied. An expert report is also included.</i></p> <p><b>A-2013/062</b>                      Ensure that the rolling stock of train 1 will withstand a meet with vehicles which exceed the normal loading gauge without sustaining damage.</p> <p><b>Measure</b>  <i>The guarantees required are currently being produced.</i></p> <p><b>A-2013/063</b>                      Investigate whether vehicles which have not undergone an approval process in Austria must undergo an official examination appropriate to their use and to compatibility with the [Austrian] network.</p> <p><b>Measure</b>  <i>Implementation not planned.</i></p> <p><i>Justification: to be approved to run on the ÖBB network the vehicles have successfully undergone the testing necessary to check their compatibility with the network. Approval by the authorities conflicts with Article 41 EisbG.</i></p>

<p>09 Dec 2012</p>	<p><b>Fault in the external doors of train 9509 in the Tullnerfeld station area (Continuation)</b></p> <p><b>A-2013/064</b></p> <p>Investigate whether the requirements for hermetic sealing of vehicles going beyond those in the TSI need to be laid down by the infrastructure manager where high-speed and conventional services operate together on high-speed lines.</p> <p><b>Measure</b></p> <p><i>Mixed traffic on high-speed lines at the same or higher speeds is to be found in several European states. This influenced both the TSI and the set of EN14067-x standards. Additional national demands are therefore neither possible legally (interoperability) nor can they be justified technically; they can only be introduced when the relevant European standards are revised. This safety recommendation can therefore only be satisfied over the long term, if at all. Issues that are purely those of comfort should be left to market regulation. This is illustrated in the TSI and in the European regulations (also see: the extent of the load is not exceptional and for trains passing through tunnels approximates to the pressure difference over a coach body). ÖBB-Infrastruktur AG set up a working group back in summer 2012 with an external expert which will consider the additional requirements on vehicles operating in mixed traffic with <math>v_{max} &gt; 160</math> km/h. An intermediate report on construction of tunnels for <math>&gt; 160</math> km/h traffic has therefore already been written. Here the tests reveal that no additional requirements going beyond the TSI are required in tunnels. This occurrence follows from the rebuild of doors of multiple unit class 4010, a modification which was not approved; after this occurrence they were returned to their previous condition.</i></p> <p><i>ÖBB-Infrastruktur AG final report (as at 25 August 2014)</i></p> <p><i>The working group finalised its results with a report on the aerodynamic effects of mixed traffic in tunnels on new railways (October 2013). This was taken as the basis for defining the aerodynamic requirements for vehicles with a maximum speed exceeding 160 km/h. Slightly higher values than those permitted in the TSI LOC&amp;PAS (unrestricted mixed traffic) were laid down for one of the three criteria for aerodynamic tests for vehicles with a maximum speed exceeding 160 km/h -pressure signature in tunnels. These values were published with effect from 1 December 2013 in regulatory document 50.02.01 (catalogue of requirements for multiple units). All vehicles intended for use at above 160 km/h on ÖBB satisfy this criterion or have an interoperability marking (RIC) to show that the vehicle is exempt from special testing. Trying to impose conditions for the operation of interoperable trains on interoperable sections of line contradicts the objective of interoperability.</i></p> <p><b>A-2013/065</b></p> <p>Investigate whether the guidelines for maintenance must be revised when the use to be made of the vehicles changes.</p> <p><b>Measure</b></p> <p><i>Maintenance data is continually aligned with operating experience and evaluated.</i></p> <p><b>A-2013/066</b></p> <p>Investigate whether the markings to identify hermetic sealing must be covered in standards.</p> <p><b>Measure</b></p> <p><i>The draft EN 15877-2 which sets the rules for this rolling stock is currently at the stage of final voting so the only action that railway undertakings can take is just to wait for its publication. Making changes will only be possible in 5 to 7 years (unless it is rejected, which seems unlikely).</i></p>
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09 Dec 2012	<p><b>Fault in the external doors of train 9509 in the Tullnerfeld station area (Continuation)</b></p> <p><b>A-2013/067</b> Investigate whether special requirements for hermetic sealing of rolling stock on high-speed lines with a high proportion of tunnels must be laid down in RIC Appendix 2 for country code 81.</p> <p><b>Measure</b> <i>Implementation not planned.</i></p> <p><i>Justification: it is to be noted that the vehicles involved were not RIC coaches. So the entries under causes of the accident and causes of the incident headings for this safety recommendation are to be disregarded. It contradicts the objective of interoperability and can therefore not be implemented; hence, an operator of an interoperable multiple unit should attempt to influence the rules for the exchange of coaches. He has accepted the extra costs of interoperability in order to run his trains on interoperable sections without restrictions.</i></p>
22 Sept 2012	<p><b>Derailment of train 42901 in Neulengbach station</b></p> <p><b>A-2013/068</b> Investigate whether a reduction in cant on track 1 and therefore in maximum permitted speed would reduce the risk of the derailment of wagons of the type in question with unsatisfactory loading.</p> <p><b>Measure</b> <i>Implementation not planned.</i></p> <p><i>Justification: freight trains run through the area in question with a maximum speed of 100 km/h. The track alignment and the state of repair of Neulengbach station do not conform to the standards. Because of the running characteristics of freight wagons of type 'Sggr' a track layout which goes considerably beyond the requirements of the standards must be created in the area in question. It should be pointed out again that an objective measurement of the running characteristics of the vehicles in question is to be regarded as essential.</i></p> <p><b>A-2013/069</b> Ensure adequate greasing of the running edge.</p> <p><b>Measure</b> <i>Implementation not planned.</i></p> <p><i>Justification: fixed lubrication devices help to reduce the wear and noise in tight curves. Because track alignment will be improved beyond the requirements of the standards, fitting a lubrication device is not technically necessary.</i></p> <p><b>A-2013/070</b> Clarify the part to be played by flange lubrication within the meaning of EN 15427 in the catalogue of requirements imposed on traction equipment for use on the infrastructure manager's network.</p> <p><b>Measure</b> <i>Implementation not planned.</i></p> <p><i>Justification: the lubrication effect is not provided by the passage of a single multiple unit but rather the totality of lubricating multiple units create a durable lubricating film on the side of the rail. Too little lubrication of the side of the rail was not the cause of this incident since several freight trains (i.e. their wagons) ran past the location without problems before the derailment. Sixteen wagons in the train in question ran past the location without derailing. The wagon that was derailed had only 20% of the total wagon weight on the leading (derailed) bogie.</i></p>



22 Sept 2012	<p><b>Derailment of train 42901 in Neulengbach station (Continuation)</b></p> <p><b>A-2013/071</b></p> <p>Investigate whether the relative tendency to roll (Z-axis) because of the resistance to twist (ct) defined in UIC 530-2 (originally for wagons with two bogies/wheelsets) of the two parts of the vehicle is adequate given the absence of freedom of movement defined in UIC 472.</p> <p><b>Measure</b></p> <p><i>There is currently no information available on the start or completion of the implementation of the measures.</i></p> <p><b>A-2013/072</b></p> <p>Investigate the authorisation of wagon type 'Sggrs'. In doing so ensure that in running round curves and the 1:3 relationship of the bogie running weights of the 'Sggrs' the two parts of the vehicle comply with the requirements for resistance to derailment on sections of line, which are not excluded by the TSI xx infra.</p> <p><b>Measure</b></p> <p><i>There is currently no information available on the start or completion of the implementation of the measures.</i></p> <p><b>A-2013/073</b></p> <p>Investigate whether the 1:3 relationship of the bogie running weights is permitted in all loading combinations in terms of point 3.3 of the loading tariff for articulated wagons.</p> <p><b>Measure</b></p> <p><i>Implementation not planned.</i></p> <p><i>Justification: point 3.3 of the loading tariff mentioned in safety recommendation A-2013/073 comes from the UIC loading guidelines which are decided and recognised internationally. Reviewing them does not come within the scope of railway undertaking activities.</i></p> <p><b>A-2013/074</b></p> <p>Investigate whether re-siting the level crossing at 38.273 would improve the line layout.</p> <p><b>Measure</b></p> <p><i>Implementation not planned</i></p> <p><i>Justification: resiting the level crossing in the immediate area is neither possible nor sensible since it would give rise to a less satisfactory alignment and profile (gradient, drainage, etc.). For that reason the layout is being modified. Only after completing the necessary ride quality measurements for the vehicles in question can it be decided if they may use track 5. .</i></p> <p><b>A-2013/075</b></p> <p>Ensure that the correction factor x ('kappa' factor taken from UIC leaflet 544-1 Appendix K2) is used when calculating the brake percentage for freight trains with a length of more than 500 m.</p> <p><b>Measure</b></p> <p><i>Implementation not planned.</i></p> <p><i>Justification: in the regulations currently approved by the authorities no account is taken of the 'kappa' factor (recommendation in UIC leaflet 544-1).</i></p> <p><i>Appendix T of the TSI-OPE regards the railway undertaking as being responsible for the creation of the braking performance. Currently section V of DV V3 is being approved by the authorities; it includes a reference to the general calculation of braking performance in train preparation.</i></p> <p><i>In section III of DV V3 'calculation of brake percentage' there is currently no further requirement for action since ÖBB-Infrastruktur AG as the network operator does not anticipate any nP trains exceeding 500m in domestic traffic. In future railway undertakings will have to implement the correction factor 'kappa' as necessary. This is currently being considered by a working group of the WKO (trade association [Austrian Economic Chamber??]).</i></p> <p><i>No account has yet been taken of this recommendation in the UIC leaflet in Austria since. In calculating brake performance it is apparent that there are sufficient reserves available. There is no known case of passing a signal at danger because of inadequate brake performance caused by not taking account of the 'kappa' value despite adhering to the values shown in the book timetable.</i></p>
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09 July 2013	<p><b>Near miss of train 16951 with a car in Krems</b></p> <p><b>A-2013/076</b>  Instruct train drivers on the special operating circumstances on line sections with operations control.</p> <p><b>Measure</b>  <i>There is currently no information available on the start or completion of the implementation of the measures.</i></p> <p><b>A-2013/077</b>  Ensure that the halt lines are enhanced or repainted.</p> <p><b>Measure</b>  <i>There is currently no information available on the start or completion of the implementation of the measures.</i></p> <p><b>A-2013/078</b>  Investigate whether rules for remote operation of level crossing protection installations by the train staff must be drafted.</p> <p><b>Measure</b>  <i>Implementation not planned.</i></p> <p><i>Justification: ÖBB-Infrastruktur AG does not believe that the creation of standards for remote operation of level crossing protection installations is necessary. The use of remote operation is already adequately documented or the equipment has only one button to operate it.</i></p>
06 Jan 2013	<p><b>Fire in train 47634 in Götzendorf station</b></p> <p><b>A-2013/079</b>  Investigate whether the current siting of train running checkpoints for the detection of hot boxes is adequate in particular on sections of line that are managed by an operations control centre.</p> <p><b>Measure</b>  <i>In the course of ÖBB's internal review of the occurrence in question, the siting of train running checkpoints to detect hot boxes was investigated. ÖBB-Infrastruktur AG has a very dense network of checkpoints. The siting of individual checkpoints is reviewed when there is a significant change in traffic flows and changes made as necessary.</i></p> <p><b>A-2013/080</b>  Investigate whether damage to bearings of wheelsets could be detected earlier by train running checkpoints using acoustic detection.</p> <p><b>Measure</b>  <i>ÖBB-Infrastruktur AG will support appropriate European research projects within the framework of their research and development programme.</i></p>



## Appendix 2 – Photographs (SUB-Rail)



## Appendix 3 – Glossary

Art.	Article
ASchG	Austrian Employee Protection Act [ArbeitnehmerInnenschutzgesetz]
BAV	Federal Office for Transport [Bundesanstalt für Verkehr]
Betra	Operating and works notice
BMI	Federal Ministry of the Interior [Bundesministerium für Inneres]
BMJ	Federal Ministry of Justice [Bundesministerium für Justiz]
BMVIT, bmvit	Federal Ministry of Transport, Innovation and Technology [Bundesministerium für Verkehr, Innovation und Technologie]
Bsb	Operating location description [Betriebsstellenbeschreibung]
CSI	Common safety indicator
DB	Staff instruction [Dienstbehelf]
DV	ÖBB staff regulations [Dienstvorschrift]
DVI	Disaster-Victim-Identification
EC	European Community
EisbAV	Railway Employee Protection Regulation [Eisenbahn-ArbeitnehmerInnenschutzverordnung]
EisbBBV	Railway Construction and Operation Regulations [Eisenbahnbau- und -betriebsverordnung]
EisbG 1957	Railways Act 1957 [Eisenbahngesetz 1957]
EisbKrV 2012	Level Crossing Regulation 2012 [Eisenbahn-Kreuzungsverordnung]
EK	Level crossing [Eisenbahnkreuzung]
EKSA	Level crossing protection equipment [Eisenbahnkreuzungssicherungsanlage]
EN	European norm
EPIGUS	Study of lorry drivers' observational behaviour
ERA	European Railway Agency
ERAIL	European Railway Accident Information Links
EU	European Union
EVU	Railway Undertaking [Eisenbahnverkehrsunternehmen]
EWT	Traceability of wheelset maintenance for wagon wheelsets
GCU	General Contract of Use (of wagons)
IM	Infrastructure Manager [Eisenbahninfrastrukturunternehmen]
ISO	International Organization for Standardization
NSA	National Safety Authority
ÖBB	Austrian Federal Railways [Österreichische Bundesbahnen]
ÖNORM	Austrian Standard [Österreichische Norm]
ORE	European Rail Research Institute (UIC)
Para.	Paragraph
QM-System	Quality Management System
RCA	Rail Cargo Austria (railway undertaking)
RIC	Agreement governing the exchange and use of coaches in international traffic
RU	Railway Undertaking [Eisenbahnverkehrsunternehmen]
StLB	Steiermärkische Landesbahnen
StVO	Road Traffic Regulations 1960 [Straßenverkehrsordnung]
Stw	Signalbox [Stellwerk]
SUB	Federal Safety Investigation Authority [Sicherheitsuntersuchungsstelle des Bundes]
TF	Taskforce
Tfz	Traction unit (=locomotive or power car) [Triebfahrzeug]
TSI	Technical Specification for interoperability
UIC	International Union of Railways [Union internationale des chemins de fer]
UUG 2005	Federal Act concerning Independent Safety Investigation of Accidents and Incidents [Bundesgesetz über die unabhängige Sicherheitsuntersuchung von Unfällen und Störungen (Unfalluntersuchungsgesetz – UUG 2005)]
Z	Train [Zug]
ZLCP	Train running checkpoint [Zuglaufcheckpoint]
ZSB	infrastructure manager's Supplementary Provisions to the Signalling and Operating Regulations [Zusatzbestimmungen zur Signal- und zur Betriebsvorschrift des IM]

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